

CITY OF SANTA CRUZ  
809 Center Street  
Santa Cruz, California 95060



## CITY COUNCIL AGENDA

Regular Meeting - April 27, 2021

**Updated April 26, 2021**

- 10:00 A.M. CLOSED SESSION, ZOOM
- 12:15 P.M. CONSENT, CONSENT PUBLIC HEARINGS, GENERAL BUSINESS, AND ORAL COMMUNICATIONS, ZOOM

**COVID-19 ANNOUNCEMENT: This meeting will be held via teleconference ONLY.**

In order to minimize exposure to COVID-19 and to comply with the social distancing suggestion, the meeting may be viewed remotely, using any of the following sources:

- Click on Zoom link (no time delay): <https://zoom.us/j/94684401344>
- Online at <http://www.cityofsantacruz.com/government/city-council/council-meetings>
- Online at [Watch - Community Television of Santa Cruz County](#)
- Comcast Channel 25

Or: Call any of the numbers below. If one is busy, try the next one.

- 1-833-548-0276 (Toll Free)
- 1-833-548-0282 (Toll Free)
- 1-877-853-5247 (Toll Free)
- 1-669-900-9128
- 1-253-215-8782

Enter the meeting ID number: 946 8440 1344

- When prompted for a Participant ID, press #.
- Press \*9 on your phone to "raise your hand" when the Mayor calls for public comment.
- It will be your turn to speak when the Mayor calls on you. Press \*6 to unmute yourself. The timer will then be set.

The City of Santa Cruz does not discriminate against persons with disabilities. Out of consideration for people with chemical sensitivities we ask that you attend fragrance free. Upon request, the agenda can be provided in a format to accommodate special needs. Additionally, if you wish to attend this public meeting and will require assistance such as an interpreter for American Sign Language, Spanish, or other special equipment, please call the City Clerk's Department at 420-5030 at least five days in advance so that we can arrange for such special assistance, or email [CityClerk@cityofsantacruz.com](mailto:CityClerk@cityofsantacruz.com). The Cal-Relay system number: 1-800-735-2922.

Si desea asistir a esta reunión pública y necesita ayuda - como un intérprete de lenguaje de señas americano, español u otro equipo especial - favor de llamar al Departamento de la Secretaría de la Ciudad al 420-5030 al menos cinco días antes para que podamos coordinar dicha asistencia especial o envíe un correo electrónico a [cityclerk@cityofsantacruz.com](mailto:cityclerk@cityofsantacruz.com). El número del sistema Cal-Relay es: 1-800-735-2922.

**Closed Session**

**10:00 AM**

**Closed Session**

1. Public Employment (Government Code §54957(b)(1))  
City Manager
2. Conference with Labor Negotiators - (Government Code §54957.6)  
Fire IAFF Local 1716  
Fire Management Association  
OE3 Mid-manager and Supervisor Employees  
SEIU Local 521  
Unrepresented  
  
City Negotiator - Lisa Murphy
3. Conference With Legal Counsel - Anticipated Litigation (Government Code §54956.9(d)(4))  
  
Initiation of litigation (1 potential case to be discussed).
4. Real Property Negotiations (Government Code §54956.8)  
  
Property: Pogonip  
APN: 001-211-01  
Owner: City of Santa Cruz  
City Negotiator: Tony Elliot  
Negotiating Parties: City of Santa Cruz and Homeless Garden Project  
Under Negotiation: Lease price, terms, or both
5. Conference with Legal Counsel - Existing Litigation (Government Code §54956.9(d)(1))  
  
Regents of the University of California, et al. v. City of Santa Cruz  
Santa Cruz County Superior Court, Case No. 20CV02152



**City Council**

**12:15 PM**

**Call to Order**

**Roll Call**

**Presentations**

6. Mayoral Proclamation Declaring the Week of May 2 through May 8, 2021 as Professional Municipal Clerk Week
7. Mayoral Proclamation Declaring April 2021 as Psychedelic-Assisted Therapy Awareness Month
8. Library Mixed-Use Project Update

**Presiding Officer's Announcements**

**Statements of Disqualification**

**Additions and Deletions**

**Oral Communications Announcement** - Community members may address the Council for two minutes or less about any matter not on the agenda. 30 minutes is allocated for Oral Communications. No extra time for groups will be granted.

**City Attorney Report on Closed Session**

**City Manager Report**

9. The City Manager will report and provide updates on the City's business, COVID-19 response, and events.

### **Council Meeting Calendar**

10. The City Council will review the meeting calendar attached to the agenda and revise it as necessary.

### **Council Memberships in City Groups and Outside Agencies**

11. The Presiding Officer will provide Councilmembers with the opportunity to update Council on any external committee meetings that occurred since the last Council meeting.

### **Consent Agenda**

12. Resolution Extending the Emergency Declaration in Connection with the COVID-19 Pandemic by Sixty (60) Days (CA)

Resolution extending the declaration of emergency in connection with the COVID-19 pandemic.

13. Resolution Extending the Emergency Declaration in Connection with the CZU August Lightning Complex Fire (CA/CM)

Resolution extending a local emergency declaration in connection with the CZU August Lightning Complex Fire.

14. Minutes of the April 13, 2021 City Council Meeting (CC)

Motion to approve as submitted.

15. Minutes of the April 20, 2021 Joint City Council and Parks and Recreation Commission Study Session (CC)

Motion to approve as submitted.

16. Minutes of the April 20, 2021 City Council Study Session (CC)

Motion to approve as submitted.

**Consent Agenda (continued)**

17. Nomination for Reappointment of Carol Berg to the Housing Authority Board of Commissioners (CC)

Motion to nominate Carol Berg for reappointment to the County Housing Authority Board of Commissioners, with a term expiring on May 21, 2025.

18. Resolution Denouncing Hate Crimes and Bigotry Targeting Asian Americans and Pacific Islanders (CN)

Resolution denouncing hate crimes and bigotry targeting Asian Americans and Pacific Islanders.

19. Support for the Adoption of the Regional Transportation Commission's Transit Corridor Alternatives Analysis and Rail Network Integration Study - Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line (CN)

Resolution supporting the adoption of the Santa Cruz County Regional Transportation Commission (SCCRTC) Transit Corridor Alternatives Analysis and Rail Network Integration Study - Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line and urging the SCCRTC to implement rail service on the Santa Cruz Branch Rail Line.

20. Resolution in Support of Federal Medicare for All (H.R. 1976) and California Guaranteed Health Care for All Act (AB 1400) (CN)

Resolution supporting two legislative items - federal Medicare for All (H.R. 1976) and California Guaranteed Health Care for All Act (AB 1400).

21. Resolution Recognizing Tobacco Waste as a Public Health and Environmental Threat (CN)

Resolution recognizing the negative impacts that tobacco waste has on the public health of Santa Cruz residents as well as to the environment in the City, with the intention of pursuing policies to mitigate tobacco waste therein, and requesting the Mayor to write a letter to our local legislative representatives encouraging a ban on plastic cigarette filters.

**Consent Agenda (continued)**

22. Theater Business License Taxes (FN)

Motion authorizing a one-time reduction in business license taxes for theaters impacted by COVID-19 capacity restrictions.

23. 2021 Annual Alcohol Sales Permit Fees (FN)

Motion authorizing a reduction in 2021 Alcohol Sales Permit Fees for certain businesses impacted by COVID-19 shelter-in-place restrictions and operational limitations caused by the pandemic.

24. Approval of an Early Termination of the Cost Reduction Agreements with Various Bargaining Units, the Executives and the City Manager for Fiscal Year 2021 (HR)

Motion to:

1) End the Side Letter Agreements to the Memoranda of Understanding with the following Bargaining Units: SEIU 521; OE3 Mid-Managers; OE3 Supervisors; Fire Local 1716, and Fire Management, effective May 14, 2021;

2) Adopt a resolution approving the early termination of the 10% furlough for the Executive Unrepresented Employees and the City Manager, effective May 14, 2021.

25. Award Contract for Getac A140 G2 Mobile Data Centers for Patrol Vehicles (PD)

Motion to award a contract for the purchase of Mobile Data Centers from CDW-G (Chicago, IL) in the amount of \$120,845.50.

26. Approval of Beach Flats Community Garden Lease Amendment between the City of Santa Cruz and Santa Cruz Seaside Company (PR)

Approve lease amendment between the City of Santa Cruz and the Santa Cruz Seaside Company for public use of Beach Flats Community Garden and authorize the City Manager to execute an agreement in a form approved by the City Attorney.

**Consent Agenda (continued)**

27. Highway 1/9 Intersection Improvements (c400805) - Budget Adjustment (PW)

Resolution transferring and appropriating funds and amending the FY 2021 project budget in the amount of \$2,188,000 in RSTPX grant funds for the Highway 1/9 Intersection Improvements Project (c400805).

28. Consulting Engineering Services for the San Lorenzo River Levees Geotechnical Investigation (c402109) - Advertise Request for Proposals and Award Contract (PW)

Motion to authorize staff to advertise for the San Lorenzo River Levees Geotechnical Investigation (c402109) Request for Proposals for consulting engineering services, award the contract, and authorize the City Manager to execute a contract in a form approved by the City Attorney. The Director of Public Works is authorized to execute change orders within the approved project budget.

29. Ocean/Water Intersection (NW Corner) Improvements (c401410) - Final Change Order and Notice of Completion (PW)

Motion to approve the final change order in the amount of \$96,526.04 and accept the work of Earthworks Paving Contractors, Inc (Capitola, CA) as completed per plans and specifications and authorizing the filing of a Notice of Completion for the Ocean/Water Intersection (NW Corner) Improvements (c401410).

30. Resolution Amending the City of Santa Cruz Personnel Complement and Classification and Compensation Plans and Resolution Amending the FY 2021 Budget for the Water Department to Implement Stage 1 Water Shortage Warning - Budget Adjustment (WT & HR)

1) Resolution amending the Classification and Compensation Plans and the FY 2021 Budget Personnel Complement by adding one Limited Term Management Analyst position in the Water Department.

2) Resolution increasing appropriations by \$166,837 from the Water Enterprise Fund for FY 2021 to fund Stage 1 Water Shortage Warning implementation costs.

**End Consent Agenda**

### Consent Public Hearings

31. 2nd Reading and Final Adoption of Beach Area Parking Meter Rate Ordinance Updates (PW)

1) Adopt Ordinance No. 2021-06 amending Section 10.52.310 Parking Meter Rate 1-Beach Area.

2) Adopt Ordinance No. 2021-07 amending Section 10.52.315 Parking Meter Rate 2-Beach Area of the Santa Cruz Municipal Code regarding the setting of parking meter rates.

32. 2nd Reading and Final Adoption of Ordinance No. 2021-09 Amendments to Municipal Code Chapter 16.01 to Align City Code Language with the Recently Council Adopted 2021 Interim Water Shortage Contingency Plan (WT)

Adopt Ordinance No. 2021-09 revising Municipal Code Chapter 16.01, Water Shortage Regulations and Restrictions, to align it with the provisions of the 2021 Interim Water Shortage Contingency Plan.

33. 2nd Reading and Final Adoption of Ordinance No. 2021-10 Childcare Impact Fee, and Resolution Setting the Childcare Impact Fee (PL)

1) Adopt Ordinance No. 2021-10 amending Chapter 18.48 of the Santa Cruz Municipal Code related to Childcare Impact Fees.

2) Resolution setting the Childcare Impact Fee charges for residential and nonresidential development.

34. 2nd Reading and Final Adoption of Ordinance No. 2021-11, Public Safety Impact Fee, and Implementing Resolution Setting the New Public Safety Impact Fee (PL)

1) Adopt Ordinance No. 2021-11 establishing a new Public Safety Impact Fee within Chapter 18.49 of the Santa Cruz Municipal Code

2) Resolution setting the Public Safety Impact Fee charges for residential and nonresidential development.

**Consent Public Hearings (continued)**35. 2021-2022 HUD Action Plan (ED)

Resolution adopting the 2021-2022 Annual Action Plan (AAP for the City's Housing and Community Development Program, and authorize the City Manager to sign an application for federal funding assistance for the 2021-2022 program year, authorizing appropriating funds for the FY 2022 Budget solution, and authorizing the City Manager to execute program/project contracts, loan agreements and related loan documents with Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) sub-recipients and contractors in connection with Consolidated Plan activities proposed in the 2021-2022 Action Plan and any subsequent revisions to the 2021-2022 Action Plan.

**General Business**

**The below item was updated to replace the Street Tree Master Plan attachment.**

36. Street Tree Master Plan (PR)

Motion to approve the Street Tree Master Plan.

37. Federal Endangered Species Act Incidental Take Permit for the Operations and Maintenance Habitat Conservation Plan (WT)

Motion to authorize the City Manager to accept the US Fish and Wildlife Service's Incidental Take Permit Number TE89655D-0 providing incidental take coverage under the federal Endangered Species Act for various aspects of the City's ongoing Water and Public Works operations as described in the Operations and Maintenance Habitat Conservation Plan.

38. West Cliff Drive Adaptation and Management Plan: a Public Works Plan (CM)

Motion to adopt the West Cliff Drive Adaptation and Management Plan: a Public Works Plan, with minor modifications as authorized by the City Manager.

**General Business (continued)**

39. Re-Envision Santa Cruz - Interim Recovery Plan Update (CM)

Motion to accept first quarterly progress reports on the City's Re-Envision Santa Cruz strategy, a 12-18 month interim recovery plan, and provide feedback as desired.

40. Vacant Storefront Activation Pilot Program: Downtown Pops! - Budget Adjustment (ED)

Motion to:

1) Authorize the creation of a vacant storefront activation program in Downtown Santa Cruz.

2) Adopt a resolution approving a budget adjustment from the Economic Development Trust Fund to fund the 6-month pilot program.

3) Authorize the City Manager or his/her designee, to execute, in a form approved by the City Attorney, any leases, licenses, or other such agreements, documents, or administrative duties necessary for implementation of the "Downtown Pops!" program.

**Oral Communications**

**Adjournment**



**INFORMATION ITEMS PREVIOUSLY DISTRIBUTED TO CITY COUNCILMEMBERS**

**ADDENDUM TO CITY COUNCIL AGENDA - APRIL 27, 2021**

41. Public Works Department: Slow Streets Program - 4/7/21 (PWFYI 0106)

**MAYOR'S PROCLAMATIONS**

**ADDENDUM TO CITY COUNCIL AGENDA - APRIL 27, 2021**

42. Proclaiming April 18, 2021 as “418 Project Day” and encouraging all citizens to visit, explore, and participate in the community-building activities of the 418 Project now and throughout the year.
43. Proclaiming the month of April 2021 as “Psychedelic-Assisted Therapy Awareness Month” and calling upon all citizens, government agencies, public and private institutions, and businesses to commit to increasing the awareness and understanding of mental ailments, the need for appropriate and accessible treatment options, and the transformative power of psychedelic-assisted therapy for all those suffering or looking to improve their mental health.
44. Proclaiming April 4, 2021 as “Haley Jones Day” and encouraging all citizens to join in congratulating her for being named the Most Outstanding Player of the 2021 NCAA Tournament and wishing her well in her future endeavors.
45. Proclaiming the month of April as “Child Abuse Prevention Month” and commending Family and Children’s Services for its service to local children, youth, families, and communities and urging all community members to join Family and Children’s Services in helping prevent child abuse by contributing in whatever way possible to strengthen families to support the safety, permanency, and well-being of all children in the City.

**MAYOR'S PROCLAMATIONS (continued)**

46. Proclaiming April 22, 2021 as “Arbor Day and Earth Day” and encouraging all citizens to join in recognizing the important work and contributions of the Cabrillo College Horticulture Program and the City of Santa Cruz Parks and Recreation Department, and urging students and citizens to plant trees to offset climate change and enhance our local environment and natural world for our present and future generations.
47. Proclaiming April 13, 2021 as “Jon Bombaci Day” and encouraging all citizens and his coworkers to join in expressing heartfelt appreciation for his years of dedicated and exemplary service and numerous contributions and wishing him well in his retirement.

### **Public Hearing**

If, in the future, you wish to challenge in court any of the matters on this agenda for which a public hearing is to be conducted, you may be limited to raising only those issues which you (or someone else) raised orally at the public hearing or in written correspondence received by the City at or before the hearing.

Any person seeking to challenge a City Council decision made as a result of a proceeding in which, by law, a hearing is required to be given, evidence is required to be taken, and the discretion in the determination of facts is vested in the City Council, shall be required to commence that action either 60 days or 90 days following the date on which the decision becomes final as provided in Code of Civil Procedure Section 1094.6 Please refer to code of Civil Procedure 1094.6 to determine how to calculate when a decision becomes “final.” The 60-day rule applies to all public hearings conducted pursuant to the City’s Zoning Ordinance, Title 24, Santa Cruz Municipal Code. The 90-day rule applies to all other public hearings.

### **City Council Agenda Legislative History Addendum**

No information was submitted.

City staff is responsible for providing the City Clerk with such documentation and information for the Legislative History Addendum. The information will be on file in the City Clerk’s Department.

The Addendum is a listing of information specific to City Council business, but which does not appear on a Council meeting agenda. Such entities would include, but not be limited to: Court decisions, Coastal Commission Appeals of City Council actions, Closed Session Agreements/Settlements, which are public record, Association of Monterey Bay Area Governments, Local Agency Formation Commission.



# *LIBRARY MIXED USE PROJECT*



**April 27th, 2021 Council Update**

8.1

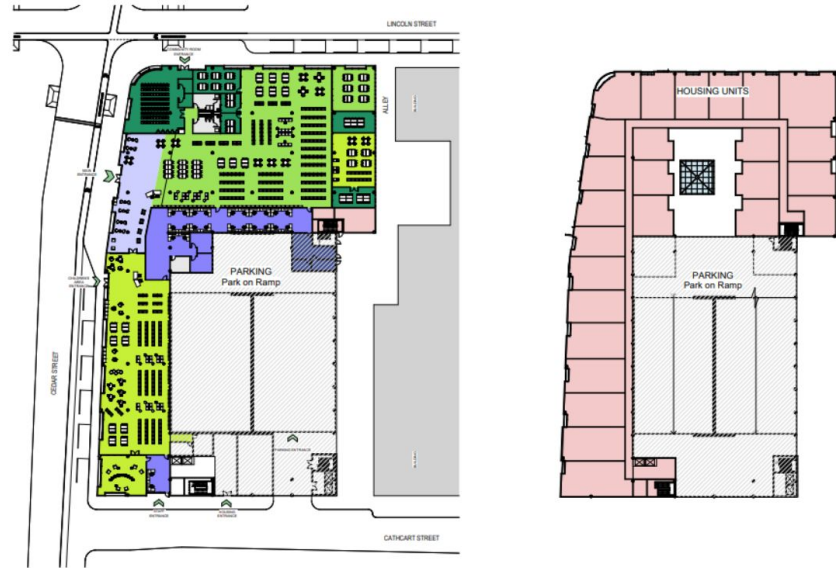
# *Today's Updates:*

- *Library Mixed Use Project*
- *Site Reuse Visioning Process*

# APPROVED PROJECT CONCEPT

In June 2020, the City Council approved a Downtown Mixed Use Project to include:

- a modern **library** with resources for all;
- **housing** on the upper floors, with a minimum of 50 affordable units; and
- **parking** consolidated into a structure with no more than 400 parking spaces.





# *UPDATE: \$5 Million for Affordable Housing*

**Provides Funding For 3 City-led Affordable Housing Projects:**



Pacific Station North



Pacific Station South



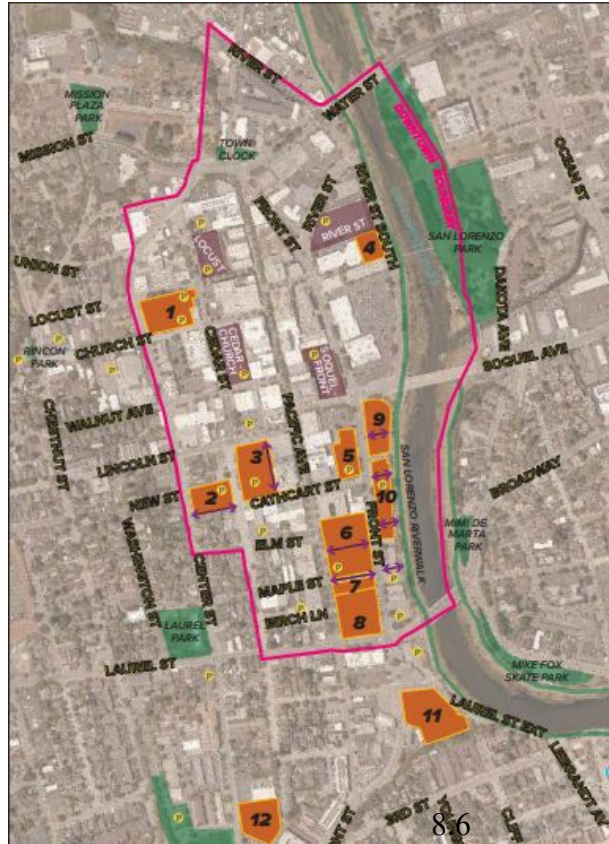
Library Mixed Use  
Project

# UPDATE: MEETING WITH CONGRESSMAN PANETTA





# UPDATE: DT RECOVERY-BIG PLANS FOR THE FUTURE



1. CURRENT LIBRARY SITE  
224 Church St  
*Visioning Begins Soon*
2. CEDAR ST APARTMENTS  
538 Cedar St - Lot 5 (Calvary)  
*Pacific Union Partners*
3. CEDAR PARKING 'LOT 4'  
*Future Library, Affordable Housing, Mixed-use, + Parking*
4. 155 RIVER ST SOUTH  
418 Project Relocation
5. FRONT/CATHCART PARKING  
*Future Farmer's Market?*
6. PACIFIC STATION NORTH  
*Metro + Affordable Housing  
First Communities Housing*
7. PACIFIC STATION SOUTH  
*Affordable Housing, Dientes, +  
SC Community Health  
For the Future Housing*
8. PACIFIC-FRONT-LAUREL  
*Housing + Mixed Use  
Anton DevCo*
9. 530 FRONT ST  
*Housing + Mixed Use  
Swenson*
10. RIVER-FRONT  
*Housing + Mixed Use  
Lawlor Land Use*
11. 140 FRONT ST  
*SC Warriors Arena*
12. 130 CENTER ST  
*Housing + Mixed Use  
Swenson*

## *UPDATES: 2 RFPs RELEASED*

**#1:** RFP for Master Consultant - Affordable Housing Developer Partner

**RELEASED:** April 12th

**DUE:** May 12th

**#2:** RFP for Master Architect

**RELEASED:** April 22nd

**DUE:** May 21st

## NEXT STEPS

-  Fall 2020 - Hired an Owner's Representative
-  April 2021 - Release RFPs for Affordable Housing Developer Partner & Master Architect/Design Team
-  Summer 2021 - Launch Community Engagement Process around Design
-  2023 - Break ground & begin construction
-  2025 - Project Completion & Ribbon Cutting



# MORE INFO & FAQs

## Library Mixed Use Project

Font Size: [a](#) [aa](#) [Share & Bookmark](#) [Feedback](#) [Print](#)

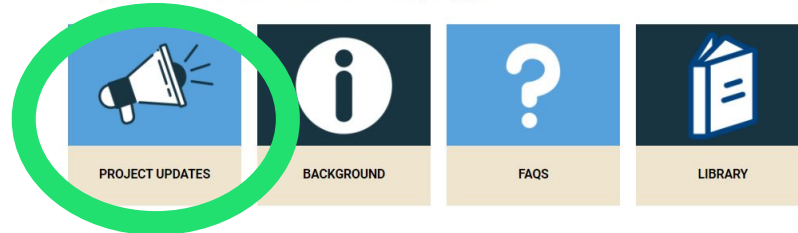
**We envision Downtown Santa Cruz as a housing-focused, mixed-use business district that is accessible to everyone. Best practices in urban design will create a pedestrian-centered downtown that prioritizes equity, inclusion and environment and preserves the eclectic culture that is unique to Santa Cruz.**



*Preliminary Renderings of the Library*

On June 23rd, 2020 the City Council approved a Downtown Mixed Use Project to include:

- a modern library with resources for all;
- housing on the upper floors, with a minimum of 50 Affordable units; and
- parking consolidated into a structure with no more than 400 parking spaces.



[www.CityofSantaCruz.com/mixeduselibrary](http://www.CityofSantaCruz.com/mixeduselibrary)

# *Site Reuse Visioning Process* *UPDATES*

## *UPDATE: ENGAGEMENT PROCESS*

**Stakeholder Group Engagement:** 14 representatives from 9 groups

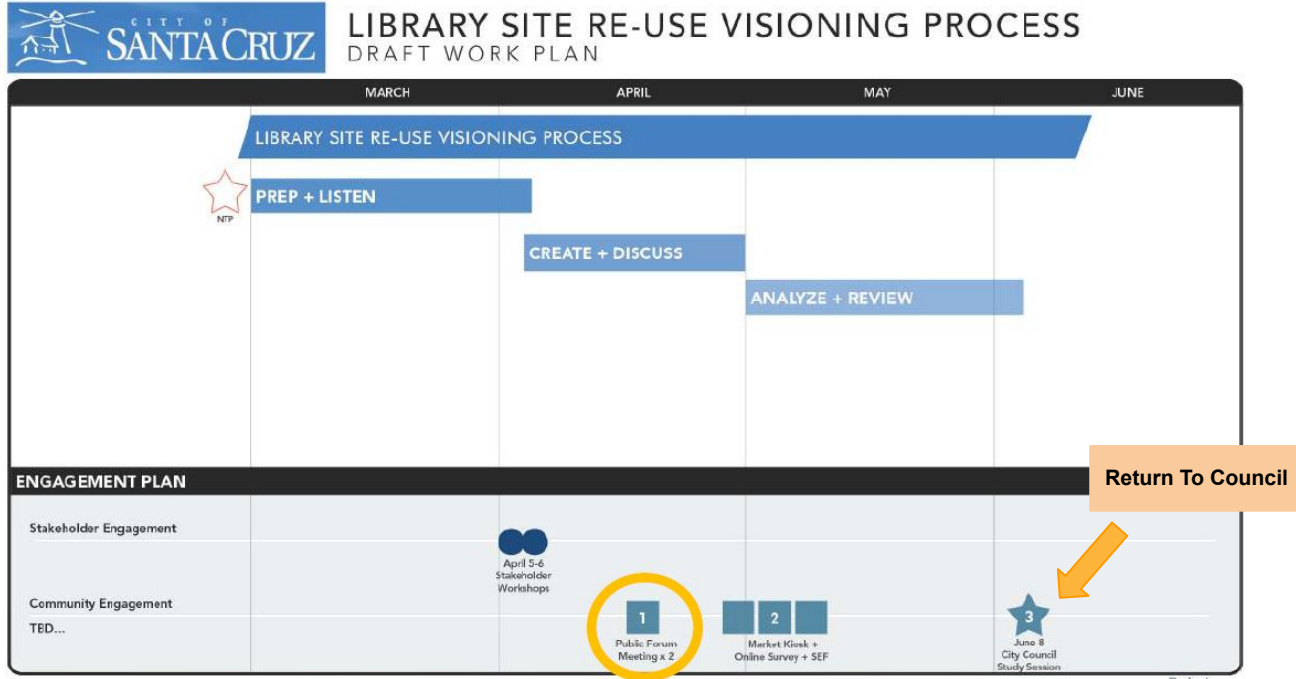
**Community Workshops:** 135+ sign ups, 80+ attendees

**Project Webpage:** updates, recaps, & next steps

Project  
for Public  
Spaces



# NEXT STEPS



**MORE INFO:** [www.CityofSantaCruz.com/SiteReUse](http://www.CityofSantaCruz.com/SiteReUse)



*Questions?*



Global Cases  
**148,051,441**

Cases by Country/Region/Sovereignty

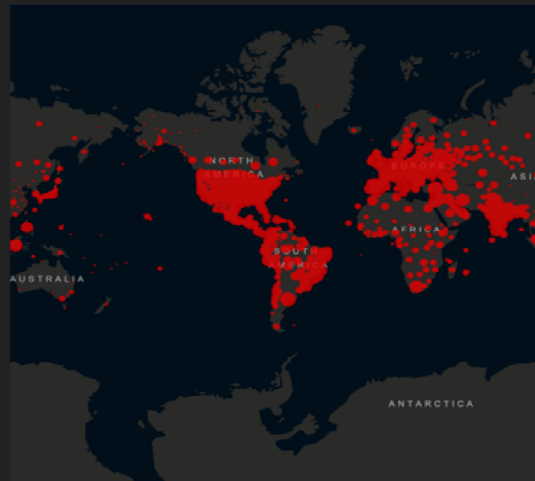
32,132,489 US  
17,636,307 India  
14,369,423 Brazil  
5,566,166 France  
4,725,252 Russia  
4,667,281 Turkey  
4,425,251 United Kingdom  
3,981,512 Italy  
3,496,134 Spain  
3,316,939 Germany  
2,879,677 Argentina  
2,787,303 Colombia  
2,768,034 Poland  
2,438,193 Iran  
2,329,534 Mexico  
2,092,421 Ukraine  
1,768,186 Peru  
1,651,794 Indonesia  
1,622,777 Czechia  
1,576,320 South Africa  
1,497,774 Netherlands  
1,197,539 Canada  
1,179,772 Chile  
1,049,539 Romania  
1,045,010 Iraq  
1,013,618 Philippines

074,088 Belgium

Admin0 Admin1 Admin2

Last Updated at (M/D/YYYY)  
4/27/2021, 9:20 AM

192  
countries/regions



Cumulative Cases Incidence Rate Case-Fatality Ratio Testing Rate

Lancet Inf Dis Article: [Here](#), Mobile Version: [Here](#), Data sources: [Full list](#), Downloadable database: [GitHub](#), [Feature Layer](#).  
Lead by JHU CSSE, Technical Support: Esri Living Atlas team and JHU APL, Financial Support: JHU, NSF, Bloomberg Philanthropies and Stavros Niarchos Foundation, Resource support: Slack, Github and AWS. Click [here](#) to [donate](#) to the CSSE dashboard team, and other JHU COVID-19 Research Efforts. [FAQ](#). Read more in this [blog](#). [Contact US](#).

Cases and Death counts include confirmed and probable (where reported).  
Recovered cases are estimates based on local media reports, and state and local reporting when available, and therefore may be substantially lower than the true number.

Global Deaths  
**3,124,580**

572,823 deaths US  
391,936 deaths Brazil  
215,113 deaths Mexico  
197,894 deaths India  
127,705 deaths United Kingdom  
119,912 deaths Italy  
107,167 deaths Russia  
103,422 deaths France  
82,066 deaths Germany  
77,855 deaths Spain  
71,799 deaths Colombia  
70,532 deaths

Global Deaths

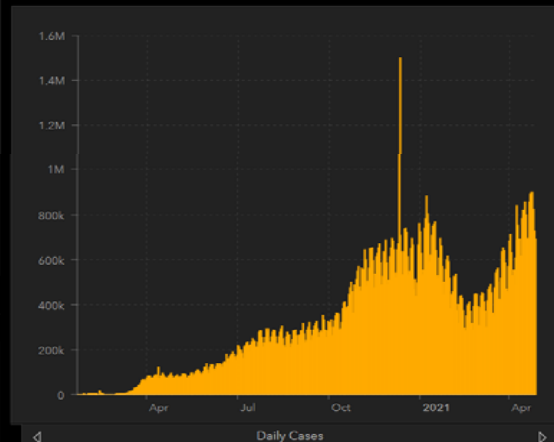
Global Recovered

Total Test Results in US  
**428,582,253**

59,327,368 tests California US  
50,488,049 tests New York US  
22,776,539 tests Texas US  
22,435,218 tests Florida US  
22,318,791 tests Illinois US  
21,016,842 tests Massachusetts US  
13,374,000 tests New Jersey US  
12,849,060 tests Pennsylvania US  
12,697,740 tests Michigan US  
12,277,499 tests Ohio US  
11,244,538 tests North Carolina US  
9,657,616 tests

US Test Results

US Deaths

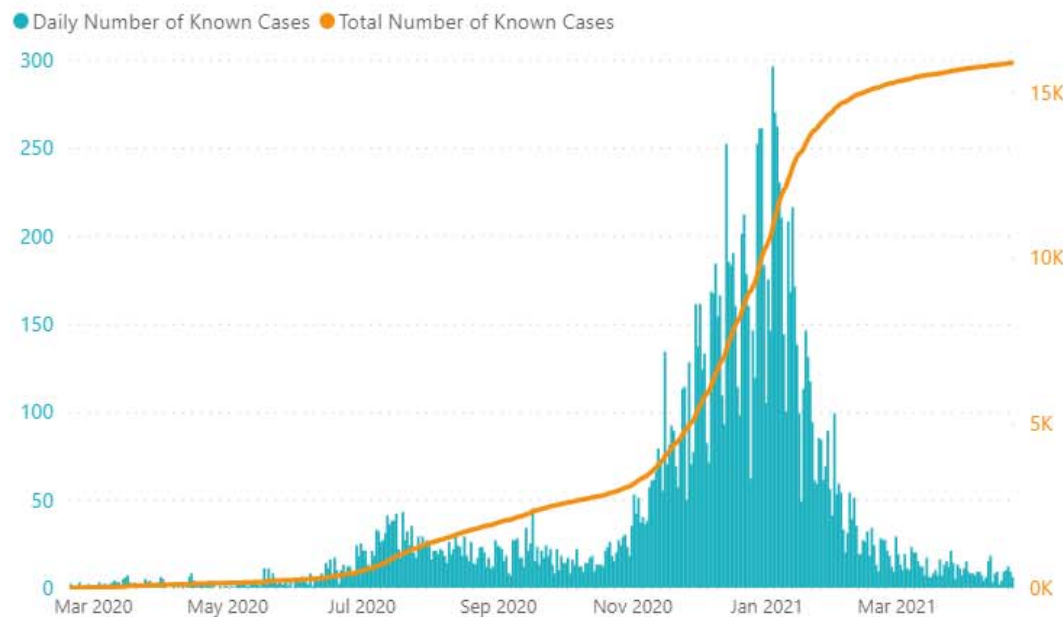


## COVID-19 Data Dashboard: Counts of Known Cases Among Santa Cruz County Residents

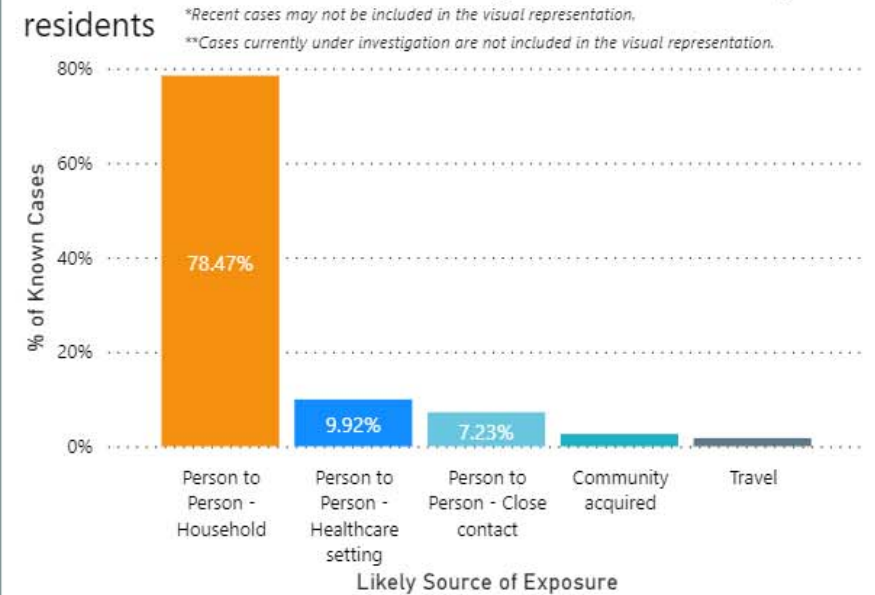
For additional dashboard details and data definitions select the information icon: 

|                               |   |                    |   |                       |   |                        |  |  |                               |
|-------------------------------|---|--------------------|---|-----------------------|---|------------------------|--|--|-------------------------------|
| 15,899                        | = | 147                | + | 15,548                | + | 204                    |  | 485  | 131,017                       |
| Total known cases of COVID-19 |   | Active known cases |   | Recovered known cases |   | Deaths due to COVID-19 |  | Required hospitalization while ill with COVID-19 | Total number of negative I... |

### Epidemic curve and total count of known cases



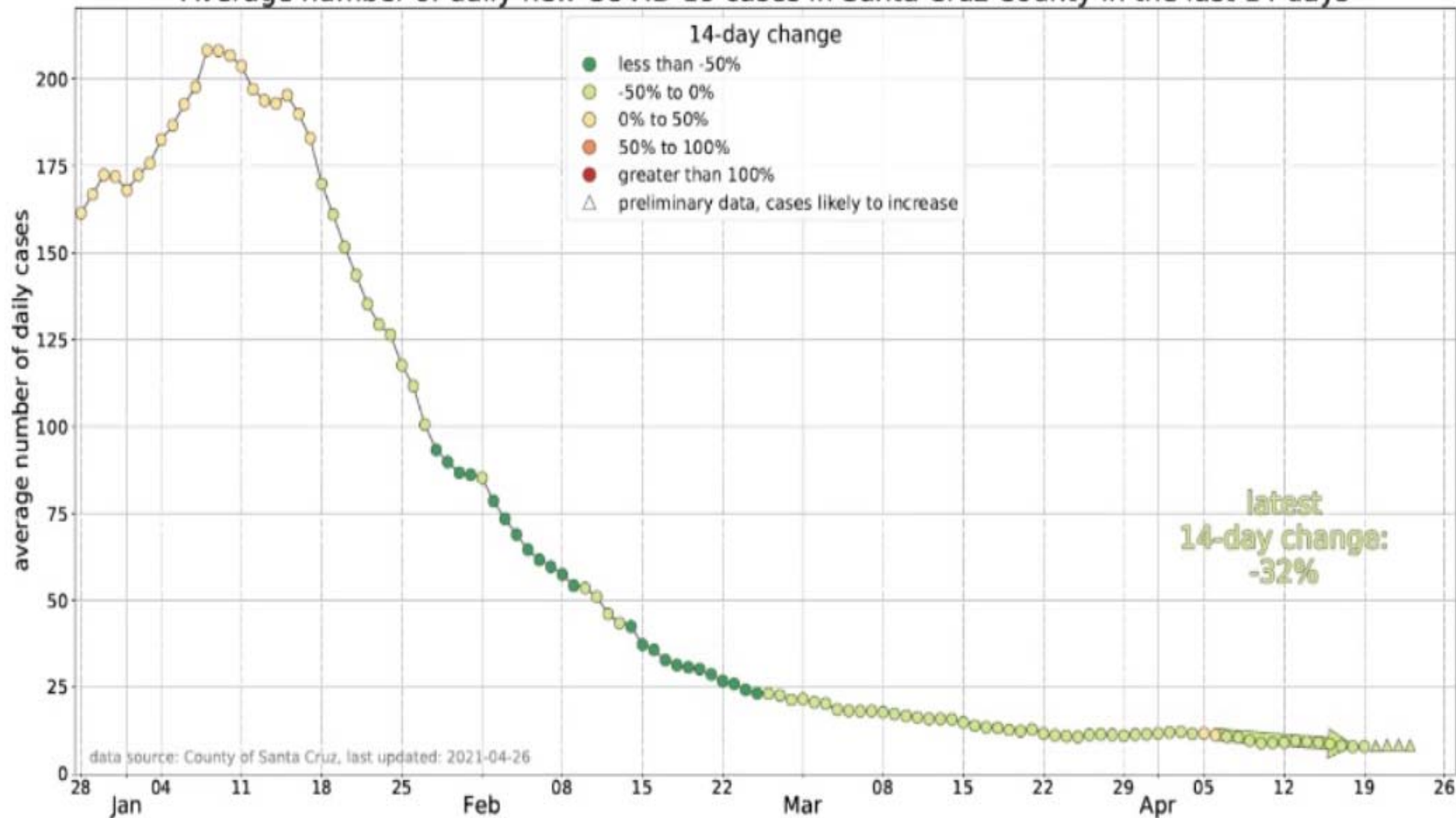
### Identified most likely source of exposure to COVID-19 for known cases of COVID-19 among Santa Cruz County residents



Data represents Known Cases of COVID-19 among residents of Santa Cruz County, by date reported to the Communicable Disease Unit (CDU) from health providers or electronic lab reporting. Data is provisional and subject to change. It is important to look at trends over time when reviewing these data rather than drawing conclusions from any individual data points, as data can change based on additional reporting and case investigation. Data was extracted from the California Reportable Disease Information Exchange (CalREDIE). Dashboard was developed by the Epidemiology & Surveillance Division of the CDU for Santa Cruz County.

Last refreshed 04/26/2021, 13:35; updated with data entered into CalREDIE as of 04/25/2021, 17:00

Average number of daily new COVID-19 cases in Santa Cruz County in the last 14 days



## Statewide

**11,776,674 (37.0%) People fully vaccinated**  
**6,449,363 (20.3%) People partially vaccinated**



**28,682,914 (78.5%) Doses administered**  
**339,931 Average doses per day**



**5,897,913 Doses on hand**  
**(17 days of inventory)**



**36,545,160 Doses Delivered**  
**7,269,650 CDC Pharmacy Doses Delivered**

See [Data Dictionary](#) for Details.

## Doses Administered by County of Residence

County

Santa Cruz



Santa Cruz

237,629



Data: 4/26/2021 11:59pm | Posted: 4/27/2021



# All Californians 16+ are Eligible for Vaccination!

- Visit [MyTurn.ca.gov](https://MyTurn.ca.gov) to register for an appointment. If none are available, register to receive a notification when one becomes available.
- Visit [SantaCruzHealth.org/coronavirusvaccine](https://SantaCruzHealth.org/coronavirusvaccine) for additional local opportunities.



[santacruzhealth.org](http://santacruzhealth.org)



| Meeting Type                               |
|--|
| Holiday                                    |
| Jewish Holiday                             |
| Regular Meeting                            |
| Special Meeting                            |
| Study Session (will be added as scheduled) |
| Budget Hearing                             |

## City Council Meeting Calendar for 2021

Please note: Meeting times are not final and are likely to change

| DATE  | Time  | Location             | Meeting Type                                 |
|---|---|----------------------|--|
| May 11  | 1:30 p.m.   | Zoom                 | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Zoom                 | Council Regular Meeting - Open to the Public |
| May 18  | 5:00 p.m. - 6:00 p.m.   | Zoom                 | Special Meeting - Open to the Public         |
| May 25  | 1:30 p.m.   | Zoom                 | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Zoom                 | Council Regular Meeting - Open to the Public |
| May 25 and 26                                     | May 25: Evening<br>May 26: 9am - 5pm                                | Council Chambers     | Budget Hearings                              |
| May 31  | City Hall Closure - Memorial Day                                    |                      |  |
| June 8  | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| June 22   | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| July 4  | City Hall Closure - Independence Day                                |                      |  |
| July 5  | City Hall Closure - Independence Day (Observed)                     |                      |  |
| August 7  | 7:00 p.m.   | Council Chambers     | Tentative Until Scheduled                    |
| August 10   | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| August 24   | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| September 6                                       | Rosh Hashanah (City observed - beginning at sundown on September 5) |                      |  |
| September 4                                       | 7:00 p.m.   | Council Chambers     | Tentative Until Scheduled                    |
| September 14                                      | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| September 15                                      | Yom Kippur (City observed - beginning at sundown on September 14)   |                      |  |
| September 28                                      | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
| October 2   | 7:00 p.m.   | Council Chambers     | Tentative Until Scheduled                    |
| October 12  | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m. (no 7pm)  | Council Chambers     | Council Regular Meeting - Open to the Public |
| October 26  | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
| November 6  | 7:00 p.m.   | Council Chambers     | Tentative Until Scheduled                    |
| November 9  | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| November 11                                       | City Hall Closure - Veteran's Day (observed)                        |                      |  |
| November 23                                       | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| November 25                                       | City Hall Closure - Thanksgiving Day                                |                      |  |
| December 4  | 7:00 p.m.   | Council Chambers     | Tentative Until Scheduled                    |
| November 28                                       | Hanukkah (City observed - beginning at sundown on November 27)      |                      |  |
| December 14                                       | 1:30 p.m.   | Courtyard Conf. Room | Closed Session - Closed to the Public        |
|   | 2:30 p.m./7:00 p.m.   | Council Chambers     | Council Regular Meeting - Open to the Public |
| December 25                                       | City Hall Closure - Christmas Day                                   |                      |  |
| December 28 Meeting Cancelled - CITY COUNCIL DARK |   |                      |  |

**Council Membership in City Groups and Outside Agencies (2021)**

Councilmembers may provide direction, request additional information or that a topic raised be agendaized for future Council action. The Presiding Officer may request oral updates from Council Ad Hoc Committees.

| <b>City Council Standing Committees</b> | <b>Councilmember</b>              | <b>Assigned Staff</b>           |
|---|-----------------------------------|---------------------------------|
| Community Programs                      | Watkins, Brown, Kalantari-Johnson | Susie O'Hara<br>Ralph Dimarucut |
| Public Safety                           | Watkins, Golder, Cummings         | Susie O'Hara                    |

| <b>City Council Ad Hoc Committees</b> | <b>Councilmember</b>      | <b>Assigned Staff</b>       |
|---------------------------------------|---------------------------|-----------------------------|
| Council Ad Hoc Revenue Committee      | Meyers, Cummings, Brunner | Laura Schmidt<br>Kim Krause |

| <b>External Governmental Agencies/ Intergovernmental Coordinating Committees</b>                      | <b>Councilmember</b>  | <b>Assigned Staff</b>                         |
|---|---|---|
| Association of Monterey Bay Area Governments (AMBAG)  | Cummings, Golder (alternate)  | Lee Butler                                    |
| City-Santa Cruz City Schools Committee  | Watkins, Golder, Kalantari-Johnson  | Tony Elliot                                   |
| City Select Committee   | Meyers  | Martin Bernal                                 |
| Library Financing Authority   | Meyers, Brunner (alternate)   | Martin Bernal                                 |
| Homelessness 2x2 Committee  | Meyers, Brunner   | Lee Butler                                    |
| Monterey Bay Air Resources District (City Nominee)  | Golder  | Tiffany Wise-West                             |
| Central Coast Community Energy Policy Board<br><i>Central Coast Community Energy Operations Board</i> | Meyers, Brunner (alternate)<br>Martin Bernal, Mark Dettle (alternate)                               | Mark Dettle                                   |
| Measure U Implementation Working Group  | Meyers, Cummings, Brown   | Lee Butler                                    |
| Santa Cruz County Integrated Waste Management Local Task Force  | Cummings, Golder (alternate)  | Bob Nelson, Leslie O'Malley (staff alternate) |
| Santa Cruz County Consolidated Redevelopment Successor Agency Oversight Board                         | Meyers  | Bonnie Lipscomb                               |
| Santa Cruz Metropolitan Transit District Board (METRO)  | Meyers, Kalantari-Johnson   | Claire Gallogly                               |
| Santa Cruz County Regional Transportation Commission (RTC)  | Brown, Golder (alternate)   | Chris Schneider                               |
| Santa Cruz Mid-County Groundwater Agency  | Councilmember Cummings, Water Commissioner David Baskin, Water Commissioner Doug Engfer (alternate) | Rosemary Menard                               |



**External Governmental Agencies/ Intergovernmental  
Coordinating Committees**

**Councilmember**

**Assigned Staff**

|  |   |                 |
|--|---|-----------------|
| Santa Margarita Groundwater Agency   | Water Commissioner Doug Engfer, Former Water<br>Commissioner David Baskin (citizen alternate) | Rosemary Menard |
| Local Agency Formation Commission (LAFCO)<br>(Santa Cruz holds the City Seat through May 2022) | Cummings  | Martin Bernal   |

**Joint Powers Authorities/City Groups**

**Staff Appointments**

**Agency Contact Information**

|  |                                 |   |
|--|---------------------------------|---|
| Santa Cruz County Animal Services<br>Authority | Laura Schmidt, Bernie Escalante | Santa Cruz County Animal Services Authority<br>2200 7th Avenue<br>Santa Cruz, CA 95062<br><a href="https://www.scanimalshelter.org/">https://www.scanimalshelter.org/</a> |
| Santa Cruz Public Libraries                    | Martin Bernal                   | Santa Cruz Public Libraries<br>117 Union Street<br>Santa Cruz, CA 95060<br><a href="https://www.santacruzpl.org/">https://www.santacruzpl.org/</a>                        |
| Santa Cruz Regional 9-1-1                      | Martin Bernal                   | Santa Cruz Regional 9-1-1<br>495 Upper Park Rd.<br>Santa Cruz, CA 95065<br>(831) 471-1000   |

**External Community Organizations**

**Councilmember/Staff**

**Agency Contact Information**

|  |  |   |
|--|--|---|
| Area Agency on Aging (AAA) Advisory<br>Council | Brown, Brunner (Council alternate), Rita<br>Hester (citizen alternate) | Seniors Council, Clay Kempf<br>234 Santa Cruz Ave.<br>Aptos, CA 95003<br>Phone: (831) 688-0400  |
| Climate Action Task Force                      | Cummings, Dr. Tiffany Wise-West (staff)                                | Dr. Tiffany Wise-West<br><a href="mailto:Twise-west@cityofsantacruz.com">Twise-west@cityofsantacruz.com</a>   |
| Cowell Working Group                           | Meyers, Tony Elliot (staff)  | CWG Facilitated by Save the Waves   |
| Criminal Justice Council                       | Watkins, Golder (alternate), Andy Mills                                | Criminal Justice Council of Santa Cruz County<br><a href="mailto:cjcsantacruzcounty@gmail.com">cjcsantacruzcounty@gmail.com</a>                             |
| Downtown Management Corporation                | Meyers, Golder, Bonnie Lipscomb (staff)                                | Downtown Management Corporation<br><a href="mailto:runitt@cityofsantacruz.com">runitt@cityofsantacruz.com</a><br>337 Locust Street,<br>Santa Cruz, CA 95060 |
| Santa Cruz County Youth Action Network         | Kalantari-Johnson  | <a href="mailto:jburr@unitedwaysc.org">jburr@unitedwaysc.org</a><br>United Way of Santa Cruz County<br>4450 Capitola Rd, Ste 106<br>Capitola, CA 95010      |
| Santa Cruz Community Farmers' Market           | Watkins, Meyers (alternate)<br>Bonnie Lipscomb (staff)                 | Mr. Nesh Dillon Executive Director SCCFM<br>P.O. Box 8189<br>Santa Cruz, CA 95061   |
| Visit Santa Cruz County                        | Watkins, Brunner, Bonnie Lipscomb (staff)                              | Visit Santa Cruz County<br>303 Water Street, Suite 100<br>Santa Cruz, CA 95060<br>800-833-3494 or 831-425-1234  |
| Community Action Board (CAB)                   | Brown, Eve Bertram, UCSC Professor<br>(alternate)                      | Community Action Board of Santa Cruz<br>County, Inc.<br>406 Main St. STE 207<br>Watsonville, CA 95076<br>831-763-2147                                       |



## City Council AGENDA REPORT

**DATE:** 04/19/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Attorney

**SUBJECT:** Resolution Extending the Emergency Declaration in Connection with the COVID-19 Pandemic by Sixty (60) Days (CA)

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**RECOMMENDATION:** Resolution extending the declaration of emergency in connection with the COVID-19 pandemic.

---

**BACKGROUND:** At its regular meeting of March 10, 2020, the City Council adopted Resolution No. NS-29,640 declaring a local health emergency in connection with the global COVID-19 pandemic. The Council's action followed similar actions by California Governor Gavin Newsom on March 4, 2020 and by County of Santa Cruz Health Officer (CHO) Gail Newel on March 6, 2020. On March 16, 2020, the CHO issued a Public Health Order, requiring all Santa Cruz County residents to shelter in place to slow the spread of COVID-19 in the community, and requiring all businesses to cease operations, except for those deemed essential businesses. At its regular meetings of April 28, 2020, June 23, 2020, August 11, 2020, September 22, 2020, November 10, 2020, December 8, 2020, January 26, 2021, and March 9, 2021, the City Council extended its declaration of a local health emergency in connection to COVID-19 by adopting Resolution Nos. NS-29,653, NS-29,677, NS-29,695, NS-29,714, NS-29,739, NS-29,749, NS-29,766, and NS-29,782.

**DISCUSSION:** During a declared emergency the City Manager, acting as the City's Emergency Services Director is empowered to take various actions in response to the emergency, including making and issuing "rules and regulations on matters reasonably related to the protection of life and property as affected by such emergency" subject to ratification by the City Council "at the earliest practicable time." The Resolution would extend the emergency declaration by sixty days from the date of its adoption, to June 26, 2021. Otherwise, pursuant to California Emergency Services Act, it would automatically expire effective Saturday, May 8, 2021.

**FISCAL IMPACT:** Actions taken by the City during a declared emergency relating to the response and measures taken to slow the spread of the COVID-19 epidemic and mitigate the effects thereof on our community are potentially recoverable from California Governor's Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA). Accordingly, it is recommended that the Council extend the declaration of emergency as provided for herein until it has determined that conditions giving rise to the emergency have been abated.

**Prepared By:**  
Mary-Haley Ousely  
Deputy City Attorney

**Submitted By:**  
Tony Condotti  
City Attorney

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**  
1. RESOLUTION.DOCX

RESOLUTION NO. NS-29,

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ EXTENDING  
BY 60 DAYS THE DECLARATION OF EMERGENCY IN CONNECTION WITH THE  
COVID-19 PANDEMIC

WHEREAS, on March 4, 2020, Governor Gavin Newsom proclaimed a state of emergency to exist within the State of California due to the threat posed by COVID-19; and

WHEREAS, on March 6, 2020, the County of Santa Cruz Health Officer ("Health Officer"), under her civil authority, declared a Local Health Emergency, finding an imminent and proximate threat to public health and welfare from the introduction of COVID-19 in the County of Santa Cruz; and

WHEREAS, in light of the current COVID-19 pandemic, the Santa Cruz City Council declared a local health emergency re COVID-19 by Resolution No. NS-29,640 on March 10, 2020, extended the emergency declaration by Resolution No. NS-29,653 adopted at its regular meeting of April 28, 2020, and further extended the emergency declaration by Resolution Nos. NS-29,677 on June 23, 2020, NS-29,695 on August 11, 2020, NS 29,714 on September 22, 2020, NS-29,739 on November 10, 2020, NS-29,749 on December 8, 2020, NS-29,766, on January 26, 2021, and NS-29,782, on March 9, 2021, extending Declaration of Emergency to May 8, 2021.

WHEREAS, under the California Emergency Services Act (Cal. Govt. Code § 8630, et seq.), upon declaration of a local emergency, the City Council must review the need for continuing the emergency declaration at least once every sixty (60) days until it terminates the local emergency; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz (City Council) as follows:

A. That the City Council hereby declares that the local health emergency declaration adopted at its March 10, 2020 regular meeting by Resolution No. NS-29,640, extended at its April 28, 2020 regular meeting by Resolution No. NS-29,653, at its June 23, 2020 regular meeting by Resolution No. NS-29,677, at its August 11, 2020 regular meeting by Resolution No. NS-29,695, at its September 22, 2020 regular meeting by Resolution No. NS-19,714, at its November 10, 2020 regular meeting by Resolution No. NS-29,739, at its December 8, 2020 regular meeting by Resolution No. NS-29,749, at its January 26, 2021 regular meeting by Resolution No. NS-29,766, and at its March 9, 2021 regular meeting by Resolution No. NS-29,782, shall be extended an additional sixty (60) days pursuant to California Government Code Section 8630, et seq., by this Resolution; and

B. That this Resolution shall remain in full force and effect and shall thereafter terminate on the sixtieth (60<sup>th</sup>) day after its adoption, unless earlier terminated or further extended by subsequent City Council action.

RESOLUTION NO. NS-29,

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

## Rosemary Balsley

---

**From:** Garrett <garrettphilipp@aol.com>  
**Sent:** Saturday, April 24, 2021 10:53 PM  
**To:** City Council  
**Subject:** 4.27.21 Agenda Item # 12 Extending Covid Emergency Declaration

4.27.21 Agenda Item # 12 Extending Covid Emergency Declaration

Dear Council,

I don't know if you follow the data, but the deaths in Santa Cruz county for the last week was I think ONE out of an all time from last year total of 205. It was THREE in the last month.

Now they are calling just about any death Covid related, but I must also mention in a normal year such as 2019 1715 people died of all causes, about an average of 142 a month.

As you can see, the Covid deaths in Santa Cruz county are NOISE as far as normal death rates go.

NOT an EMERGENCY. More like bull-wacky.

Petty tyrants are exercising fear to control the masses. What's YOUR excuse? No really.

Sincerely , Garrett Philipp



## City Council AGENDA REPORT

**DATE:** 04/19/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Manager

**SUBJECT:** Resolution Extending the Emergency Declaration in Connection with the CZU August Lightning Complex Fire (CA/CM)

---

**RECOMMENDATION:** Resolution extending a local emergency declaration in connection with the CZU August Lightning Complex Fire.

---

**BACKGROUND:** The CZU August Lightning Complex Fire that began on August 15, 2020, has caused unprecedented damage and destruction in areas of Santa Cruz and San Mateo Counties immediately north of the City of Santa Cruz, and currently constitutes a severe threat to portions of the City and vital City-owned infrastructure in areas of unincorporated Santa Cruz County.

**DISCUSSION:** Chapter 2.20 of the City of Santa Cruz Municipal Code, at Section 2.20.030, empowers the Director of Emergency Services to proclaim the existence or threatened existence of a local emergency when the City is affected or likely to be affected by a public calamity or disaster, subject to confirmation by the City Council at the “earliest practicable time.” During the existence of such emergency, the Director of Emergency Services is also authorized, pursuant to Section 2.20.040(1), to “[m]ake and issue rules and regulations on matters reasonably related to the protection of life and property as affected by such emergency,” also subject to confirmation by the City Council “at the earliest practicable time.”

In view of the facts and circumstances described above, on Friday, August 21, 2020, the City Manager declared the existence of a local emergency in the City of Santa Cruz. At its August 25, 2020 regular meeting, the City Council ratified the emergency declaration by Resolution No. NS-29,704, and the Executive Orders issued pursuant thereto. At its October 27, 2020 regular meeting, the City Council adopted Resolution No. NS-29,731 declaring the existence of a State of Emergency in connection with the CZU August Lightning Complex Fire, confirming the proclamation of same dated August 21, 2020 by the Director of Emergency Services, and ratifying Executive Order 2020-19 issued pursuant thereto. At its regular meeting of December 8, 2020, the Council adopted Resolution No. NS-29,750, further extending the declaration of emergency by 60 days, to February 6, 2021. At its regular meeting of January 26, 2021, the Council adopted Resolution No. NS-29,765, further extending the declaration of emergency by 60 days to March 27, 2021. At its regular meeting of March 9, 2021, the Council adopted Resolution No. NS-29,781, further extending the declaration of emergency by 60 days to May 8, 2021.

The attached resolution, if adopted by the City Council, would extend the emergency declaration related to the CZU August Lightning Complex Fire emergency by an additional 60 days, to June 26, 2021. Otherwise, the emergency declaration will expire on May 8, 2021.

**FISCAL IMPACT:** Actions taken by the City during a declared emergency are potentially recoverable from California Governor’s Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA).

**Prepared By:**  
Mary-Haley Ousley  
Deputy City Attorney

**Submitted By:**  
Tony Condotti  
City Attorney

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. RESOLUTION.DOCX



RESOLUTION NO. NS-29,

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ EXTENDING  
A LOCAL EMERGENCY DECLARATION IN CONNECTION WITH THE CZU AUGUST  
LIGHTNING COMPLEX FIRE

WHEREAS, under Santa Cruz Municipal Code (SCMC) § 2.20.030, the City Manager serves as the Emergency Services Director, and empowers the Director of Emergency Services to proclaim the existence or threatened existence of a local emergency when the City is affected or likely to be affected by a public calamity or disaster; and

WHEREAS, in the event of an emergency declaration, as the Emergency Services Director, the City Manager has the authority to take various actions in the City's interest, including making and issuing "rules and regulations on matters reasonably related to the protection of life and property as affected by such emergency" subject to ratification by the City Council "at the earliest practicable time." (SCMC § 2.20.040); and

WHEREAS, the wildfires known as the CZU August Lightning Complex Fire that began on August 15, 2020 have destroyed structures and threatened numerous residences and acres of valuable wildland and watershed resulting in evacuations and displacement of residents, road closures, areas of isolation, damage to property and utility systems and damage to critical infrastructure and endangered species within unincorporated areas of Northern Santa Cruz County, and currently constitute an imminent threat to portions of the City, as well as vital City infrastructure located outside of City boundaries; and

WHEREAS, while the wildfires are contained, as of this date, they have charred tens of thousands of acres in the Counties of Santa Cruz and San Mateo, damaged or destroyed over 900 residences and buildings, and will displace hundreds of residents for several months, if not permanently, many of whom are seeking shelter in the City of Santa Cruz; and

WHEREAS, the San Lorenzo River watershed contains significant portions of the area damaged by the wildfires, and the City continues to monitor post-fire hazards and water quality impacts; and

WHEREAS, efforts to assist the affected population and restore the burned area and/or recover from the effects of the wildfire damage, involve assets from Santa Cruz County, City of Santa Cruz, other local governments in Santa Cruz County, and other local governments within California, as well as California State and federal fire and law enforcement assets, the American Red Cross and other volunteer organizations; and

WHEREAS, pursuant to his authority as Emergency Services Director, on August 21, 2020, the City Manager declared the existence of a local emergency in light of the foregoing; and

RESOLUTION NO. NS-29,

WHEREAS, at its August 25, 2020 regular meeting the City Council declared a local emergency, and ratified Executive Order No. 2020-17 – Closing All Off-Trail Open Space Areas within Pogonip and Sycamore Grove, by Resolution No. NS-29,704; and

WHEREAS, at its October 27, 2020 meeting, the City Council adopted Resolution No. NS-29,731 declaring the existence of a State of Emergency in connection with the CZU August Lightning Complex Fire, confirming the proclamation of same dated August 21, 2020 by the Director of Emergency Services, and ratifying Executive Order 2020-19 issued pursuant thereto; and

WHEREAS, at its December 8, 2020 meeting, the City Council adopted Resolution No. NS-29,750, extending the declaration of emergency to February 6, 2021; and

WHEREAS, at its January 26, 2021 meeting, the City Council adopted Resolution No. NS-29,765, extending the declaration of emergency to March 27, 2021; and

WHEREAS, as its March 9, 2021 meeting, the City Council adopted Resolution No. NS-29,781, extending the declaration of emergency to May 8, 2021; and

WHEREAS, although the CZU Lightning Complex fire has been contained, areas of open space, including Pogonip and Sycamore Grove remain in a an extremely dry and fire prone condition, making the risk of wildfire caused by campfires associated with illegal encampments particularly grave; and

WHEREAS, based on the foregoing, the City's emergency response to the CZU Lightning Complex fire will likely be ongoing for several months; and

WHEREAS, pursuant to his authority as Emergency Services Director, the City Manager has issued the following executive orders relating to the CZU Lightning Complex Fire emergency:

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz (City Council) as follows:

- A. That the City Council hereby declares that the local health emergency declaration adopted at its August 25, 2020 regular meeting by Resolution No. NS-29,704, and confirmed and re-adopted at its October 27, 2020 regular meeting by Resolution No. NS-29,731, extended an additional 60 days on December 8, 2020 by Resolution No. NS-29,750, January 26, 2021 by Resolution No. NS-29,765, and further extended an additional 60 days on March 9, 2021 by Resolution No. NS-29,781, shall be extended an additional sixty (60) days from its adoption pursuant to California Government Code Section 8630, et seq., by this Resolution; and
- B. That, all previously ratified Executive Orders shall remain in force and effect for the duration the emergency, unless sooner rescinded by subsequent City Council action; and

RESOLUTION NO. NS-29,

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

**MINUTES ARE UNOFFICIAL UNTIL APPROVED BY COUNCIL**

City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A CITY COUNCIL MEETING**

April 13, 2021

**8:30 AM**

Mayor Meyers opened the City Council Closed Session at 8:31 a.m. in a public meeting via Zoom, for the purpose of announcing the agenda, and receiving public testimony.

**Roll Call**

**Present:** Councilmembers Watkins (via Zoom), Kalantari-Johnson (via Zoom), Brown (via Zoom), Cummings (via Zoom), Golder (via Zoom); Vice Mayor Brunner (via Zoom); Mayor Meyers (via Zoom).

**Absent:** None.

**Staff:** City Manager M. Bernal (via Zoom), Assistant City Manager L. Schmidt (via Zoom), City Attorney T. Condotti (via Zoom), Director of Planning and Community Development L. Butler (via Zoom), Human Resources Director L. Murphy (via Zoom), Finance Director K. Krause (via Zoom), Deputy City Clerk Administrator J. Wood, City Clerk Administrator B. Bush (via Zoom).

**Public Comment**

Mayor Meyers opened the public comment period at 8:33 a.m. The following person spoke via teleconference:

Unidentified person spoke regarding item 4.1.

Mayor Meyers closed the public comment period at 8:36 a.m.

**Closed Session**

1. Conference with Legal Counsel - Liability Claims (Government Code §54956.95)

Claimant: Martin Basurto

Claimant: State Farm Insurance

Claims against the City of Santa Cruz

2. Conference with Labor Negotiators - (Government Code §54957.6)

SEIU - Temporary Employees

City Negotiator - Lisa Murphy

3. Conference with Legal Counsel - Anticipated Litigation (Government Code §54956.9(d)(2))

Significant exposure to litigation (2 potential cases to be discussed)

4. Conference with Legal Counsel - Existing Litigation (Government Code §54956.9(d)(1))

Santa Cruz Homeless Union, et al. v. City of Santa Cruz, et al.  
US District Court Case No. 5:20-cv-09425-SVK

At this time, the meeting was closed to the public. (See pages 5613—5614 for a report on Closed Session.)

City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

MINUTES OF A CITY COUNCIL MEETING  
April 13, 2021

**11:00 AM**

**Call to Order** - Mayor Meyers called the meeting to order at 11:08 a.m. via Zoom.

**Roll Call**

**Present:** Councilmembers Watkins (via Zoom), Kalantari-Johnson (via Zoom), Brown (via Zoom), Cummings (via Zoom), Golder (via Zoom); Vice Mayor Brunner (via Zoom); Mayor Meyers (via Zoom).

**Absent:** None.

**Staff:** City Manager M. Bernal (via Zoom), City Attorney T. Condotti (via Zoom), Assistant City Manager L. Schmidt (via Zoom), Human Resources Director L. Murphy (via Zoom), Director of Economic Development B. Lipscomb (via Zoom), Fire Chief J. Hajduk (via Zoom), Finance Director K. Krause (via Zoom), Director of Planning and Community Development L. Butler (via Zoom), Director of Public Works M. Dettle (via Zoom), Water Director R. Menard (via Zoom), Housing and Community Development Manager J. de Wit (via Zoom), Parking Program Manager B. Borguno (via Zoom), Recreation Superintendent R. Kaufman (via Zoom), Environmental Projects Analyst B. Pink (via Zoom), Associate Civil Engineer S. Wolfman (via Zoom), Principal Management Analyst S. De Leon (via Zoom), Deputy City Clerk Administrator J. Wood, City Clerk Administrator B. Bush (via Zoom).

**Presentations**

5. City Manager Recruitment Update

Human Resources Director L. Murphy introduced Teri Black with TB & Co. to provide Council with an update on the City Manager recruitment.

**Presentations (continued)**

6. Mayoral Proclamation Declaring April 13, 2021 as Retired Wharf Supervisor Jon Bombaci Day

Mayor Meyers read the proclamation declaring April 13, 2021 as Retired Wharf Supervisor John Bombaci Day.

7. Mayoral Proclamation Declaring April 4, 2021 as Haley Jones Day

Mayor Meyers read the proclamation declaring April 4, 2021 as Haley Jones Day.

Council took a break at 11:52 a.m. and returned at 12:01 p.m.

**Presiding Officer's Announcements**

**Statements of Disqualification** - None.

**Additions and Deletions** - None.

**Oral Communications Announcement** - The Mayor provided a brief announcement about Oral Communications.

**City Attorney Report on Closed Session**

Conference with Legal Counsel - Liability Claims (Government Code §54956.95)

Claimant: Martin Basurto

Claimant: State Farm Insurance

Claims against the City of Santa Cruz

Council received a status report, took up under agenda item 17, and no reportable action was taken.

**City Attorney Report on Closed Session (continued)**

Conference with Labor Negotiators - (Government Code §54957.6)

SEIU - Temporary Employees

City Negotiator - Lisa Murphy

Council received a status report from the City Negotiator, and took no reportable action.

Conference with Legal Counsel - Anticipated Litigation (Government Code §54956.9(d)(2))

Significant exposure to litigation (2 potential cases to be discussed)

Council received a status report, gave direction, and took no reportable action.

Conference with Legal Counsel - Existing Litigation (Government Code §54956.9(d)(1))

Santa Cruz Homeless Union, et al. v. City of Santa Cruz, et al.  
US District Court Case No. 5:20-cv-09425-SVK

Council received a status report, gave direction, and took no reportable action.

**City Manager Report**

8. The City Manager will report and provide updates on the City's business, COVID-19 response, and events.

City Manager M. Bernal called on the Director of Planning and Community Development L. Butler to provide an update on the Encompass housing on River Street, and on Fire Chief J. Hajduk to provide Council with an update on COVID-19 in the County. City Manager M. Bernal provided information on how to sign up to volunteer with the Dignity Health COVID-19 vaccination clinic, and where details can be found for the status of the City Manager recruitment process on the City's website.

**Council Meeting Calendar**

9. The City Council reviewed and did not revise the meeting calendar attached to the agenda.



## Consent Agenda

Councilmember Cummings pulled item 18 for further discussion.

Director of Economic Development B. Lipscomb responded to Councilmember Cummings' questions on item 13.

Councilmember Kalantari-Johnson made a comment on item 14.

Director of Economic Development B. Lipscomb and Housing and Community Development Manager J. de Wit responded to Councilmember Cummings' and Councilmember Brown's questions regarding item 16.

Mayor Meyers opened the public comment period. The following person spoke via teleconference:

Nicole Zahm spoke regarding item 16.

Mayor Meyers closed the public comment period.

**MOTION:** Councilmember Cummings moved, seconded by Councilmember Watkins, to approve the remaining Consent Agenda.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

### 10. Minutes of the March 23, 2021 City Council Meeting (CC)

Motion carried to approve as submitted.

### 11. Minutes of the April 6, 2021 City Council Special Meeting (CC)

Motion carried to approve as submitted.

### 12. Review and Amendment of the City's Conflict of Interest Code (CC)

Resolution No. NS-29,794 was adopted amending the current Conflict of Interest Code.

**Consent Agenda (continued)**

13. Resolution Calling on Members of the California State Legislature to Appropriate Financial Resources to California's Independent Live Music Venues (CN)

Resolution No. NS-29,795 was adopted urging the State Legislature to provide emergency financial support for California's independent live music venues due to the disproportionate financial burden faced by these venues as a result of the COVID-19 pandemic and shelter in place orders, and directing staff to submit a copy of the resolution to our local State Assembly member and Senator.

14. Resolution Acknowledging the Muslim Holy Month of Ramadan and Expressing the City Council's Respect to Muslims in Santa Cruz and Throughout the World on this Occasion (CN)

Resolution No. NS-29,796 was adopted acknowledging the Muslim holy month of Ramadan and expressing the City Council's respect to Muslims in Santa Cruz and throughout the world on this occasion.

15. Resolution Denouncing Hate Crimes and Bigotry Targeting Asian Americans and Pacific Islanders (CN)

Continued to the April 27, 2021 Council meeting.

16. Reallocation of Relocation Expenses for 350 Ocean Street (ED)

- Motion carried to authorize the City Manager to execute any and all documents necessary, in a form to be approved by the City Attorney, to use the relocation expenses from the 350 Ocean Street Project (Ocean St. Project) to fund the Market Match program of the Santa Cruz Farmers' Market and the affordable housing Security Deposit Program.
- Resolution No. NS-29,797 was adopted authorizing amendment of the FY 2021 budget in order to receive relocation funds from 350 Ocean into the Affordable Housing Trust Fund and allocate funds to the Market Match program of the Santa Cruz Farmers' Market and the affordable housing Security Deposit Program.

**Consent Agenda (continued)****17. Liability Claims Filed Against City of Santa Cruz (FN)**

Motion carried to reject liability claim of a) Martin Basurto, and to return as late the liability claim of b) State Farm Insurance, based on staff recommendation.

**18. Beach Area Parking Meter Rate Ordinance Updates (PW)**

Parking Program Manager B. Borguno spoke and responded to Councilmember questions.

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**MOTION:** Councilmember Cummings moved, seconded by Councilmember Golder, to:

- Introduce for publication Ordinance No. 2021-06 amending Section 10.52.310 Parking Meter Rate 1-Beach Area.
- Introduce for publication Ordinance No. 2021-07 amending Section 10.52.315 Parking Meter Rate 2-Beach Area of the Santa Cruz Municipal Code regarding the setting of parking meter rates.

**ACTION:** The motion carried unanimously with the following vote.

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

**Staff Assignment:**

Provide Council with an informational update on what it would cost to provide each resident in the Beach Flats a parking pass for the summer months.

**Consent Agenda (continued)****19. Murray Street Bridge Seismic Retrofit (c409321) - Contract Amendment 8 (PW)**

Motion carried to approve Contract Amendment 8 with TRC Engineers, Inc. to provide design completion services for the Murray Street Bridge Seismic Retrofit Project (c409321), and authorize the City Manager to execute the contract amendment in a form approved by the City Attorney.

**20. Contract Amendment No. 2 with DUDEK for California Environmental Quality Act Compliance and Environmental Permitting for the Graham Hill Water Treatment Plant Facility Improvement Project (WT)**

Motion carried authorizing the City Manager to execute Contract Amendment No. 2 in a form to be approved by the City Attorney with DUDEK (Santa Cruz, CA) in the amount of \$622,299 for Phase II environmental services on the Graham Hill Water Treatment Plant Facility Improvement Project.

**21. Meter Replacement Project - Award of Professional Services Agreement for Implementation Management Services and Product Purchases (WT)**

Motion carried to:

- Authorize the City Manager to execute an agreement in a form to be approved by the City Attorney with Jacobs Engineering Group Inc. (Sacramento, CA) in the amount of \$994,997 for Implementation Management Services (Phase 4 of their multi-phase scope of services), for the Meter Replacement Project;
- Accept the bid of Ferguson Waterworks (Salinas, CA) for the purchase of traffic-rated water meter box lids in the amount of \$102,749.63 and authorizing the City Manager to execute an agreement in a form to be approved by the City Attorney with Ferguson Waterworks, and rejecting all other bids;
- Accept the bid of M&M Backflow & Meter Maintenance (Gustine, CA) for the purchase of standard water meter box lids in the amount of \$733,450.97 and authorizing the City Manager to execute an agreement in a form to be approved by the City Attorney with M&M Backflow & Meter Maintenance, and rejecting all other bids; and

**Consent Agenda (continued)**

21. Meter Replacement Project - Award of Professional Services Agreement for Implementation Management Services and Product Purchases (WT) (continued)

- Authorize the City Manager to execute an agreement in a form to be approved by the City Attorney with Badger Meter, Inc. (Milwaukee, WI) in the amount of \$4.9 million for the purchase of water meters, radios, and related services.

22. Loch Lomond Reservoir Oxygen Diffuser System - Award of Contract (WT)

Motion carried authorizing the City Manager to execute an agreement with Mobley Engineering, Inc. of Norris, TN in the amount of \$372,462 for the installation of the Loch Lomond Reservoir Oxygen Diffuser System in a form to be approved by the City Attorney and to authorize an exemption from local employment requirements.

23. Coast Pump Station Raw Water Pipeline Replacement Project - Notice of Completion (WT)

Motion carried to accept the work of Vadnais Trenchless Services, Inc. (Vista, CA) as complete per the plans and specifications and authorizing the filing of a Notice of Completion for the Coast Pump Station Raw Water Pipeline Replacement Project and to authorize the Water Director to sign the Notice of Completion as the Owner's Authorized Agent.

24. Water Quality Lab Remodel - Ratify e-Tops Purchase Order and Notices of Completion for CEN-CON and e-Tops (WT)

Motion carried to:

- Ratify a purchase order with e-Tops Inc. (Santa Clara, CA) in the amount of \$176,866 for two fume hoods and related cabinetry for the Water Quality Lab Remodel;
- Accept the work of e-Tops, Inc. (Santa Clara, CA) as complete per plans and specifications and authorize the filing of a Notice of Completion for the Water Quality Lab Remodel and to authorize the Water Director to sign the Notice of Completion as the Owner's Authorized Agent; and

**Consent Agenda (continued)****24. Water Quality Lab Remodel - Ratify e-Tops Purchase Order and Notice of Completions for CEN-CON and e-Tops (WT) (continued)**

- Accept the work of CEN-CON, Inc. (Santa Cruz, CA) as complete per plans and specifications and authorize the filing of a Notice of Completion for the Water Quality Lab Remodel and to authorize the Water Director to sign the Notice of Completion as the Owner's Authorized Agent.

**End Consent Agenda****Consent Public Hearing**

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**MOTION:** Councilmember Watkins moved, seconded by Councilmember Golder, to approve the Consent Public Hearing Agenda.

**ACTION:** The motion carried unanimously with the following vote.

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers.  
NOES: None.  
ABSENT: None.  
DISQUALIFIED: None.

**25. 2nd Reading and Final Adoption of Ordinance No. 2021-04 School District & Employer Sponsored Housing Amendments to Affordable Housing Inclusionary Ordinance (ED/PL)**

Ordinance No. 2021-04 was adopted amending Title 24 of the Santa Cruz Municipal Code, the Zoning Ordinance, Part One of Chapter 24.16, Affordable Housing Provisions, including Sections 24.16.010 through 24.16.060.

**26. Administrative Corrections to Flat-Rate Fee Schedule for Code Compliance Services (PL)**

Resolution No. NS-29,798 was adopted correcting the Unified Master Fee Schedule correcting code compliance fees adopted on March 23, 2021 as identified in Exhibit A, and rescinding Resolution No. NS-29,793.

Council took a break at 1:02 p.m. and returned at 1:27 p.m.

**General Business**

**27. Arts Commission Appointment (CC)**

City Clerk Administrator B. Bush introduced the item.

Mayor Meyers opened the public comment period. There were no speakers.  
Mayor Meyers closed the public comment period.

Councilmember Golder nominated Robert Blitzer.

Councilmember Brown nominated Christopher Carr.

Voting for Robert Blitzer: Councilmember Golder; Vice Mayor Brunner; Mayor Meyers.

Voting for Christopher Carr: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings.

Christopher Carr was appointed to the Arts Commission with a term expiration of January 1, 2023.

**28. Sister Cities Committee Appointment (CC)**

Mayor Meyers opened the public comment period. There were no speakers.  
Mayor Meyers closed the public comment period.

Councilmember Cummings nominated Heerei Park.

By consensus, Heerei Park was appointed to the Sister Cities Committee with a term expiration of January 1, 2024.

**29. Equal Employment Opportunity Committee (EEOC) Appointment (CC)**

Mayor Meyers opened the public comment period. There were no speakers.  
Mayor Meyers closed the public comment period.

Councilmember Kalantari-Johnson nominated Alfredo Manrique.

Councilmember Watkins nominated Michael Polhamus.

**General Business (continued)**

29. Equal Employment Opportunity Committee (EEOC) Appointment (CC) (continued)

Voting for Alfredo Manrique: Councilmembers Kalantari-Johnson, Brown, Cummings; Vice Mayor Brunner.

Voting for Michael Polhamus: Councilmembers Watkins, Golder; Mayor Meyers.

Alfredo Manrique was appointed to the Equal Employment Opportunity Committee (EEOC) with a term expiration of June 30, 2023.

30. Explore Renaming Locations and Landmarks from Loudon Nelson to London Nelson and Accurately Honoring and Depicting the History of Mr. Nelson (PR)

Recreation Superintendent R. Kaufman and local historian Ross Gibson gave a presentation.

Luna Bey read a letter on behalf of Brittnii London.

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**MOTION:** Councilmember Watkins moved, seconded by Vice Mayor Brunner, to:

- Endorse the community's effort to explore renaming locations and landmarks honoring Loudon Nelson to London Nelson and pursue a more accurate depiction of the history of Mr. Nelson and explore further education efforts on his contributions to Santa Cruz.
- Direct staff to the Historic Preservation Commission to place an item on the May 19th agenda to discuss the name correction and bring back a recommendation for the City Council to consider.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

**General Business (continued)**



31. 2021 Peak Season Water Supply Assessment (WT)

Environmental Projects Analyst B. Pink gave a presentation and responded to Councilmember questions.

Water Director R. Menard responded to Councilmember questions.

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**MOTION:** Vice Mayor Brunner moved, seconded by Councilmember Kalantari-Johnson, to adopt Resolution No. NS-29,799 declaring a Stage 1 Water Shortage Warning.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

32. Amendments to Municipal Code Chapter 16.01 to Align City Code Language with the Recently Council Adopted 2021 Interim Water Shortage Contingency Plan (WT)

Water Director R. Menard introduced the item.

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**General Business (continued)****32. Amendments to Municipal Code Chapter 16.01 to Align City Code Language with the Recently Council Adopted 2021 Interim Water Shortage Contingency Plan (WT) (continued)**

**MOTION:** Councilmember Brown moved, seconded by Councilmember Golder, to:

- Adopt Ordinance No. 2021-08 as an emergency ordinance revising Municipal Code Chapter 16.01, Water Shortage Regulations and Restrictions, to align it with the provisions of the 2021 Interim Water Shortage Contingency Plan, to provide for code revisions to become effective immediately and be implementable in the event the Council takes action to declare a water shortage emergency for the 2021 water demand season.
- Introduce for publication Ordinance No. 2021-09 revising Municipal Code Chapter 16.01, Water Shortage Regulations and Restrictions, to align it with the provisions of the 2021 Interim Water Shortage Contingency Plan.

**ACTION:** The motion carried unanimously with the following vote.

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers.  
NOES: None.  
ABSENT: None.  
DISQUALIFIED: None.

**Development Charges and Fees - Items 33–36**

Principal Management Analyst S. DeLeon, Water Director R. Menard, and Associate Civil Engineer S. Wolfman gave a presentation and responded to Councilmember questions.

Mayor Meyers opened the public comment period for items 33–36. The following person spoke.

**SPEAKING VIA TELECONFERENCE:**  
Garrett Philipp

Mayor Meyers closed the public comment period.

**General Business (continued)**

33. Water System Development Charge Update (WT)

**MOTION:** Councilmember Watkins moved, seconded by Councilmember Brown, to adopt Resolution No. NS-29,800 adjusting the Water System Development Charges and rescinding Resolution No. NS-29,355.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

34. Sewer Connection Fees (PW)

**MOTION:** Councilmember Golder moved, seconded by Mayor Meyers, to adopt Resolution No. NS-29,801 adopting the revised sewer connection fees and rescinding Resolution No. NS-29,181.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

**Public Hearings**35. Childcare Impact Fee (PL)

**MOTION:** Councilmember Watkins moved, seconded by Councilmember Kalantari-Johnson, to:

- Introduce for publication Ordinance No. 2021-10 amending Chapter 18.48 of the Santa Cruz Municipal Code related to Childcare Impact Fees.
- Consider staff recommendation to use initial Childcare Impact Fee funding to develop a childcare facility plan within the City of Santa Cruz to guide childcare facility development in the areas it is most needed.
- Discuss and consider staff recommendation to co-manage Childcare Impact Fee revenues received with the County of Santa Cruz through a written agreement once the City's childcare facility plan is complete.
- Return on April 27, 2021 to adopt a resolution setting the Childcare Impact Fee charges for residential and nonresidential development.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

**Public Hearings (continued)****36. Creation of a New Public Safety Impact Fee (PL)**

**MOTION:** Councilmember Brown moved, seconded by Councilmember Cummings, to:

- Introduce for publication Ordinance No. 2021-11 establishing a new Public Safety Impact Fee within Chapter 18.49 of the Santa Cruz Municipal Code, with the following categorical exemption for 100% affordable housing projects as per language used in childcare impact fee ordinance under 18.48.050(d):

Affordable Housing Projects. For purposes of this exemption, Affordable Housing Projects are projects where 100% of the units, excluding managers units, within the development are dedicated to lower income households. The affordable units within the development are subject to a recorded affordability restriction for a minimum of fifty-five (55) years or per local inclusionary requirements, whichever is greater.

- Return on April 27, 2021 to adopt a resolution setting the Public Safety Impact Fee charges for residential and nonresidential development.

**FRIENDLY AMENDMENT:** Mayor Meyers requested to add to the categorical exemption a 5-year review of revenues that may have been lost, with a report back to Council. Councilmembers Brown and Cummings accepted.

**ACTION:** The motion carried unanimously with the following vote.

|               |   |
|---------------|---|
| AYES:         | Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. |
| NOES:         | None.   |
| ABSENT:       | None.   |
| DISQUALIFIED: | None.   |

**Recess** - The City Council recessed at 4:16 p.m.

**City Council**

**5:30 PM**

**Call to Order** - Mayor Meyers called the meeting to order at 5:30 p.m. via Zoom.

**Roll Call**

**Present:** Councilmembers Watkins (via Zoom), Kalantari-Johnson (via Zoom), Brown (via Zoom), Cummings (via Zoom), Golder (via Zoom); Vice Mayor Brunner (via Zoom); Mayor Meyers (via Zoom).

**Absent:** None.

**Staff:** City Manager M. Bernal (via Zoom), City Attorney T. Condotti (via Zoom), Assistant City Manager L. Schmidt (via Zoom), Director of Planning and Community Development L. Butler (via Zoom), Police Chief A. Mills (via Zoom), Director of Economic Development B. Lipscomb (via Zoom), Fire Chief J. Hajduk (via Zoom), Finance Director K. Krause (via Zoom), Director of Public Works M. Dettle (via Zoom), Director of Parks and Recreation T. Elliot (via Zoom), Deputy City Clerk Administrator J. Wood, City Clerk Administrator B. Bush (via Zoom).

**Oral Communications**

At 5:33 p.m. Mayor Meyers opened Oral Communications for members of the public who wished to speak regarding items not listed on the City Council agenda.

Unidentified person spoke regarding a restraining order placed against City officials in Chico, CA.

Skirt Vonna-Gut spoke, offering a proposal to address homelessness.

Elise Casby spoke requesting Council begin meeting in person again.

Wendy King spoke regarding the Area Agency on Aging, inviting Council to the California Master Plan on Aging.

At 5:52 p.m. Mayor Meyers closed Oral Communications.

**General Business**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA)

Mayor Meyers spoke, announcing staff would not be providing a presentation this evening in order to provide more public comment and to take a different direction.

Mayor Meyers opened the public comment period. The following people spoke.

SPEAKING VIA TELECONFERENCE:

Tom Brown  
Serg Kagno  
Unidentified person  
Sonia McMoran  
Jeff Watson  
Unidentified person  
Joy Schendledecker  
Unidentified person  
Kathy Miller  
Carrie Petersen  
Danielle [last name unintelligible]  
Unidentified person  
Jeff Trava  
Unidentified person  
Unidentified person  
Unidentified person  
John Ellison  
Sabina  
Joan Quilter  
Unidentified person  
Unidentified person  
Carol Walker  
John Artukovich  
Unidentified person  
Unidentified person  
Unidentified person  
Wyatt  
Carrie Dunley  
Soren Whiting  
Unidentified person

**General Business (continued)**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA) (continued)

SPEAKING VIA TELECONFERENCE (continued):

Unidentified person  
Samantha Bennett  
Unidentified person  
Unidentified person  
Grace Pasqual  
Melissa  
Dafna  
Sandy Lawton  
Natasha Elliot  
Unidentified person  
Heather Hutchison  
Lisa  
Elise Casby

Mayor Meyers closed the public comment period.

**MOTION:** Councilmember Kalantari-Johnson moved, seconded by Councilmember Watkins, to

1. Prioritize and set up adequate shelter/safe-sleeping locations/programs on City-owned properties not adjacent to residential areas or schools that include creation of 150 safe-sleeping spots involving the River Street Shelter, 1220 River Street, and other City facilities/City parking lots as necessary to be determined by staff.
  - a. Except for 1220 River Street, which may be used as a managed encampment or overnight site, these safe-sleeping spaces will be for sleeping only, inviting individuals to come in the evening to sign in and leave in the morning.
  - b. 10% of the safe-sleeping spaces are reserved and made available for individuals to access if they are found to be sleeping in an area that is not allowed for sleeping.
  - c. Families with minor children will be prioritized for safe-sleeping areas.
2. Restrictions on daytime encampments with implementation of a daytime property storage program.



**General Business (continued)**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA) (continued)

**MOTION (continued):**

3. Enforcement of nighttime prohibition to be conditioned on availability of alternative shelter options and to be deferred until Item 1 is accomplished and safe-sleeping programs are operational, after which the City would prohibit camping in all other City areas; other than City permitted indoor shelters, safe-sleeping locations, and managed encampments to be run by non-profit/faith-based community/County partners.

**FRIENDLY AMENDMENT:** Councilmember Kalantari-Johnson amended her motion to reword item 1 as follows:

- “1. “Direct staff to engage with the community to prioritize setting up adequate shelter/safe-sleeping locations/programs on City-owned properties not adjacent to residential areas or schools that include creation of 150 safe-sleeping spots involving the River Street Shelter, 1220 River Street, and other City facilities/City parking lots as necessary to be determined by staff.”

Councilmember Watkins accepted.

City Attorney T. Condotti clarified Council’s intention is to administratively suspend enforcement of the temporary outdoor living ordinance pending further revisions and return to Council at the May 11, 2021 Council meeting with an ordinance that is consistent with the above motion. Councilmembers Kalantari-Johnson and Watkins agreed.

Director of Planning and Community Development L. Butler responded to Councilmember questions.

**General Business (continued)**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA) (continued)

**FRIENDLY AMENDMENT:** Councilmember Cummings requested to:

- Amend item 1 and 1(a) to read:

“Prioritize and set up adequate shelter/safe-sleeping locations/programs on City-owned properties including but not limited to 150 safe-sleeping spots, in addition to the River Street Shelter, 1220 River Street, and other City facilities/City parking lots as necessary to be determined by staff in conjunction with community outreach when appropriate.

a. Safe-sleeping spaces will be for sleeping only, inviting individuals to come in the evening to sign in and leave in the morning.”
- Add item 3:

“Use temporary outdoor living ordinance and standard operating procedures for removing encampments as templates for reference.”
- Renumber item 3 to be item 4 and amend the language to read:

“Establish a subcommittee to work with staff to come up with and bring forward an ordinance in conjunction with community input that would allow for enforcement of nighttime prohibition on camping when adequate safe-sleeping programs are operational to address Martin vs. Boise, after which the City would prohibit camping in all other City areas; other than City-permitted indoor shelters, safe-sleeping locations, and managed encampments.

Councilmember Kalantari-Johnson accepted to include, “including but not limited to 150 safe-sleeping sites” in item 1, and did not accept the remaining amendments.

**FRIENDLY AMENDMENT:** Councilmember Brown requested to amend item 1 to include “get input from people who work with the houseless directly, including service providers, mutual aid groups, and neighborhood groups who may be affected by potential locations.” Councilmembers Kalantari-Johnson and Watkins accepted.

**General Business (continued)**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA) (continued)

**FRIENDLY AMENDMENT:** Vice Mayor Brunner requested to include “Safe-sleeping spots would include water, handwashing, trash, and restrooms” to item 1. Councilmembers Kalantari-Johnson and Watkins accepted.

**FRIENDLY AMENDMENT:** Councilmember Cummings requested to remove the language “not adjacent to residential areas or schools.”

Director of Planning and Community Development suggested rewording the motion to include “and also,” to read:

“...including but not limited to 150 safe-sleeping spots and also involving the River Street Shelter, 1220 River Street...”

Councilmember Cummings accepted. Councilmembers Kalantari-Johnson and Watkins accepted the friendly amendment.

After the discussion, Mayor Meyers re-stated the motion as:

1. Administratively suspend enforcement of the temporary outdoor living ordinance pending further revisions and return to Council at the May 11, 2021 Council meeting with a new ordinance.
2. Direct staff to engage with the community to get input from people who work with the houseless directly, including service providers, mutual aid groups, and neighborhood groups who may be affected by potential locations to prioritize setting up adequate shelter/safe-sleeping locations/programs on City-owned properties, including but not limited to 150 safe-sleeping spots not adjacent to residential areas or schools that includes creation of 150 safe-sleeping spots and also involving the River Street Shelter, 1220 River Street, and other City facilities/City parking lots as necessary to be determined by staff. Safe-sleeping spots would include water, handwashing, trash, and restrooms.
  - a. Except for 1220 River Street, which may be used as a managed encampment or overnight site, these safe-sleeping spaces will be for sleeping only, inviting individuals to come in the evening to sign in and leave in the morning.

**General Business (continued)**

37. Ordinance Amending Chapter 6.36 of the Santa Cruz Municipal Code Related to Regulations for Temporary Outdoor Living. Location: Citywide. CEQA: Exempt. (CM, PD, CA) (continued)

**MOTION (continued):**

- b. 10% of the safe-sleeping spaces are reserved and made available for individuals to access if they are found to be sleeping in an area that is not allowed for sleeping.
  - c. Families with minor children will be prioritized for safe-sleeping areas.
3. Restrictions on daytime encampments with implementation of a daytime property storage program.
4. Enforcement of nighttime prohibition to be conditioned on availability of alternative shelter options and to be deferred until Item 1 is accomplished and safe-sleeping programs are operational, after which the City would prohibit camping in all other City areas; other than City permitted indoor shelters, safe-sleeping locations, and managed encampments to be run by non-profit/faith-based community/County partners.

**ACTION:** The motion carried with the following vote.

AYES: Councilmembers Watkins, Kalantari-Johnson, Golder; Vice Mayor Brunner; Mayor Meyers.

NOES: Councilmembers Brown (yes on items 1 and 2), Cummings, (yes on items 1 and 2).

ABSENT: None.

DISQUALIFIED: None.

**Staff Assignment:**

Provide Council with an update of where the recommendations provided by the 2017 homelessness committee stands and where that is at. (Vice Mayor Brunner)

**Adjournment** - The City Council adjourned at 9:34 p.m.

Respectfully Submitted:

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Julia Wood, Deputy City Clerk Administrator

Attest:

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Bonnie Bush, City Clerk Administrator

Approved:

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Donna Meyers, Mayor

**MINUTES ARE UNOFFICIAL UNTIL APPROVED BY COUNCIL**

City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A JOINT CITY COUNCIL AND  
PARKS AND RECREATION COMMISSION STUDY SESSION**

April 20, 2021

**Joint City Council/Parks and Recreation**

**2:00 PM**

**Call to Order** - Mayor Meyers called the meeting to order at 2:01 p.m. via Zoom.

**Roll Call**

**Present:** Councilmembers Watkins (via Zoom), Kalantari-Johnson (via Zoom), Brown (via Zoom), Golder (arrived at 2:07 p.m. via Zoom); Vice Mayor Brunner (via Zoom); Mayor Meyers (via Zoom).

**Absent:** Councilmember Cummings.

**Present:** Commissioners Greensite (via Zoom), Locatelli (via Zoom), Pollock (via Zoom), Schott-Norris (via Zoom); Vice Chair Brown (via Zoom); Chair Mio (via Zoom).

**Absent:** Commissioner Glavis.

**Staff:** City Manager M. Bernal (via Zoom), City Attorney T. Condotti (via Zoom), Assistant City Manager L. Schmidt (via Zoom), Director of Parks and Recreation T. Elliot (via Zoom), Finance Director K. Krause (via Zoom), Director of Public Works M. Dettle (via Zoom), Principal Management Analyst L. Bass (via Zoom), Deputy City Clerk Administrator J. Wood, City Clerk Administrator B. Bush (via Zoom).

**General Business**

**1. Report on Parks & Recreation Department Budget and Financial Outlook (PR)**

Director of Parks and Recreation T. Elliot and Principal Management Analyst L. Bass gave a presentation and responded to Commissioner and Councilmember questions.

Superintendent of Parks T. Beck responded to Commissioner and Councilmember questions.

## JOINT CITY COUNCIL AND PARKS AND RECREATION STUDY SESSION MINUTES

**General Business (continued)****1. Report on Parks & Recreation Department Budget and Financial Outlook (PR) (continued)**

Mayor Meyers summarized the direction provided by Council and Commissioners:

- Revisit moving Rangers from Parks and Recreation Department to the Police Department and provide Council with a proposal of what that would cost.
- Understanding from a ballot measure perspective how to proactively make Parks a standing pillar of revenue.
- Commit to keep service provision at a reasonable level.
- Increase outside partnership efforts for fundraising to help with additional needs, such as scholarships or other costs.
- Discuss how to fund the eight currently unfunded full-time employee positions within Park Maintenance.
- Review metrics and cost-recovery ideas and support the business plan for the golf course.

Mayor Meyers opened the public comment period. There were no speakers. Mayor Meyers closed the public comment period.

**Adjournment** - The Joint City Council and Parks and Recreation Commission meeting adjourned at 4:01 p.m.

Respectfully Submitted:

---

Julia Wood, Deputy City Clerk Administrator

Attest:

---

Bonnie Bush, City Clerk Administrator

Approved:

---

Donna Meyers, Mayor

**MINUTES ARE UNOFFICIAL UNTIL APPROVED BY COUNCIL**

City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

**MINUTES OF A CITY COUNCIL STUDY SESSION**

April 20, 2021

**4:00 PM**

**Call to Order** - Mayor Meyers called the meeting to order at 4:06 p.m. via Zoom.

**Roll Call**

**Present:** Councilmembers Watkins (via Zoom), Kalantari-Johnson (via Zoom), Brown (via Zoom), Golder (via Zoom); Vice Mayor Brunner (via Zoom); Mayor Meyers (via Zoom).

**Absent:** Councilmember Cummings.

**Staff:** City Manager M. Bernal (via Zoom), City Attorney T. Condotti (via Zoom), Assistant City Manager L. Schmidt (via Zoom), Finance Director K. Krause (via Zoom), Director of Public Works M. Dettle (via Zoom), Deputy City Clerk Administrator J. Wood, City Clerk Administrator B. Bush (via Zoom).

**General Business**

1. Building a Green Economy in the City of Santa Cruz (CN)

Mayor Meyers introduced the item and the presenters.

Andrea Mackenzie, General Manager, Open Space Authority, gave a presentation.

Nik Strong-Cvetich, Executive Director, Save the Waves, gave a presentation.

Reggie Knox, Executive Director, California FarmLink, gave a presentation.

Bill Henry, Founder, Groundswell Coastal Ecology, gave a presentation.



**General Business (continued)**

1. Building a Green Economy in the City of Santa Cruz (CN) (continued)

Mayor Meyers opened the public comment period. The following person spoke.

SPEAKING VIA TELECONFERENCE:

Unidentified person

Mayor Meyers closed the public comment period.

**Adjournment** - The City Council adjourned at 6:01 p.m.

Respectfully Submitted:

---

Julia Wood, Deputy City Clerk Administrator

Attest:

---

Bonnie Bush, City Clerk Administrator

Approved:

---

Donna Meyers, Mayor



## City Council AGENDA REPORT

**DATE:** 04/12/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Clerk

**SUBJECT:** Nomination for Reappointment of Carol Berg to the Housing Authority Board of Commissioners (CC)

---

**RECOMMENDATION:** Motion to nominate Carol Berg for reappointment to the County Housing Authority Board of Commissioners with a term expiring on May 21, 2025.

---

**BACKGROUND:** None.

**DISCUSSION:** Because of Carol Berg's term expiration on May 21, 2021, the City Council has a nomination to the Housing Authority Board of Commissioners. The Board of Supervisors will make the appointment or reappointment. No other person has applied. The following person is seeking reappointment:

Berg, Carol

**FISCAL IMPACT:** None.

**Prepared By:**  
Bonnie Bush  
City Clerk Administrator

**Submitted By:**  
Laura Schmidt  
Assistant City Manager

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. BERG APPLICATION.PDF
2. HOUSING AUTHORITY MARCH 11TH LETTER OF SUPPORT.PDF



## CITY OF SANTA CRUZ APPLICATION FOR APPOINTMENT TO ADVISORY BODIES

Applications will be considered active for two years from date of submission.

NAME\* Carol Berg DATE April 15, 2021  
RESIDENCE ADDRESS\* [REDACTED] CITY Santa Cruz ZIP 95060  
EMAIL\* [REDACTED] HOME # [REDACTED] CELL # [REDACTED]  
EMPLOYER None OCCUPATION Retired  
REGISTERED CITY VOTER? Yes ☒ No ☐ YEARS LIVED IN CITY LIMITS OF SANTA CRUZ 1/2  
EMPLOYED BY CITY OF SANTA CRUZ? Yes ☐ No ☒ PRESENTLY SERVING ON ADVISORY BODY? \*\* Yes ☒ No ☐  
PERSONAL REFERENCE (optional) Bonnie Lipscomb PHONE (831) 420-5159  
*I do work as a person on occasion.*

\*required fields.

### ADVISORY BODIES

If you are applying for more than one advisory body, please rank your preferences numerically with #1 as your first choice.

|   |   |
|---|---|
| <input type="checkbox"/> Arts Commission*   | <input type="checkbox"/> Parks and Recreation Commission*                       |
| <input type="checkbox"/> Board of Building Appeals*                               | <input type="checkbox"/> Planning Commission*                                   |
| <input type="checkbox"/> Commission for the Prevention of Violence Against Women* | <input type="checkbox"/> Transportation and Public Works Commission*            |
| <input type="checkbox"/> Downtown Commission*                                     | <input type="checkbox"/> Sister Cities Committee                                |
| <input type="checkbox"/> Equal Employment Opportunity Committee                   | <input type="checkbox"/> Water Commission*                                      |
| <input type="checkbox"/> Historic Preservation Commission*                        | <input checked="" type="checkbox"/> Other: Housing Authority Of SC County Board |

If you are applying for a specialized category, please indicate:

Advisory Body Housing Authority of SC County Category Board Seat Representing City of Santa Cruz

\* A Statement of Economic Interest must be filed after appointment by those appointed to the advisory bodies marked with an asterisk (\*). The statement includes, but is not limited to, disclosure of financial, business and real property interests held by the appointee (and spouse) in the City of Santa Cruz or within 2 miles of the jurisdiction of the City of Santa Cruz.

\*\* Council Policy 5.1 states that members shall not serve simultaneously on more than one advisory body. If you are presently serving on (or are appointed to) an advisory body, your application to serve on a second advisory body will be forwarded to the Council for consideration only if you indicate that you are willing to resign from the first advisory body. If you are appointed to serve on an advisory body, you may also be eligible to serve on another advisory body or task force if it is scheduled to sunset within 13 months.

### SIGN AND RETURN TO CITY CLERK'S DEPARTMENT

  
Signature of Applicant

By Email jwood@cityofsantacruz.com  
By Mail/In Person: 809 Center Street, Room 9  
Santa Cruz, CA 95060  
Fax: 831-420-5031

• PLEASE USE THE REVERSE SIDE FOR ADDITIONAL INFORMATION •

Please note: This application is considered a public document, and will be available for release upon request.

Please use the following space to provide any relevant qualifications or experiences you think would enhance your effectiveness on the advisory body for which you are applying. Feel free to attach additional sheets.

Experience in Housing Field: I served for 19 years as the Housing Manager for the City of Santa Cruz as well as another 4.5 years as District Manager in the Housing Department of the City of Santa Ana. As a result I have significant experience in and knowledge of affordable housing development and housing programs. This includes working with the Housing Authority as well as other federal HUD programs.

Experience on Boards: I have been representing the City of Santa Cruz for 8 years on the Housing Authority Board. In the past I served one year as the chair and currently served as the vice-chair of the board. With my housing knowledge and board experience, I feel I am able to contribute significantly to the Board discussions to help make informed decisions. I also currently sit on the Board of Habitat for Humanity of Monterey Bay.

Understanding City Needs: As a past City staff member, Housing Manager, and current City resident, I feel that I understand the City's housing needs as well as the community's concerns.

Education: BFA from University of Washington and MLA from Harvard University.

How did you hear about the advisory body opening?

☐ City Website    ☐ Word of mouth    ☐ Display ad    ☐ City Staff or Commissioner

Other (explain) Housing Authority



2160 41st Avenue | Capitola, California 95010 | Tel: 831.454.9455 | Fax: 831.469.3712 | [www.hacosantacruz.org](http://www.hacosantacruz.org)  
Also serving Hollister and San Juan Bautista | Tel: 831.637.0487

March 11, 2021

All Councilmembers  
forwarded electronic copy

RECEIVED

MAR 18 2021

CITY CLERK'S DEPT.

Santa Cruz City Council  
809 Center Street, Room 10  
Santa Cruz, CA 95060

RE: At-large vacancy on the Housing Authority of the County of Santa Cruz Board of Commissioners Representing the City of Santa Cruz

Dear Council Members:

As you know the at-large term for the representative of the City of Santa Cruz to the Housing Authority of the County of Santa Cruz, Board of Commissioners currently held by Ms. Carol Berg, will expire on May 21, 2021. I'm writing you today in support of Ms. Berg's reappointment to this position.

Ms. Berg's knowledge and expertise with the agency as well as housing issues in Santa Cruz County would be a very important asset for us to retain. I respectfully request the Members of the Santa Cruz City Council consider Ms. Berg for reappointment to the Housing Authority Board of Commissioners. We look forward to having her serve a third term on our board.

Sincerely,

Jennifer Panetta  
Secretary  
Board of Commissioners  
[jennyp@hacosantacruz.org](mailto:jennyp@hacosantacruz.org)  
(831)454-9455 x 231



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Council

**SUBJECT:** Resolution Denouncing Hate Crimes and Bigotry Targeting Asian Americans and Pacific Islanders (CN)

---

**RECOMMENDATION:** Resolution denouncing hate crimes and bigotry targeting Asian Americans and Pacific Islanders.

---

**BACKGROUND:** The Asian Pacific Policy and Planning Council and Chinese for Affirmative Action launched a hate incident-reporting internet website, titled “Stop AAPI Hate,” at the beginning of the COVID-19 outbreak in March of 2020, which documented over 3,800 hate incidents against Asian-American Pacific Islanders (AAPI) in 2020 and over 700 of these incidents occurred in the Bay Area of California.

Recently, on January 30, 2021, 84-year-old Vicha Ratanapakdee, a nearly-blind and gentle elderly Thai man, died from injuries resulting from an attack while he was walking in the City of San Francisco, in what is deemed as a hate crime; on February 3, 2021, a 64 year old grandmother was assaulted and robbed of her purse, which included more than \$1,000 cash, in broad daylight in the parking lot of the Dai Thanh Supermarket in downtown San Jose; on March 16, 2021, 8 people (6 being Asian, 2 white, all but one being women) were gunned down by a white man in Atlanta, Georgia; and xenophobic attacks targeting Asian American elders around the Bay Area increased again just before Lunar New Year.

These reports depict a disturbing reality, especially for Asian women, who experienced violence nearly 2.5 times more than their male counterparts. However, the numbers do not tell the full story as they don’t include many of the unreported and increasingly normalized incidents of violence.

Racism and anti-AAPI sentiments has been exacerbated by the COVID-19 pandemic and perpetuated by language used by former President Trump, who characterizes this global pandemic as the “Chinese virus” and “kung flu” which further encourages racism, prejudice, and hate crimes against AAPIs. Anti-Asian hate has also been fueled by US foreign policy of domination and violence through decades of militarism and imperialism, such as in the Philippines, Okinawa, Japan, Guam, Vietnam, Laos, and Korea. This kind of global aggression towards Asian countries and the dehumanization of Asians since the 1800’s has justified these wars and led to continued negative and damaging stereotypes presently in the United States. This culture has led to the exoticism of Asian and Asian American women, where they are perceived as alternatively submissive, sexually available, and/or dangerous.

Racism toward AAPIs has always existed since AAPIs began immigrating to the United States, such as the 19th-century scapegoating of AAPIs, also known as the “Yellow Peril,” as well as the 21st-century scapegoating of AAPIs for the COVID-19 pandemic. These examples are painful, but they are also part of a larger, and often dismissed, history of violence. In addition to the Chinese Exclusion Act of 1882, the assaults against Filipino farmworkers in the 1930s by white mobs, and the Japanese internment camps of the 1940s, there’s a longstanding history of racialized colonial wars that have shaped AAPI communities’ histories before AAPIs even arrived to the United States.

Santa Cruz has a long history of organized anti-Asian racism, including serving as a nexus of the anti-Chinese movement in California in the late 1800s and early 1900s, and subjecting local Chinese Americans to racist attacks, discriminatory legislation, exploitative labor practices, unsafe working conditions, residential and economic segregation, forced removal and forced relocation. These actions have been documented by local author and historian Geoffrey Dunn.

This resolution was first presented to Council on March 23, 2021. During public comment, members of the Santa Cruz AAPI community requested that it be reconsidered at a future date to provide the Santa Cruz AAPI community time to make additional changes to the resolution. During Council deliberation of this item, Councilmember Brown shared feedback that she received from the AAPI community regarding this resolution which has been incorporated into the updated version.

On March 31, 2021 Mayor Donna Meyers and Councilmember Shebreh Kalantari-Johnson, and City staff, met with members of the Santa Cruz AAPI community to discuss the impact recent acts of violence against AAPI’s around the nation has had on local AAPIs. Following this meeting, staff continued to work with the AAPI community to ensure that additional input from members of the local AAPI community was included in the updated resolution.

**DISCUSSION:** This resolution of the Santa Cruz City Council denounces hate crimes, hateful rhetoric, and hateful acts against AAPIs, and works to ensure that AAPI community members and visitors feel safe and welcome, both during this COVID-19 pandemic and beyond.

Furthermore, the City of Santa Cruz:

- Stands with the AAPI community and wishes to affirm its commitment to the safety and wellbeing of Asian American employees and community members and ensure they know they are not alone and that they can speak out to help stop the spread of bigotry;
- Calls on all residents and leaders to join in condemning racist attacks against Asian Americans and Pacific Islanders in all forms; and
- Renews our commitment to speak out against such attacks.

**FISCAL IMPACT:** None.

**Prepared By:**  
Ralph Dimarucut  
Principal Management  
Analyst

**Submitted By:**  
Donna Meyers  
Mayor

Shebreh Kalantari-Johnson  
Councilmember

Martine Watkins  
Councilmember

**ATTACHMENTS:**

1. RESOLUTION.DOCX



RESOLUTION NO. NS-29,

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
DENOUNCING HATE CRIMES AND BIGOTRY TARGETING ASIAN AMERICANS AND  
PACIFIC ISLANDERS

WHEREAS, The Asian Pacific Policy and Planning Council and Chinese for Affirmative Action launched a hate incident-reporting internet website, titled “Stop AAPI Hate,” at the beginning of the COVID-19 outbreak in March of 2020, which documented over 3,800 hate incidents against Asian American Pacific Islanders (AAPI) in 2020 and over 700 of these incidents occurred in the Bay Area of California; and

WHEREAS, On January 30, 2021, 84-year-old Vicha Ratanapakdee, a nearly-blind and gentle elderly Thai man, died from injuries resulting from an attack while he was walking in the City of San Francisco, in what is deemed as a hate crime; and

WHEREAS, On February 3, 2021, a 64 year old grandmother was assaulted and robbed of her purse, which included more than \$1,000 cash, in broad daylight in the parking lot of the Dai Thanh Supermarket in downtown San Jose; and

WHEREAS, On March 16, 2021, 8 people (6 Asian women) were gunned down by a white man in Atlanta, Georgia;

WHEREAS, 10.3% of Santa Cruz’s population are Asian Americans and Pacific Islanders, and xenophobic attacks targeting Asian American elders around the Bay Area increased again just before Lunar New Year; and

WHEREAS, These reports depict a disturbing reality, especially for Asian women, who experienced violence nearly 2.5 times more than their male counterparts. However, the numbers do not tell the full story: they don’t include many of the unreported and increasingly normalized incidents of violence; and

WHEREAS, Racism and anti-AAPI sentiments has been exacerbated by the COVID-19 pandemic and perpetuated by language used by former President Trump, who characterizes this global pandemic as the “Chinese virus” and “kung flu”; and

WHEREAS, Anti-Asian hate has been fueled by US foreign policy of domination and violence through decades of militarism and imperialism, such as in Philippines, Okinawa, Japan, Guam, Vietnam, Laos, and Korea. This kind of global American aggression towards Asian countries and the dehumanization of Asians since the 1800s has justified these wars and led to continued negative and damaging stereotypes presently, in the United States; and

WHEREAS, This culture has led to the exoticism of Asian and Asian American women, where they are perceived as alternatively submissive, sexually available, as property (mail-order bride), and/or dangerous; and

WHEREAS, Racism toward AAPIs has always existed since AAPIs began immigrating to the United States, such as the 19th-century scapegoating of AAPIs, also known as the “Yellow Peril,” as well as the 21st-century scapegoating of AAPIs for the COVID-19 pandemic. These examples are painful, but they are also part of a larger, and often dismissed, history of violence. In addition to the Chinese Exclusion Act of 1882, the assaults against Filipino farmworkers in the 1930s by white mobs, and the Japanese internment camps of the 1940s, there is a longstanding history of racialized colonial wars that have shaped AAPI communities’ histories before AAPIs even arrived to the United States; and

WHEREAS, Santa Cruz has a long history of organized anti-Asian racism, including serving as a nexus of the anti-Chinese movement in California in the late 1800s and early 1900s, and subjecting local Chinese Americans to racist attacks, discriminatory legislation, exploitative labor practices, unsafe working conditions, residential and economic segregation, forced removal and forced relocation; and

WHEREAS, the history of the Chinese American community in Santa Cruz has been systematically erased and largely removed from memory, as seen in the subsequent construction and destruction of four separate Chinatowns dating back to 1860: Pacific Avenue Chinatown (1860-1872), destroyed by gentrification; Front Street Chinatown (1872-1894), destroyed by fire; so-called Blackburn’s Chinatown (1894-1905), destroyed when railroad baron Frederick A. Hihn dislocated its residents; and so-called Birkenseer’s Chinatown (1905-1955), destroyed by flood; and

WHEREAS, anti-Chinese racism was championed and amplified by many of Santa Cruz’s most prominent white citizens and “founding fathers,” including Elihu Anthony, head of the Anti-Chinese Association, who, while calling for the removal and banning of all Chinese laundries in Santa Cruz, wrote in 1880 that “Chinese cheap labor is a curse to our land, a menace to our liberties and the institutions of our country and should be restricted and forever abolished,” and Duncan McPherson, editor of the Santa Cruz *Sentinel*, who, in 1879, during his long history of virulent anti-Chinese racism, described Chinese Americans in racist and dehumanizing terms;” and

WHEREAS, on November 17, 1879, 32 Chinese American railway workers died violently in a massive explosion atop a mountain outside Santa Cruz in an incident known as the Summit Tunnel Explosion, their bodies later laid in an unmarked mass grave, and

WHEREAS, in March 1880, the Santa Cruz Anti-Chinese Association demanded that the Santa Cruz City Council remove all Chinese laundries from within the city limits, and

WHEREAS, in January 1886, the Santa Cruz Anti-Chinese Association passed a unanimous resolution designed to expel and exclude all Chinese Americans from the city limits of Santa Cruz, declaring that “crowds of these Chinese, filthy in their habits, immoral in their relations, having no regard to their own nor to the public health, living in such a manner as is calculated to breed disease, taking no precautions against fire, furnishing a resort for the low and vile, who consort with them for the purpose of gambling and smoking opium, is a nuisance, and is injurious and dangerous to public health and public safety, and prejudicial to the well-being and comfort of the community, and depreciates the value of property in the neighborhood of said

Chinatown, and declaring that “it shall be unlawful for any Chinese to reside or remain within the corporate limits of the City of Santa Cruz,” and subsequently presented their resolution to the city council of Santa Cruz; and

WHEREAS, on February 27, 1886, the Anti-Chinese Association staged a racist, county-wide torchlight parade down Pacific Avenue involving hundreds of white marchers carrying banners and shouting, “The Chinese must go!”; and

WHEREAS, The counter movements by Asian Americans condemning violence against AAPIs is not new but also part of a larger history of resistance against white supremacy and colonization. This includes mass organizing and activism starting in the 1960s, such as fighting for Asian American studies, against evictions from the International Hotel in San Francisco, improving conditions in San Francisco’s Chinatown, the redress campaign for reparations to the Japanese and Japanese Americans interned during WWI in the 1970’s, and the murder of Vincent Chin in 1982, where the AAPI community and allies organized mass demonstrations and a civil case to protest the lenient convictions of the two killers; and

WHEREAS, Inter-racial solidarity, in which the Black community has consistently shown, dating back to Frederick Douglass’s opposition to restrictions on Chinese immigration in 1867 (and also in 1882), Black support for the Filipino community during the Philippine-American War (1899-1913); Black opposition to the Vietnam War (1955-75) through an anti-war and pro-refugee lens; Asian American women activists’ (i.e. Grace Lee Boggs and Yuri Kochiyama) work in abolition and Black liberation; and the Third World Liberation Front (UC Berkeley 1968-1969) which united Latinx/Chicanx, Indigenous, Black and AAPI communities in the fight for Ethnic Studies; and

WHEREAS, The model minority myth continues to divide communities of color, hinder solidarity, feed into racism and systems of oppression, and contribute to the false notion that the AAPI community does not experience racial oppression nor is impacted by white supremacy, which ignores the AAPI community’s experience with xenophobia, islamophobia, anti-Arab racism, and anti-South Asian violence, especially post 9/11. The model minority myth also creates the stereotype that the AAPI community is a monolithic group, a stereotype that invisibilizes the economic, academic and social struggles of our diverse communities (i.e. Native Hawaiians, Pacific Islanders, Southeast Asians, South Asians, Arab-Americans, mixed-race Asians/Hapas, undocumented Asians, Hmong-Americans , etc.); and

WHEREAS, the rise of anti-AAPI racism and violence that occurs every day also serves as a reminder of the dire need for inclusive and critical Ethnic Studies for K-12 as well as in college, because if we do not develop anti-racist consciousness with and for our youth, white supremacy ideology will persist; and

WHEREAS, the City of Santa Cruz stands with the AAPI community and wishes to affirm its commitment to the safety and wellbeing of Asian American employees and community members; and

WHEREAS, the city of Santa Cruz commits to work with the local AAPI community by co-creating a community centered working group to elevate the strengths, highlight the cultural and artistic contributions to our city, and address the impact of racism and violence against AAPI's locally and nationally; and

WHEREAS, The recent rise of violence against Asian Americans is part of a larger history of violence against communities of color, as well as immigrants, and we must work together to create community centered solutions that stop the violence in all communities, an example would be to include AAPI voices in the county's Racial Justice Equity Task Force; and

NOW, THEREFORE BE IT RESOLVED, that the City of Santa Cruz calls on all residents and leaders to join in condemning racist attacks against Asian Americans and Pacific Islanders in all forms, and renews our commitment to speak out against such attacks. The City also acknowledges the AAPI's community's concern of increased policing. In the context of police brutality and racial justice movements around the country, the APPI community believes that the solution is not in increased policing, but in developing community-centered solutions for all of our communities to live without harm and in cooperation with each other; and

BE IT FURTHER RESOLVED that the City of Santa Cruz denounces hate crimes, hateful rhetoric, and hateful acts against Asian Americans and Pacific Islanders, and works to ensure that AAPI community members and visitors feel safe and welcome, both during this COVID-19 pandemic and beyond.

PASSED AND ADOPTED this 27th day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

## Rosemary Balsley

---

**From:** Garrett <garrettphilipp@aol.com>  
**Sent:** Thursday, April 22, 2021 10:18 PM  
**To:** City Council  
**Subject:** 4.27.21 Item #18 Asian Hate Crimes

4.27.21 Item #18 Asian Hate Crimes

Dear Council,

The only non-biased evidence of hate crimes against Asian Americans from FBI and DOJ data is from 2019 that I can find. They only list a few hundred Asian hate crimes, the races of many perpetrators is unknown, but of what we do know black perpetrators were over represented demographically in those, not white people.

I do not lightly engage in leftist group identity statistical nonsense since the actions of members of a group do not apply to all members of a group, even if there is statistical correlation it does not prove causation. If I was to engage in this leftist thinking, from the unbiased FBI and DOJ it would say some black violent criminals are over represented demographically in Asian hate crimes, and indeed all violent crimes, and noticeably so. A very small demographic, violent black men, do about 50% of the violent crime in the USA, even though they come from a demographic that is only 6.5% of the population.

On a typical 3 day major holiday there are 50-80 shootings in places like Chicago, mostly black men shooting other black people.

I consider your resolution to be part of a gigantic lie. You embarrass yourselves.

The shooting in Atlanta massage spas was NOT considered a hate or racial bias crime by the FBI. Indeed the suspect was reported to be in rehabilitation for sex addiction, which he admits, and the thinking is he blamed this massage industry for his sex addiction whatever. He shot up white people also, and it is accidental 6 of the workers were Asian. Had they been some other race, they would have been dead also. He had zero social media hate messages about Asians is reported which is odd for mass shooters. There are a great many people who would like it to be a racial hate crime. Can you guess why?

Your constant hidden message white supremacy is behind any rise in Asian violence incidences is pure leftist garbage standard issue. Your constant references to it are not "historical" but a broken record of irrelevant dated misinformation which becomes less legitimate every single day, and direct hate toward white people generally. Not good. Try to stay centered in the present, the past is of little consequence and the importance of it diminishes every single day.

Let me share my guesses about the possible rise in Asian violence instances (any rise is regrettable and awful but small potatoes compared to the massive increase in violence in 2020's violence incidences).

As long as we are all guessing, you included, and being awful using group identity politics, let me suggest a more likely reason.

The BLM movement, which is founded by self admitted Marxists who idolize Malcom X and his Marxism and acceptance of violence as a means to an end, has given a "BLANK CHECK" for people of color, as well as and other Marxists, revolutionaries, anarchists, and other violent individuals to commit acts of violence justifying it based on supposed sympathetic racial discrimination reasons. They also have a very different agenda as is easily seen looking at BLM websites. Police reform barely even appears.

You cannot count the acts of violence including vandalism, assault, arson, intimidation, murder (well maybe you can count those), looting OK'ed by the BLM movement. I dare you.

I don't know if you did, but I watched hundreds and hundreds of live streams of BLM protest/riots last year. They are not peaceful protestors and it was sickening to watch at times.

I do not regard this as a black violence issue. It is a Marxist/anarchists OK with violence issue where some are black, some are not, but they are all extremely dangerous and lawless.

Maybe, maybe ,huh, this has spilled over to Asian attacks? This sounds more probable than the "orange man" using the phrase "China Virus" which is pure politics being misused in a vile way.

About 90% of this resolution needs to go bye-bye and simply condemn violence against Asians whether it is actually related to race or not.

I suspect this Asian version of concern over Asian attacks is leftist Marxist/anarchist and is BLM copy cat but it's way too soon to say that. If they start committing acts of violence in protest, it is.

Won't you feel dumb contributing to that if that happens? I'd start blaming YOU for that violence if it occurs.

Yes, the leftist would really like the Asians to join up with the disgruntled minority leftist causes, but except for a few communists and leftist the Asian community they are quite well educated, wealthy, don't in general consider themselves victims or particularly susceptible to the victim mentality, and those efforts will fail.

For "fun" let's examine the BLM website to see how much is about police reform and how much unrelated and mentions white supremacy: My point is, racism has been used as a cover for all kinds of political operators for many different and unrelated purposes.

## **BLM's 7 Demands**

**1. Convict and ban Trump from future political office:**

**2. Expel Republican members of Congress who attempted to overturn the election and incited a white supremacist attack:**

**3. Launch a full investigation into the ties between white supremacy and the Capitol Police, law enforcement, and the military:**

**4. Permanently ban Trump from all digital media platforms:**

**5. Defund the police:**

**6. Don't let the coup be used as an excuse to crack down on our movement**

**7. Pass the BREATHE Act:**

The police were born out of slave patrols. We cannot reform an institution built upon white supremacy...

I'll spare you the text but it's extremely anti-white.

How about some selected parts of their 13 guiding principals:

### **5. Globalism**

We see ourselves as part of the global Black family and we are aware of the different ways we are impacted or privileged as Black folk who exist in different parts of the world.

### **11. Black Villages**

**We are committed to disrupting the Western-prescribed nuclear family structure** requirement by supporting each other as extended families and "villages" that collectively care for one another, and especially "our" children to the degree that mothers, parents and children are comfortable.

**It reads pretty Marxist, globalist, anarchist doesn't it?**

Sincerely, Garrett Philipp



## City Council AGENDA REPORT

**DATE:** 04/19/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Council

**SUBJECT:** Support for the Adoption of the Regional Transportation Commission's Transit Corridor Alternatives Analysis and Rail Network Integration Study – Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line (CN)

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**RECOMMENDATION:** Resolution supporting the adoption of the Santa Cruz County Regional Transportation Commission (SCCRTC) Transit Corridor Alternatives Analysis and Rail Network Integration Study – Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line and urging the SCCRTC to implement rail service on the Santa Cruz Branch Rail Line.

---

**BACKGROUND:** On April 1, 2021, the Regional Transportation Commission (RTC) considered adopting the Transit Corridor Alternatives Analysis (TCAA) and Rail Network Integration Study (RNIS) – Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line. The item failed to proceed with a 6-6 vote of the Commissioners.

The City of Santa Cruz has long supported rail with trail on the 32-mile Santa Cruz Branch Rail Line, including adopting a resolution of support in 2015 (Attachment 2), sending a letter to the RTC in support of the TCAA/RNIS (Attachment 3), and adopting the Monterey Bay Sanctuary Scenic Trail Network Master Plan, the most aggressive push for implementation of rail trail in the County, including completion of Segment 7 Phase 1, upcoming construction of Segment 7 Phase 2, and design and preconstruction activities for Segments 8 and 9.

The City of Santa Cruz continues to support rail with trail, and supports the SCCRTC in adopting the Transit Corridor Alternatives Analysis and Rail Network Integration Study-Business Plan for Electric Passenger Rail to continue to move this project forward.

**DISCUSSION:** On May 6, 2010 the RTC unanimously decided to purchase the Santa Cruz Branch Rail Line for \$14.2 million. On January 19, 2011, the RTC secured approval and funding from the California Transportation Commission for purchase of the Branch Line. On October 12, 2012 — after more than ten years of extensive due diligence and negotiations — the SCCRTC closed escrow for the acquisition of the Santa Cruz Branch Rail Line (SCBRL) from Union Pacific thereby placing a new transportation corridor in public ownership.

Since that time, the City of Santa Cruz has actively participated in SCCRTC planning processes for the future use of the rail line. To date, the Council has taken many actions related to

transportation planning and policy on the Rail Corridor in support of trail with transit, with an unwavering position that both trail and transit meet the transportation needs of our growing community. These are summarized below:

- Adopted Resolution reaffirming support for the Monterey Bay Sanctuary Scenic Trail Network Master Plan and the preservation of the rail option (November 5, 2015, Attachment 2)
- Developed General Plan and Climate Action Plan policies supporting public transportation on the rail corridor (Attachment 5)
- Adopted the Monterey Bay Sanctuary Scenic Trail Master Plan (Rail Trail Master Plan) and are moving forward with building the trail adjacent to the rail, in accordance with that adopted plan. Council approval of Segment 7 Phases 1 and 2, as well as Council approval of grant applications to proceed with Segments 8 and 9 in accordance with the Rail Trail Master Plan.
- Supported TCAA/RNIS Locally Preferred Alternative, with electric commuter rail or electric light rail on the rail line via letter to SCCRTC (Attachment 3).

On February 4, 2021, the SCCRTC, accepted the Transit Corridor Alternatives Analysis and Rail Network Integration Study (TCAA/RNIS) which selected electric passenger rail as the locally preferred alternative for the SCBRL. The City of Santa Cruz affirmed their support for the locally preferred alternative (LPA) via a letter send to the SCCRTC, reaffirming the city position of support for trail with transit as documented in the 2015 resolution (Attachment 2). As part of the support for the TCAA/RNIS, the final component included development of a 25-year strategic business plan to serve as a guiding document for funding and implementation of electric passenger rail. This business plan was prepared to guide implementation of the LPA as funding becomes available. The business plan was reviewed at the SCCRTC on April 1, 2021, and failed to proceed with a 6-6 vote.

The draft Business Plan recommends the RTC take the next step in the process of implementing the LPA by completing Preliminary Engineering and Environmental Documentation (PE/ED) at an estimated cost of \$17.1M. The draft Business Plan indicates that the \$17.1M cost of the PE/ED work is expected to be fully funded without a requirement for local matching funds through the Caltrans Division of Rail and Mass Transit (DRMT), using SB1 State Rail Assistance funds, and/or Caltrans planning funding, and/or similar funds available through the California State Transportation Agency.

Developing, operating and maintaining passenger rail service between north and south Santa Cruz County and connecting to Monterey County and the rest of the state and national rail network will meet a range of policy goals of the City of Santa Cruz, including:

- Reducing single occupant vehicle trips by providing a fast and reliable travel option
- Reduce greenhouse gas emissions and reduce vehicle miles travelled, both of which have been identified as key factors in fighting climate change and reducing the adverse impacts of global warming. This is supported by Council Adoption of local implementation of SB 743.
- Improve the jobs/housing/mobility balance by improving access to higher paying jobs and higher education opportunities located in north county for south county residents
- Address social, environmental, and transportation justice

Moving forward with adoption of the draft Business Plan and SCCRTC staff seeking funding for PA/ED phases of evaluating electric passenger rail on the SCBRL will offer further information for informed decision-making on this vital community asset. Not adopting the draft business plan



and stopping the process now brings us no closer to realizing a shared vision of community mobility centered that is not dependent on the single occupant vehicle.

The City of Santa Cruz supports adoption of the draft Business Plan in order to continue moving forward on mobility options for our entire community.

**FISCAL IMPACT:** None.

**Submitted By:**

Donna Meyers  
Mayor

Justin Cummings  
Councilmember

Sandy Brown  
Councilmember

**ATTACHMENTS:**

1. RESOLUTION.DOCX
2. NOVEMBER 10, 2015 RESOLUTION OF SUPPORT FOR TRAIL WITH TRANSIT.PDF
3. NOVEMBER 18, 2020 LETTER TO SCCRTC IN SUPPORT OF TCAA LOCALLY  
PREFERRED ALTERNATIVE.PDF
4. SCCRTC BUSINESS PLAN FOR ELECTRIC PASSENGER RAIL.PDF
5. EXISTING POLICY SUPPORT.DOCX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ URGING THE  
SANTA CRUZ COUNTY REGIONAL TRANSPORTATION COMMISSION TO  
IMPLEMENT PASSENGER RAIL SERVICE ON THE SANTA CRUZ BRANCH RAIL LINE

WHEREAS, the Santa Cruz County Regional Transportation Commission (RTC) is the owner of the Santa Cruz Branch Rail Line.

WHEREAS, the RTC in partnership with the Santa Cruz Metropolitan Transit District (METRO) is currently conducting a Transportation Corridor Alternatives Analysis / Rail Network Integration Study (TCAA/RNIS) to determine the best high-capacity public transit to implement in the existing rail corridor.

WHEREAS, as a result of the TCAA/RNIS, the RTC formally adopted Electric Passenger Rail as the Locally Preferred Alternative (LPA) to provide more travel options for Santa Cruz County residents, businesses and visitors.

WHEREAS, as an integral part of the TCAA/RNIS, a draft Business Plan was prepared to guide implementation of the LPA as funding becomes available.

WHEREAS, the draft Business Plan recommends the RTC take the next step in the process of implementing the LPA by completing Preliminary Engineering and Environmental Documentation (PE/ED) at an estimated cost of \$17.1M.

WHEREAS, the draft Business Plan indicates that the \$17.1M cost of the PE/ED work is expected to be fully funded without a requirement for local matching funds through the Caltrans Division of Rail and Mass Transit (DRMT), using SB1 State Rail Assistance funds, and/or Caltrans planning funding, and/or similar funds available through the California State Transportation Agency.

WHEREAS, according to the US Census Bureau, the population of Watsonville, our neighbor to the south from which many commute to Santa Cruz for work and school, is over 80% majority Latinx and the per capita income of Watsonville is less than half the per capita income of the majority white population of the three north county cities of Santa Cruz, Capitola and Scotts Valley.

WHEREAS, developing, operating and maintaining passenger rail service between north and south Santa Cruz County and connecting to Monterey County and the rest of the state and national rail network will:

Provide a fast, reliable and comfortable travel option to the slow and stressful traffic congestion on State Route 1 and existing County and City roadways;

Reduce greenhouse gas emissions and reduce vehicle miles travelled, both of which have been identified as key factors in fighting climate change and reducing the adverse impacts of global warming. Increase commute options for all County residents including lower-income workers and students living in the south county and beyond;

Improve access to higher paying jobs and higher education opportunities located in north county for south county residents;

Facilitate a decrease in the longstanding and substantial per capita income gap between the majority Latinx Watsonville residents and the majority white north county cities of Santa Cruz, Capitola and Scotts Valley;

Increase opportunities for citizen mobility among Cities, ultimately increasing opportunities for cultural exchange between Cities within our County and improving regional relationships between all residents;

WHEREAS, it is in the community's best interest to encourage sustainable long-range transportation planning along this important transportation corridor.

WHEREAS, developing the proposed Monterey Bay Sanctuary Scenic Trail Network Master Plan also known as the Coastal Rail Trail in a manner that is compatible with passenger rail service is supported by the Santa Cruz City Council through adoption of Resolution No. NS-29,014 approved on November 10, 2015.

WHEREAS, completing environmental studies and engineering for passenger rail service on the Santa Cruz Branch Line is supported by the Santa Cruz City Council through adoption of Resolution No. NS-29,014 approved on November 10, 2015.

WHEREAS, Santa Cruz joins a diverse group of organizations in support of implementing passenger rail, some of which include the California Coastal Commission, Caltrans, the Transportation Agency for Monterey County, Bike Santa Cruz County, the Santa Cruz Group of the Sierra Club, the Santa Cruz County Chamber of Commerce and Regeneracion Pajaro Valley.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED BY THE CITY COUNCIL OF THE CITY OF SANTA CRUZ, that the City Council urges the RTC to accept the draft Business Plan for Electric Passenger Rail on the Santa Cruz Branch Rail Line prepared as part of the TCAA/RNIS.

BE IT FURTHER RESOLVED by the City Council that the City Council urges the RTC to seek the funding needed to complete the PE/ED as outlined in the TCAA/RNIS from state and federal sources as they are or become available.

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

Attest: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator



## CITY COUNCIL AGENDA REPORT

DATE: 11/5/2015

AGENDA OF: 11/10/2015

DEPARTMENT: City Manager

SUBJECT: Resolution Reaffirming Support for the Monterey Bay Sanctuary Scenic Trail Network Master Plan and the Preservation of the Rail Option (CN)

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**RECOMMENDATION:** Resolution requesting Council reaffirmation for the Regional Transportation Commission's (RTC) Monterey Bay Sanctuary Scenic Trail Network Master Plan and that the City continue its work with the RTC to support effective long-range transportation planning and continue its evaluation of rail service in future planning efforts.

---

**BACKGROUND:** The Monterey Bay Sanctuary Scenic Trail Network (Trail Network) Master Plan was adopted on November 7, 2013, with a revision adopted February 6, 2014, after a three-year long public and stakeholder engagement process.

The Trail Network is a 50-mile bicycle and pedestrian pathway along the coast of Santa Cruz County, from the San Mateo County line in the north to the Monterey County line at Pajaro. The system's "spine" will be within the 32-mile Santa Cruz Branch Rail right-of-way, adjacent to the train tracks. As outlined in the Trail Network Master Plan, the rail trail will coexist with existing and potential future train service, and abide by conditions set forth as part of the rail purchase. The rail corridor was purchased using \$11 million from the voter-approved Proposition 116 (Clean Air and Transportation Improvement Act of 1990—California Public Utilities Code Section 99600 et seq.), which stipulates that the rail line be used for "rail projects within Santa Cruz County that facilitate recreational, commuter, intercity, and intercounty travel." Even if some transportation uses are not immediately feasible, it is prudent to preserve future transportation options that would reduce congestion and travel times, move goods and people efficiently, reduce both vehicle miles traveled and greenhouse gas emissions, advance sustainable transportation options, add travel capacity, and reduce sprawl to preserve adjacent open spaces. Removing the tracks is not an option under consideration because purchasing a right-of-way for only a bicycle and pedestrian trail is not considered a "rail project" under proposition 116, and because it would be cost prohibitive to rebuild the tracks if they were removed. Development of the corridor for passenger and freight rail, as well as the bicycle/pedestrian trail, will move forward as feasible and fundable.

The City, in a show of endorsement and commitment to implementation of the City's rail trail segments, also adopted the Trail Network Master Plan in December 2014. The City also received \$4,060,000 in Federal earmarks from the RTC to construct a 2.1 mile segment from Natural Bridges Drive to Pacific Avenue/Wharf and has initiated design. In addition, the City

committed \$1,090,000 of local funds, and the Friends of the Rail and Trail, along with Bike Santa Cruz County, also committed \$100,000 in private funds.

DISCUSSION: There has been ongoing debate about the utility of preserving the rail line as part of current efforts to initiate construction of the multi-use bicycle and pedestrian rail trail. Many successful rail-with-trail projects can be found across the nation. This configuration has proven to be successful in many other communities and provides safety features to train operations, as well as active transportation options for bicyclists and pedestrians. While continued analysis will take place in regards to instituting passenger rail service in Santa Cruz County, it is important to preserve the rail option to encourage objective long-range transportation planning and to continue the immediate development of trail segments within our community.

FISCAL IMPACT: The adoption of the proposed resolution has no fiscal impact.

Prepared by:  
David Terrazas  
Councilmember

Prepared by:  
Richelle Noroyan  
Councilmember

Prepared by:  
Don Lane  
Mayor

ATTACHMENTS:  
Resolution

RESOLUTION NO. NS-29,014

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
REAFFIRMING SUPPORT FOR THE REGIONAL TRANSPORTATION COMMISSION'S  
MONTEREY BAY SANCTUARY SCENIC TRAIL NETWORK MASTER PLAN AND THE  
PRESERVATION OF THE RAIL OPTION FOR SUSTAINABLE LONG-RANGE  
TRANSPORTATION PLANNING IN CONJUNCTION WITH THE CONSTRUCTION  
OF FUTURE RAIL TRAIL SEGMENTS

WHEREAS, the Regional Transportation Commission's (RTC) Monterey Bay Sanctuary Scenic Trail Network (Trail Network) Master Plan was adopted February 6, 2014, after a three-year long public and stakeholder engagement process; and

WHEREAS, the Trail Network Master Plan defines a 50-mile network of bicycle and pedestrian facilities and a 32-mile rail right-of-way that serves as the system's spine; and

WHEREAS, the City also adopted the Trail Network Master Plan in December 2014 in a show of endorsement and commitment to implementation of the City's rail trail segments; and

WHEREAS, this resolution of the governing body of the City shall reaffirm its support for multi-modal, long-range transportation planning along the rail corridor as outlined in the Trail Network Master Plan; and

WHEREAS, the Rail Trail Master Plan and its review process involved thousands of community members and public agencies, including the California Coastal Commission, California Coastal Conservancy, California State Parks, and local cities within Santa Cruz County; and

WHEREAS, more than \$14.5 million in local, State, and Federal funds, and \$3.6 million in private funds have already been committed to the construction of eight miles of rail trail segments; and

WHEREAS, the City has received \$4,060,000 in Federal earmarks from the RTC to construct a 2.1 mile segment from Natural Bridges Drive to Pacific Avenue/Wharf and has initiated design; and

WHEREAS, the City also committed \$1,090,000 of local funds, and the Friends of the Rail and Trail, along with Bike Santa Cruz County, committed \$100,000 in private funds; and

WHEREAS, the preservation of the rail line at this time is essential to continue the process to construct segments of the planned rail trail segments; and

WHEREAS, any attempt to abandon the rail line at this time will hinder long-range planning of a sustainable integrated transportation plan and impede efforts to construct future segments of the rail trail in the near term; and

RESOLUTION NO. NS-29,014

WHEREAS, a commitment to the perseveration of the rail line at this time will allow the RTC, local jurisdictions, and the Land Trust, which has already committed millions in funding, to submit grant requests in an effort to construct the rail trail at the earliest date possible; and

WHEREAS, it is in the community's best interest to encourage sustainable long-range transportation planning along this important transportation corridor.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the City Council of the City of Santa Cruz that it reaffirms support for the RTC's Monterey Bay Sanctuary Scenic Trail Network Master Plan and the preservation of the rail option.

BE IT FURTHER RESOLVED by the City Council that it directs the RTC representative and City staff to support completion of Draft Environmental Studies and Conceptual Engineering for passenger rail service on the Santa Cruz Branch line. Activities under this task will include 15% design for rail ROW and stations, fleet planning and initial specifications, operating plan development and cost development for both operating and capital. This work will include developing the draft environmental studies, including public outreach and the collection and response to public comments. A preferred alternative will be identified and vetted.

BE IT FURTHER RESOLVED by the City Council that it directs City staff to cooperate with RTC staff in regards to locations of future transit oriented development within the City of Santa Cruz.

PASSED AND ADOPTED this 10th day of November, 2015, by the following vote:

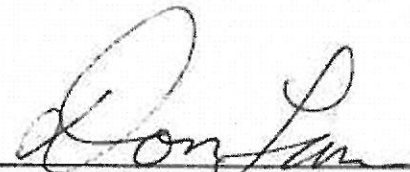
AYES: Councilmembers Chase, Terrazas, Comstock, Posner, Noroyan; Vice Mayor Mathews; Mayor Lane.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED:

  
Mayor

Attest:

  
City Clerk Administrator





MAYOR AND CITY COUNCIL

809 Center Street, Room 10, Santa Cruz, CA 95060 • (831) 420-5020 • Fax: (831) 420-5011 • [citycouncil@cityofsantacruz.com](mailto:citycouncil@cityofsantacruz.com)

November 18, 2020

Chair Bruce McPherson and Commissioners  
Santa Cruz County Regional Transportation Commission  
1523 Pacific Avenue  
Santa Cruz, CA 95060

Dear Chair McPherson and Commissioners:

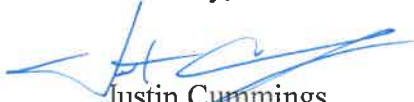
With the draft Transit Corridors Alternatives Analysis (TCAA), the City of Santa Cruz (City) would like to reaffirm our support for trail and transit on the rail line and our appreciation of the Regional Transportation Commission's (RTC) continued work to further sustainable transportation options for Santa Cruz County.

In 2015, the City adopted a resolution reaffirming support for the Monterey Bay Sanctuary Scenic Trail Network Master Plan and the preservation of the rail option. As a City, we recognize how critical transportation solutions are to addressing the looming threats of climate change. We continue to support passenger transit on the rail line, in accordance with our General Plan and Climate Action Plan policies supporting public transportation on the rail corridor and transit-oriented development land use patterns. Further, as a City, we adopted the Monterey Bay Sanctuary Scenic Trail Master Plan and are moving forward with building the trail adjacent to the rail, in accordance with that adopted plan.

The TCAA identifies a locally preferred scenario of Electric Commuter Rail or Electric Light Rail on the branch rail line. Either of these options are supported by our existing policy framework. While there is more work to come, we are encouraged by the TCAA in moving our community towards greater transportation sustainability.

As a City, we continue to support rail with trail on the rail line and are thankful for the RTC's continued work to bring sustainable multimodal transportation options to Santa Cruz County. The City looks forward to working with the RTC on the next steps of this process.

Sincerely,



Justin Cummings  
Mayor



Donna Meyers  
Vice Mayor



# Transit Corridor Alternatives Analysis & Rail Network Integration Study

*Business Plan for  
Electric Passenger Rail on the  
Santa Cruz Branch Rail Line*

**DRAFT  
March 2021**

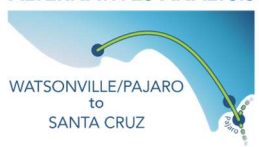
TRANSIT CORRIDOR  
ALTERNATIVES ANALYSIS



DRAFT

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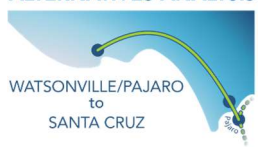
## 1 - INTRODUCTION

The Transit Corridor Alternatives Analysis and Rail Network Integration Study (TCAA/RNIS) was prepared to evaluate high-capacity transit investment options and identify a locally preferred transit system that utilizes all or part of the length of the Santa Cruz Branch Rail Line Right-of-Way (SCBRL ROW). The TCAA/RNIS analyzed various transit alternatives to identify a locally preferred alternative (LPA) that provides the greatest benefit to Santa Cruz County residents, businesses, and visitors in terms of the triple bottom line goals of improving economy, equity, and the environment.

At the February 4, 2021 commission meeting, the Santa Cruz County Regional Transportation Commission (RTC) accepted the Transit Corridor Alternatives Analysis and Rail Network Integration Study that selects Electric Passenger Rail as the LPA. Electric passenger rail could be either commuter rail transit (CRT) or light rail transit (LRT). After acceptance of the TCAA/RNIS, the final component of the TCAA/RNIS included development of a 25-year strategic business plan to serve as a guiding document for funding and implementation of the LPA.

The Business Plan outlines the funding and implementation strategy for passenger rail on the SCBRL and is organized into the following sections:

- A description of electric passenger rail including high-level service alignment, potential station, siding, and maintenance facility locations, service frequency and span, as well as a discussion of vehicle types are presented in **Section 2: Locally Preferred Alternative**.
- Evaluation of potential governance options needed to implement electric passenger rail including the objectives, responsibilities, and advantages and disadvantages of each strategy, as well as a discussion on existing policies related to rail transit are presented in **Section 3: Governance**.
- Estimate of costs for all components of project implementation including pre-construction, construction, and operations and maintenance for an electric passenger rail transit system is presented in **Section 4: Cost Estimation**.
- A component approach to implementation, including preliminary design and environmental documentation, final design and permitting, right-of-way acquisition, construction, and vehicle procurement, is presented in **Section 5: Implementation Plan**.



- Information on potential funding sources including grant programs and farebox recovery are presented in **Section 6: Project Financing**.
- Prototypical cash-flow analysis, incorporating federal, state, and local funding of environmental review and clearance, system design and permitting, and construction, as well as daily operations and maintenance is presented in **Section 7: Funding Strategy - Cash Flow Model**.
- Risks to project funding and cost escalation as well as ways to mitigate risks are presented in **Section 8: Risk Identification and Mitigation Factors**.

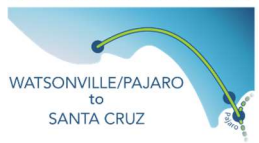
The 25-year business plan is based on the best information currently known for the rail transit cost estimates and available funds from various grant programs and other sources. It is difficult to predict what fund sources may be available out into the future for rail transit. A recent Executive Order by Governor Newsom of California (EO N-70-20) directs state agencies to “Build towards an integrated, statewide rail and transit network, consistent with the 2018 California State Rail Plan, to provide seamless, affordable multimodal travel options for all”.

At the Federal level, numerous policies and programs are under development with the new Biden-Harris administration. Legislation that embraces a climate resiliency approach to improving transportation infrastructure including alternative modes of transportation is being developed. This administration’s Secretary of Transportation has an agenda that includes “investing in robust transit and transportation infrastructure” in both urban and rural communities.

Given the direction at both the Federal and State level, it is highly likely that funding for transit will increase in the near future. This document seeks to serve as a roadmap that can be updated periodically as key inputs, particularly changes to the transit funding landscape and cost estimates as project design advances, develop over the course of the implementation process.







## 2 - LOCALLY PREFERRED ALTERNATIVE

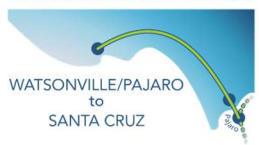
This section provides a description of Electric Passenger Rail that was selected as the Locally Preferred Alternative (LPA) in the TCAA/RNIS Final Report. A decision on whether the rail option will be electric commuter rail (CRT) or electric light rail (LRT) was not determined in the TCAA/RNIS. With similar infrastructure needs for either CRT or LRT, deferring this decision will maintain flexibility for future decisions on station locations, service frequency, and vehicle type, while clean energy rail technologies advance. The electric rail vehicle types would therefore be better evaluated in the preliminary engineering and environmental analysis and final design components of project delivery. **Figure 2.1** and **Figure 2.2** show the respective alignments, station locations, service frequency and span for CRT and LRT that were considered in the TCAA/RNIS.

### 2.1 CHARACTERISTICS OF PASSENGER RAIL FOR THE SCBRL

The LPA will consider services operating on the Santa Cruz Branch Rail Line (SCBRL) Right of Way (ROW) with single or multiple individually-propelled clean energy cars. An overhead catenary system (poles and wires) running the length of the system or a live third rail are not being considered. Operations will be structured on a single track within the SCBRL ROW with periodic passing sidings allowing for two-way travel. The characteristics of the electric passenger rail alternative will include:

- **Vehicle Speeds** will be capable of traveling from 30 to 60 mph in the SCBRL ROW, with both CRT and LRT traveling at similar average and maximum travel speeds in the corridor.
- The number of **Stations** is expected to range from 11 to 13 stations on the SCBRL ROW, with the CRT configuration having the lower number of stations and LRT having the higher number of stations. This analysis was based on traditional station spacing and interactions for each passenger rail service. Both CRT and LRT could also include seasonal stations in the SCBRL ROW to better accommodate tourist and seasonal activity in the corridor. Although the TCAA/RNIS considered the number and location of station alternatives for CRT and LRT, a more detailed analysis in preliminary engineering and environmental review may consider different station locations.
- **Passing sidings** are needed to run a two directional system on a single track. Potential passing locations considered in the TCAA/RNIS include one stub-ended station track at both end stations (Pajaro Station and Natural Bridges Station), a siding between Buena Vista Rd and San Andreas Rd crossings, and sidings at Aptos station, Capitola station, 17th Avenue station, and the Downtown/Boardwalk station. Stringline charts are





needed to determine where the siding locations are best placed based on speed and frequency of the desired service. The greater the number of sidings, the more flexibility there is to change the frequency of service without impacting the travel time.

- The use of **FRA compliant or non-FRA compliant vehicles** will be determined in the next component of the analysis. If non-FRA compliant vehicles are identified for use, then electric passenger rail could be configured to operate with freight rail in this shared-use corridor only if temporally separated (i.e., freight rail and passenger rail operations will operate at different times of the day). This will require the implementation of Centralized Traffic Control (CTC) or similar signal systems. If FRA compliant vehicles are implemented, then the passenger rail vehicles can comingle with freight rail in this shared-use corridor, both Centralized Traffic Control (CTC) and Positive Train Control (PTC) would be required, and around-the-Bay, one seat rail service between Monterey and Santa Cruz as analyzed by the Transportation Agency for Monterey County (TAMC) would be possible.



Figure 2.1: CRT Proposed Alignment and Stations

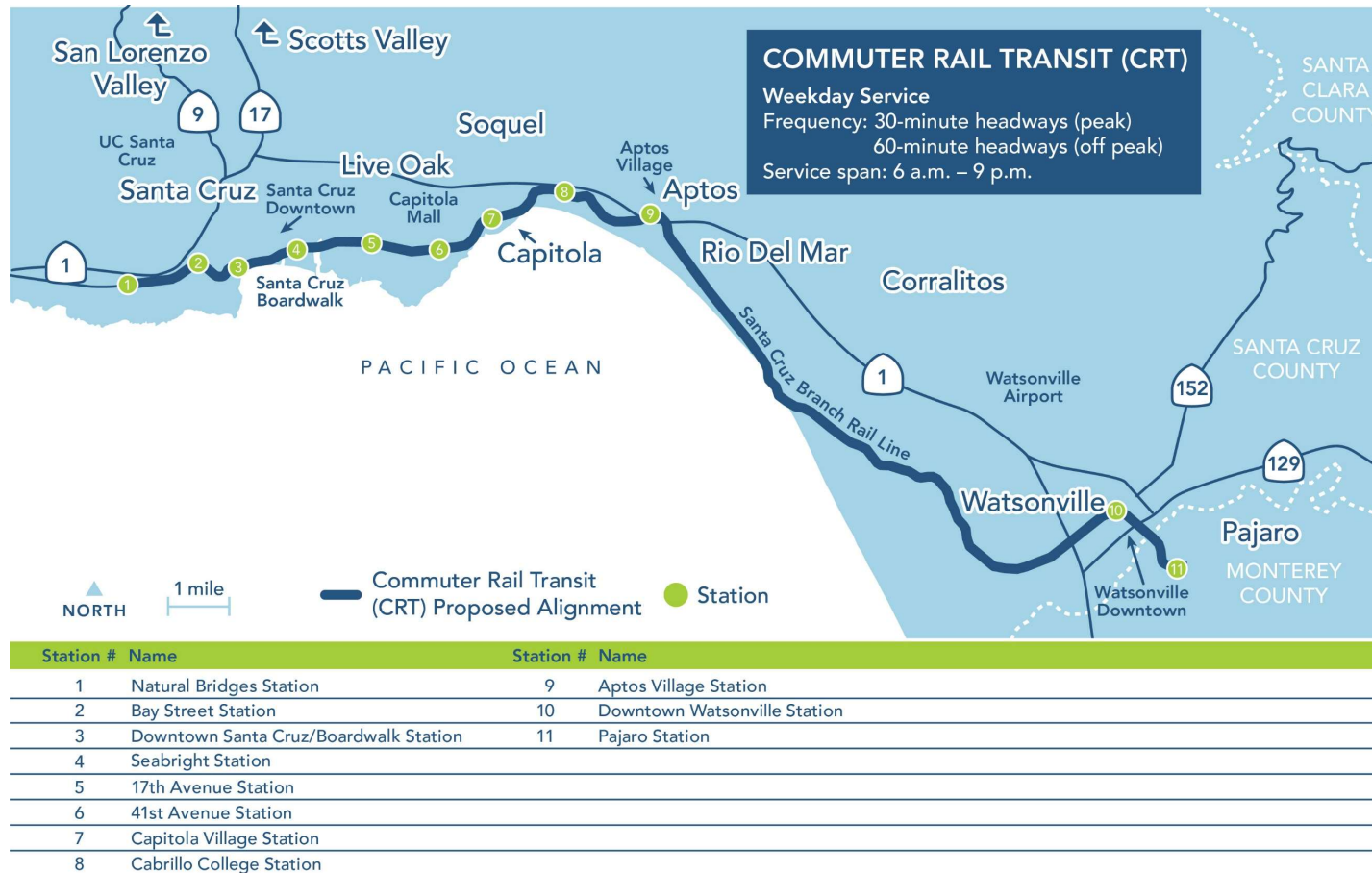
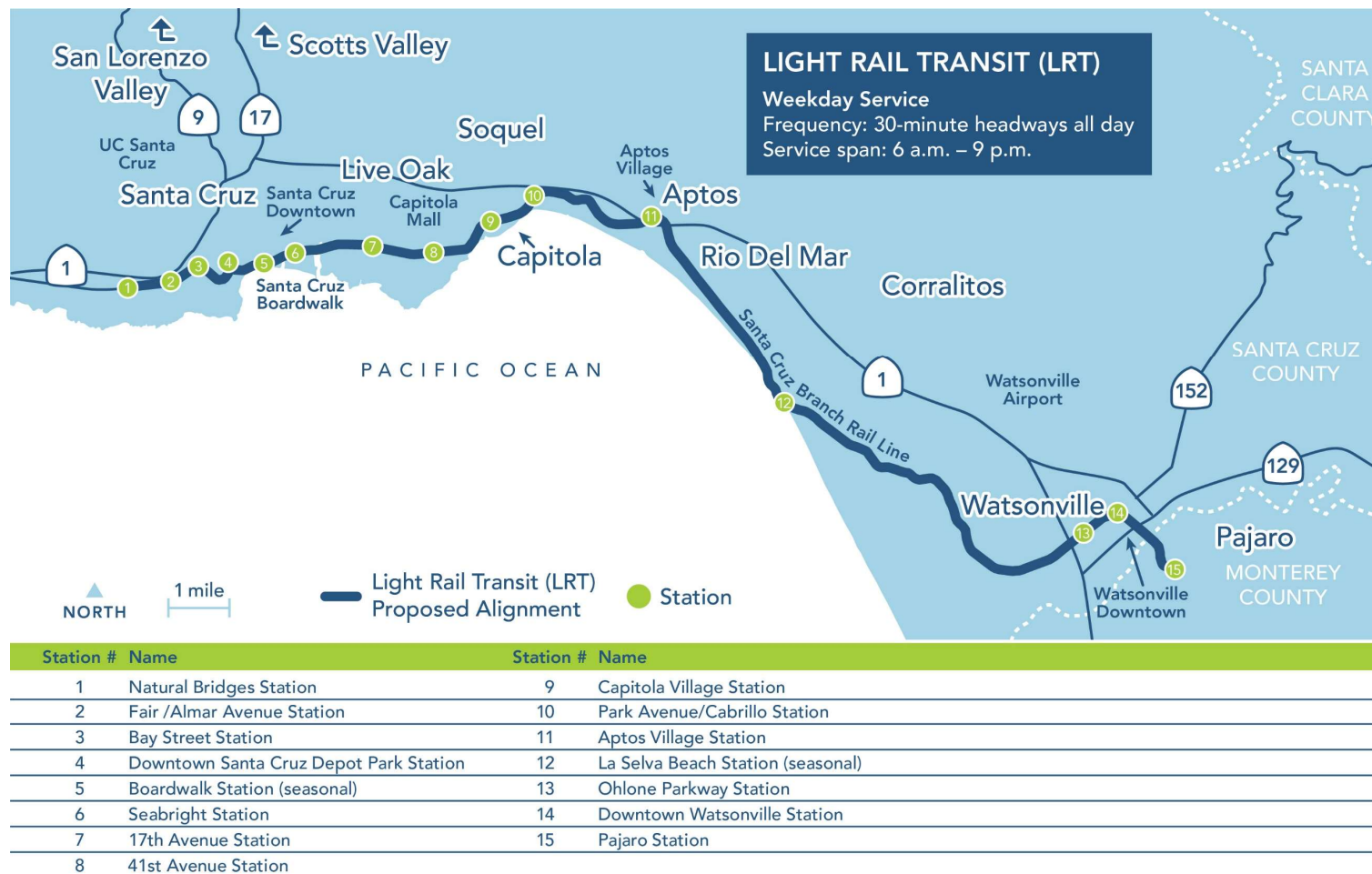


Figure 2.2: LRT Proposed Alignment and Stations







- **Frequency of service** would be established in a future component of project development and could increase over time as ridership increases assuming there are sufficient passing locations. A headway is the number of minutes between each train. Higher frequency (shorter headways) for major stops and lower frequency (longer headways) for minor stops could provide the best tradeoff of travel time versus ridership and is a common practice among rail systems. Both CRT and LRT in the TCAA/RNIS analysis considered 30-minute headways during peak periods, which is consistent with RTC's 2015 feasibility study, identifying two potential passing sidings located near 17<sup>th</sup> Avenue and San Andreas Avenue. CRT had a 60-minute headway for off-peak and LRT continued with a 30-minute frequency all day. The ridership analysis showed that a higher frequency service of 30-minute headways during mid-day served a demand that is not served by 60- minute headways mid-day. Transit service during the covid-19 pandemic showed a relative increase in demand during the mid-day with less substantial peaks during the AM and PM commute periods. If work from home continues post-COVID, service frequency should consider a transit demand that could continue to be spread out throughout the day.
- **Daily span of service** would be established in a future component of project development and will likely increase over time as ridership increases. Weekday span evaluated in the TCAA/RNIS was from 6AM to 9PM and 7AM to 10PM for weekend for both CRT and LRT.
- **Level platform boarding** is a common feature in both CRT and LRT services at each station, no matter the station size in order to provide universal access for all ages and abilities and ease of boarding for travelers with bicycles. Special consideration, such as gauntlet tracks, will be needed at the level boarding stations, if freight trains need to be accommodated.
- **A rail maintenance and operations facility** are needed to store and service rail cars off the main operating tracks and serve as an operations center. This facility should include space to clean, maintain, and repair rail vehicles and provide a workspace for rail operations employees and other rail staff. The primary location to consider for rail operations and maintenance is in the industrial area along West Beach St in Watsonville in vicinity of the tracks. Right of way would need to be acquired to locate this facility in Watsonville. This location may be appropriate for ultimate service, but a different location may be more suitable for an initial operating segment that might not start in Watsonville. The existing SCBRL right of way may be able to accommodate a maintenance and operations center near Natural Bridges Drive on the west side of Santa Cruz.





- The passenger rail service will utilize **clean energy technology** such as hydrogen fuel cell, battery or other future clean, or non-fossil fuel technologies. Clean energy technologies are advancing rapidly, along with trainsets. Given the pace of technology it would be premature to make a decision now on the vehicle type. Within the next decade, options for clean fuel trainsets will likely expand significantly compared to what is available today. Additional analysis, discussion and coordination is needed in the future to identify the vehicle fleet type. Examples of both battery and hydrogen fuel cell powered trainsets, that are operational today and becoming more readily available, are provided below.

**Figure 2.3: Alstom's Coradia iLINT - hydrogen fuel cell operated in Germany and Austria.**

<https://www.alstom.com/solutions/rolling-stock/coradia-ilint-worlds-1st-hydrogen-powered-train>





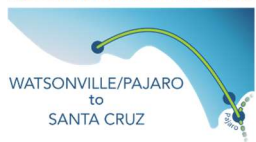
**Figure 2.4: Stadler FLIRT H2** - hydrogen fuel-cell train that will be used in the Redlands Passenger Rail Project. <https://railway-news.com/stadler-wins-us-flirt-h2-hydrogen-contract/>



**Figure 2.5: Bombardier Flexity** - battery electric train with MITRAC batteries allows 100km catenary free propulsion. <https://rail.bombardier.com/en/solutions-and-technologies/urban/e-mobility-battery-technology.html>







**Figure 2.6: ACCUM EV-E801** - battery electric train with recharging at stations operating in Japan. Photo By: 掬茶 - Own work, CC BY-SA 4.0.

<https://commons.wikimedia.org/w/index.php?curid=69472594>



**Figure 2.7: Seimens OBB Cityjet Eco** - battery electric train with recharging at stations operating in Austria. <https://railcolornews.com/2019/04/16/at-the-battery-powered-cityjet-eco-running-in-austria/>





**Figure 2.8: TIG/m MRV 3 - hydrogen fuel cell train operational in Doha, Qatar**  
<https://www.tig-m.com/products.html>



## 2.2 LOCAL AND REGIONAL INTEGRATION

Local integration of METRO transit services, other local first and last mile connections, and regional integration of passenger rail services currently under development by the Transportation Agency of Monterey County (TAMC) will be required to support the ultimate service plans of passenger rail on the SCBRL. Local METRO bus services will need to serve most if not all the rail stations to provide connections to origins and destinations more distant from the SCBRL. In addition, other first and last mile connection services will be needed including walking and bicycle network improvements to stations, bikeshare and other micro-mobility services, ride hailing and taxis, and private or public shuttles (autonomous shuttles potentially). Costs for first and last mile services are not included in the cost estimates presented in this study.



The SCBRL passenger rail will be integrated with expected future TAMC and California State Rail Plan passenger rail services connecting at Pajaro Station to Monterey as well as locations in southern and northern California. TAMC is actively pursuing passenger rail service to Monterey County that provides both local commute and greater regional access to San Francisco, San Jose and Gilroy, utilizing

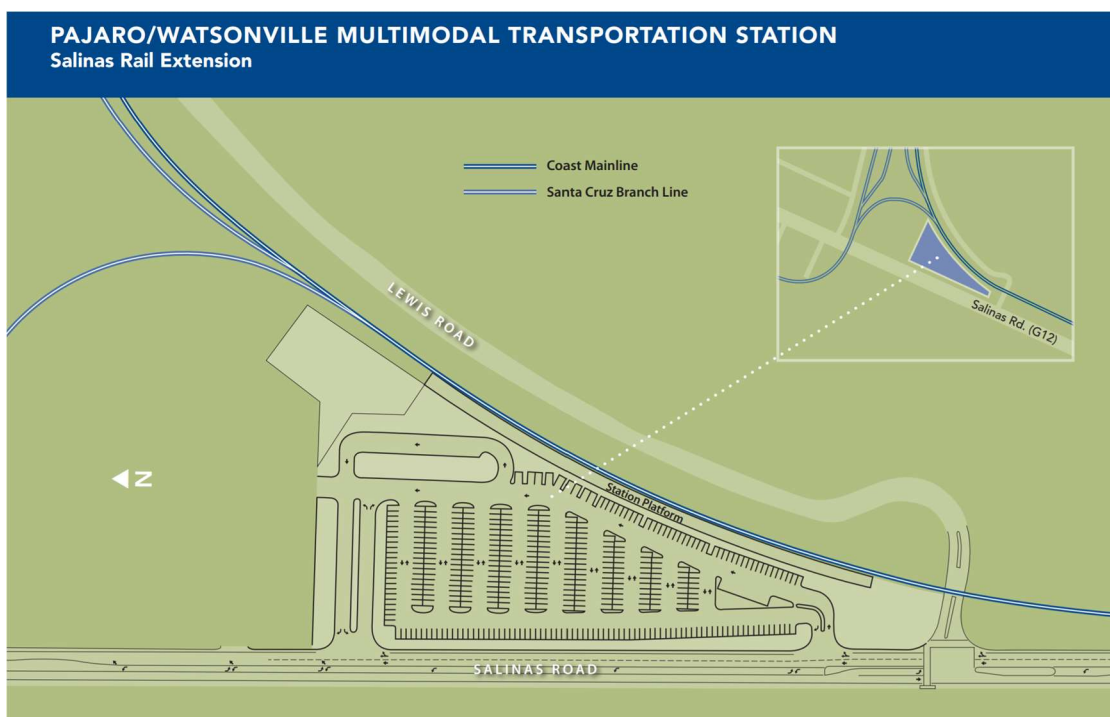




Union Pacific's Coast Mainline tracks between Gilroy and Salinas. Future phases of the TAMC project include a new station at Pajaro/Watsonville for connection to passenger rail on the SCBRL ROW and a new station in Castroville for connection to the Monterey branch line. Coordination between RTC and TAMC will be necessary as rail projects in both counties continue to develop.

The network integration portion of this study provides Caltrans Division of Rail & Mass Transportation with the information needed to update the California State Rail Plan in 2022 with the vision for Santa Cruz County to develop electric passenger rail for on the SCBRL that will connect to the future statewide rail network.

**Figure 2.9: Passenger Rail Station Planned for Pajaro Junction**





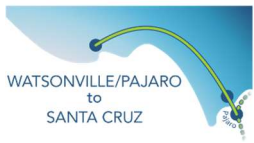


Figure 2.10: California State Rail Plan, Northern California Service – 2040 Vision





## 3 - GOVERNANCE

This section presents the governance options available to RTC to administer, contract, fund, and operate the electric passenger rail service in Santa Cruz County. Options were identified through a variety of sources, including the Governance and Operations Memo, January 2021, developed by TAMC in support of the Monterey Bay Area Rail Network Integration Study (Monterey Bay Area RNIS) currently under development. While more detailed analysis, communication, and coordination will be required by RTC in combination with its local (METRO), regional (TAMC), and state (Caltrans) agency partners to define the ultimate governance strategy, the information below presents potential options for consideration. Further development of the governance strategy will be conducted as the project proceeds to the preliminary engineering and environmental analysis component.

### 3.1 POLICIES AND PROGRAMS

Federal, state, and local governments have developed a series of policies and planning documents to achieve a more sustainable transportation system by providing improved multimodal access to jobs, education, healthcare, and other destinations. The planning documents that are the most applicable for assessing the existing policies applicable to passenger rail transit in Santa Cruz County are listed below.

- The California Transportation Plan 2050, just completed in February 2021, provides a policy framework for making transportation decisions statewide. A recommendation of the plan is to “Improve transit, rail and shared mobility options” in order to advance climate, equity, accessibility, quality of life & public health, environment, economy and infrastructure goals.
- The 2018 California State Rail Plan provides a summary of the Federal and California State policies that are applicable to development of passenger rail in Santa Cruz County. This plan outlines the numerous legal and administrative directives that have set policies aimed at 1) reducing greenhouse gas emissions (GHG) to limit the harmful effects of climate change, 2) improving transportation safety through development of complete streets, 3) reducing congestion through greater emphasis on rail and bus transit, 4) establishing environmental justice goals for low income and disadvantaged communities.
- The 2040 Santa Cruz County Regional Transportation Plan provides the existing goals, objectives, and policies applicable to development of passenger rail in Santa Cruz County. These include:
  - Objectives
    - Improve people’s ability to meet most of their daily needs without having to drive. Improve access and proximity to employment centers
    - Improve the convenience and quality of trips, especially for walk, bicycle, transit, freight, and carpool/vanpool trips.







- Enhance healthy, safe access to key destinations for transportation-disadvantaged populations.
- Policies
  - Transportation Infrastructure: Improve multimodal access to and within key destinations.
  - Transportation Infrastructure: Ensure network connectivity by closing gaps in the bicycle, pedestrian and transit networks.
  - Land Use: Support land use decisions that locate new facilities close to existing services, particularly those that service transportation disadvantaged populations.
  - Emergency Services: Support projects that provide access to emergency services.
  - Equity: Demonstrate that planned investments will reduce disparities in safety and access for transportation disadvantaged populations.

At the Federal level, numerous policies and programs are under development with the new Biden-Harris Administration. Legislation that embraces a climate resiliency approach to improving transportation infrastructure including alternative modes of transportation is being developed. Pete Buttigieg has been confirmed as the new Secretary of Transportation. His agenda includes “investing in robust transit and transportation infrastructure” in both urban and rural communities.

The existing policies and programs at the federal, state, and local level will be the basis for development of policies that may be needed as the governance strategy is established in a future component of the project.

### 3.2 ROLE OF GOVERNING BODY

The governance recommendations from TAMC’s Monterey Bay Area RNIS provide a potential roadmap that is directly relevant to the RTC. The potential future TAMC and RTC passenger rail services have been linked together both in the 2018 California State Rail Plan and the Monterey Bay Area RNIS. Continued collaboration between RTC, TAMC, and the Caltrans Division of Rail and Mass Transportation (Caltrans DRMT) will assist in identifying the optimal governance strategy. Identification and establishment of the governing body would occur near the completion of preliminary design and environmental review.

The key objectives of the governing body are to:

- Develop policy
- Build the system
- Manage and operate an efficient integrated system
- Achieve a regional vision of passenger rail along the Santa Cruz Branch Rail Line with connection to the Monterey and statewide rail network





- Connect to population and employment centers including integration with local transit service
- Develop a system that has a customer focus through competitive travel times and service frequencies, coordinated scheduling and fares.
- Create an effective administration that has sufficient authority to execute the day-to-day operations.

The responsibilities of the governing body will include:

- **Policy.** Goals and policies for implementing, operating and maintaining electric passenger rail on the Santa Cruz Branch Rail Line will be needed to ensure the project meets the needs of the community.
- **Coordination.** Coordination and execution of agreements between RTC, the governing body, TAMC, Caltrans and/or other potential partners to construct and operate passenger rail on the SCBRL.
- **Funding for Construction.** The governing body will coordinate with RTC and other partners to identify, apply and secure funding for construction, which may require phased implementation including a potential initial operating segment (IOS).
- **Procurement.** Identification of needs and procurement of services and equipment to implement passenger rail.
- **Maintenance.** Maintenance of the rail easement on the SCBRL right of way would be the responsibility of the governing body.
- **Service Operations.** Type of service and options to operate the service will be identified and established with consideration for an “Around the Bay” service between Santa Cruz and Monterey (e.g., host railroad, third party operating providers).
- **Budget.** The governing body will be responsible for the budget including operations and maintenance budget, vehicle replacement needs, and setting fares.
- **Schedule and Fare Coordination.** Coordinating timetables and integrating fare structures with statewide rail service, Monterey County rail service and METRO local service.
- **Local Transit Coordination.** Coordinating timetables with METRO bus transfers to and from rail stations.
- **Communications and Marketing.** Communicating all outward-facing messaging to public including service changes, service alerts and disruptions, marketing promotional efforts, and other communications.
- **Insurance.** Mitigating financial risks through the purchase of property, casualty, and liability insurance.
- **Law Enforcement.** Establishing law enforcement policies and structures to ensure public safety and security for riders and the general public, including but not limited to, fare enforcement, parking/traffic enforcement, crisis interventions, and other emergency responses.





- **Safety.** Development and implementation of safety rules and standards as required by federal and/or state requirements.

### 3.3 DESCRIPTION OF POTENTIAL GOVERNANCE MODELS

The following Governance models that are common in California are provided below:

- Joint Powers Authority (JPA)
- Joint Venture (sometimes referred to as Transit Agency Partnerships)
- Special Purpose Regional Transit Authority/District
- County Agency or Municipal Transit Agency
- State Transit Agency

#### **Joint Powers Authority**

A Joint Powers Authority (JPA) is a separate organization created by member agencies (for example RTC and TAMC could be member agencies), that is legally independent from them. A JPA shares powers common to each member agency and documented in a joint power's agreement. These powers may include eminent domain authority and ability to hold or dispose of property. JPAs provide maximum flexibility in their formation and responsibilities as a governing body, save time and money by sharing resources and combining services, but may result in potential overlap in responsibilities among representative agencies.

JPAs do not require legislative authority, have no taxing authority, and rely on funding through constituent members (agencies). Each participating entity secures its own funding source(s) through annual appropriations and other financing mechanisms including tax measures. JPAs have become a popular governance model for corridor and commuter rail services in California (primarily intercity passenger operators), including Caltrain (Peninsula Corridor Joint Powers Board); Capitol Corridor (Capitol Corridor Joint Powers Authority); Pacific Surfliner (LOSSAN Rail Corridor Agency); and others. Characteristics of LOSSAN's Governance model include:

- Established/formed in 1989 by transportation agencies along the Pacific Surfliner passenger rail route
- Governed by a 11-member Board composed of elected officials representing the owners, operators, and planning agencies along the corridor
- It is managed and operated by the Orange County Transportation Authority (OCTA) through an administrative agreement
- The host railroad (AMTRAK runs and operates passenger trains and cars) is responsible for implementing capital improvements while LOSSAN leads all funding and legislative pursuits to support these improvements
- Receives all operating funds from the State, with member agency's volunteering some operational funding





### ***Joint Venture***

Joint Ventures are not commonly deployed but are relatively easy to create, like a JPA. Unlike a special district, there is no need for legislative action by the State, with agreements required between the joint venture partners to establish and fund the entity. A joint venture has authority to execute contracts and secure/disburse capital and operating funds but has no direct ability to levy taxes (although individual partners will have this ability).

Joint ventures do not have the ability to exercise eminent domain, but partner agencies may have this right. Joint ventures typically include relationships between State and Federal partners to be leveraged, while the joint venture would need to build new relationships from the ground up. There are examples of joint venture models in Texas and Virginia. Characteristics of the Trinity Railway Express (Fort Worth, Dallas, Texas) are presented below for this type of governance model:

- A Joint Venture between the cities of Fort Worth and Dallas providing regional commuter rail services
- Each city owns 50% interest in the ROW
- Each city transferred ownership, development, and service planning responsibilities of the rail property to their public transportation providers (Trinity Metro and Dallas Area Rapid Transit (DART) respectively)
- Dallas's Metropolitan Planning Organization (North Central Texas Council of Governments – NCTCOG) and its Regional Transportation Commission is the policy-making body of the commuter rail service, while DART manages contracting and vendor services
- Regional sales taxes and federal funding from the Federal Transit Administration (FTA) are used to support capital improvements and operations/maintenance, while DART manages vendors and contracting services
- The host railroad (Burlington Northern Santa Fe Railroad – BNSF) and a third party vendor operate the service

### ***Special Purpose Regional Transit Authorities or Districts***

Special Purpose Regional Transit Authorities or Districts are typically created by a special act of a State legislature, involving agreements to transfer assets and liabilities to a regional transit authority or district, and funding agreements. The resulting authority typically only has jurisdiction in a specific area or region, with a specific designated function, such as construction and operation of a new transit service. This singular focus may ensure success by minimizing competition for resources. A special district anticipates streamlined budget approval processes with a single authority (governing board), in contrast with a JPA or joint venture structures. All funding partners would be equally represented from the outset. Eminent domain and property ownership rights would reside with the special district as well.





Potential issues with the creation of special districts include, additional layers of governance that complicate project execution; higher costs and longer start-up times; and need for close coordination with partner agencies to ensure an integrated regional transit system. Examples of special districts in California include North County Transit District (COASTER and SPRINTER), Tri-Valley–San Joaquin Valley Regional Rail Authority (Valley Link), and Sonoma-Marin Area Rail Transit District (SMART). Characteristics of the SMART’s Governance model includes:

- Operates as a Special District providing passenger rail services between Sonoma and Marin Counties in the San Francisco Bay Area
- Formed in 2002, it is funded by Measure Q 2008’s two-county sales tax
- This Special District required passing a sales tax on the ballot and provides the agency with autonomy and longevity
- The SMART Board and its General Manager are responsible for the development of all operations and policies, with the 12-member Board consisting of representatives of the route’s cities and county jurisdictions
- Operations are primarily funded by District voter approved sales tax and fare revenue, while capital projects are mostly by Federal and State funds
- All systems operations, vehicles, track, maintenance, among others are managed by SMART staff, while SMART also has the ability to contract out these functions as needed.

### ***County Agency or Municipal Transit Agency***

In this model, transit services are assumed by an existing local government, such as METRO or RTC, as part of its existing functions without the need for special state legislation. This is a common governance model with transit operations in mid-sized urban areas, including the powers of county government’s authority to develop, operate, and contract for transit services, own property, exercise the powers of eminent domain, and address regional needs and coordination. Expanding financing methods and authority for new services under existing agencies often involves a cumbersome political process that may create equity issues. While the transit agency would have access to funding, such as using county excise taxes (with voter approval), the ability to levy taxes are limited to the city or county’s jurisdiction only.

The Redlands Passenger Rail Project (Arrow) is an example of a County/Municipal Transit Agency Governance model. Characteristics of Arrows Governance components include:

- The San Bernardino County Transportation Authority (SBCTA) operates this recently implemented nine-mile service from San Bernardino to Redlands
- In 2016, Senate Bill 1305 was passed to consolidate county and local transportation services (County Transportation Commission, Local Transportation Authority) to form the SBCTA with responsibilities for countywide regional planning and development of multimodal transportation systems







- Working with the SBCTA, Arrow service is being constructed and will be operated by Metrolink, southern California passenger rail service provider linking six counties.

### ***State Transit Agency***

State transit agency models are common in small states typically with one dominant metro area. This model offers direct state oversight and funding and includes powers delegated by the State in enabling legislation, which may include the authority to own property and exercise the powers of eminent domain. There are no current examples of this model used in California thus Caltrans is unlikely to take on operation of new rail service on the SCBRL.

### **3.4 PUBLIC PRIVATE PARTNERSHIPS**

A public private partnership (PPP or P3) is a collaborative arrangement between a public agency and a private partner to deliver a public service or facility and can be a form of governance and/or project delivery method. The skills and assets of each sector are shared as are the potential risks and rewards. A P3 can take many forms and may involve the participation of the private partner in all or some of the components of a project – environmental review, design, construction, finance, operation, and maintenance of a project.

A P3 is typically a long-term contractual agreement involving payments between the public agency and the private partner. A P3 can allow a public agency to accelerate a project, improve performance and minimize costs by utilizing private sector expertise in building and operating a project. P3's are usually not formed until near the completion of the environmental document, so the local governing body can maintain control over the project definition and can more effectively negotiate key aspects of the P3 relationship that are necessary to maintain public support, such as determining ticket prices and service patterns.

One example of a P3 that is under development is a project to connect the Caltrain corridor at Redwood City to the East Bay over the Dumbarton Bridge. San Mateo County Transit District has been meeting with Facebook and Plenary Americas to advance this P3 with efforts still underway. RTC will evaluate P3 as a possibility for implementation of passenger rail transit on the SCBRL.

### **3.5 RTC GOVERNANCE STRATEGY**

More detailed analysis of the legal requirements for governance, as well as communication, and coordination between RTC, TAMC, METRO, and Caltrans is needed to define the governance strategy to support electric passenger rail on the SCBRL.





## 4 - COST ESTIMATES

Considering both Commuter Rail Transit (CRT) and Light Rail Transit (LRT), the capital and operations & maintenance (O&M) costs for the Business Plan were determined in the development of the TCAA/RNIS report and are used in the cash flow model for project implementation presented in Section 7. These cost estimates were informed by the costs developed for the 2015 Santa Cruz Branch Rail Transit Feasibility Study, the Unified Corridor Investment Study (UCS), recent bridge and track inspection reports, and comparable rail systems.

The costs were estimated based on best practices for regional, state, and national planning studies. No engineering design was performed to support the estimated costs. A contingency of 50% was included in the cost estimates to account for the unknowns at this early stage of project development. Cost estimates will be refined as the project moves through project development, including undergoing increased levels of design to reflect the market conditions (i.e., cost of labor, equipment, and materials) in the year the project is expected to be implemented.

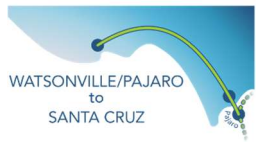
**Tables 4.1 and 4.2** show the detailed capital cost estimates for LRT and CRT respectively, while **Tables 4.3 and 4.4** show the operations and maintenance (O&M) cost estimates for LRT and CRT respectively. The LRT cost estimates assume that the trainsets are not FRA-compliant, and that Positive Train Control is not needed. Costs for infrastructure improvements for CRT and LRT assume that freight rail will continue, and freight requirements need to be met. Project costs represent 2020 dollars.

Passenger rail transit is estimated to cost between \$465 million and \$478 million for LRT and CRT respectively, based on existing 2020 conditions and the assumptions made regarding the number and location stations and frequency of service. This total cost is generally comprised of:

1. Pre-Construction Costs of approximately \$50 to \$51 million, including
  - a. Preliminary Engineering and Environmental Analysis/Documentation
  - b. Final Design and Permitting
2. Construction costs of approximately \$225-\$233 million
3. Contingency costs of approximately \$127-\$131 million
4. Vehicles costs of approximately \$64 million
5. Right-of-Way costs assumed \$0 at this time

Operations and maintenance (O&M) activities are expected to cost \$25 million per year, based on the estimates developed during this TCAA/RNIS. Detail related to cost estimates of





commuter rail and light rail are presented in **Tables 4.1 to 4.4**. Over time, design information will be developed to better inform these capital and O&M costs.







**Table 4.1: Light Rail Transit Capital Cost Estimates**

| <b>Light Rail Transit - Pajaro to Westside Santa Cruz</b>   |            |         |               |                       |
|---|------------|---------|---------------|-----------------------|
| <b>LRT stub-end terminal at Depot Park. RC&amp;BT operates on separate track from wye to Boardwalk.</b> |            |         |               |                       |
| Total Route Miles   | 21.9 Miles |         |               |                       |
| Item  | U/M        | Qty     | Unit Cost     | Ext. Cost (Rounded)   |
| <b>Infrastructure</b>   |            |         |               |                       |
| <b>Track</b>  |            |         |               |                       |
| Tie Replacement (75% of ties)   | Ea         | 40,150  | \$ 150        | \$ 6,100,000          |
| Rail Replacement (100% replacement)   | TF         | 91,453  | \$ 120        | \$ 11,000,000         |
| Ballast for Surfacing   | Ton        | 20,000  | \$ 60         | \$ 1,200,000          |
| Out of Face Surfacing   | TF         | 115,872 | \$ 8          | \$ 1,000,000          |
| New Track Construction  | TF         | 16,234  | \$ 425        | \$ 6,900,000          |
| Grade Crossing Track - Concrete Panels  | TF         | 7,085   | \$ 1,800      | \$ 12,800,000         |
| Grade Crossing Track - HMA Paved  | TF         | 1,100   | \$ 1,000      | \$ 1,100,000          |
| Private Crossing  | Ea         | 8       | \$ 1,500      | \$ 100,000            |
| Ditching/Drainage Improvements  | Day        | 90      | \$ 10,000     | \$ 900,000            |
| Hirail Vacuum Truck Ballast Cleaning  | Day        | 60      | \$ 5,000      | \$ 300,000            |
| Tree Trimming   | Day        | 60      | \$ 7,000      | \$ 500,000            |
| Misc. Grading to Support New Track Construction   | LF         | 25,000  | \$ 80         | \$ 2,000,000          |
| Power Turnouts  | Ea         | 10      | \$ 250,000    | \$ 2,500,000          |
| Hand Throw Turnouts   | Ea         | 9       | \$ 135,000    | \$ 1,300,000          |
| Trackwork for 400' Long Gauntlet Tracks at Stations   | Ea         | 16      | \$ 200,000    | \$ 3,200,000          |
| Trackwork Between Siding Turnouts   | TF         | 4000    | \$ 425        | \$ 1,700,000          |
| Main Track Construction to Allow for Siding   | TF         | 4000    | \$ 425        | \$ 1,700,000          |
| Separate RC&BT Track, Xing Signals to Boardwalk   | Ea         | 1       | \$ 2,900,000  | \$ 2,900,000          |
| LRT Stub Connection to Depot Park   | Ea         | 1       | \$ 2,500,000  | \$ 2,500,000          |
| Curve Lubricator  | Ea         | 20      | \$ 25,000     | \$ 500,000            |
| Utility Relocation Allowance  | AL         | 1       | \$ 2,000,000  | \$ 2,000,000          |
| Fencing   | AL         | 1       | \$ 5,000,000  | \$ 5,000,000          |
|   |            |         |               | \$ 67,200,000         |
| <b>Crossing Signal</b>  |            |         |               |                       |
| Grade Crossing Equipment: Bells, Flashers, Gates  | Ea         | 43      | \$ 400,000    | \$ 17,200,000         |
| Quiet Zones   | Ea. Xing   | 43      | \$ 125,000    | \$ 5,400,000          |
|   |            |         |               | \$ 22,600,000         |
| <b>Train Control</b>  |            |         |               |                       |
| Centralized Traffic Control System (Wayside Signals)  | Mile       | 21.9    | \$ 1,000,000  | \$ 22,000,000         |
| Centralized Dispatching Center, Systems, & Communications Equ   | LS         | 1       | \$ 4,000,000  | \$ 4,000,000          |
|   |            |         |               | \$ 26,000,000         |
| <b>Structures</b>   |            |         |               |                       |
| Bridge Rehabilitation   | LS         | 1       | \$ 32,000,000 | \$ 32,000,000         |
| Retaining Wall Allowance  | SF         | 42000   | \$ 200        | \$ 8,400,000          |
|   |            |         |               | \$ 40,400,000         |
| <b>Stations/Maintenance Facility</b>  |            |         |               |                       |
| Rail Station ("Small")  | Ea         | 6       | \$ 1,500,000  | \$ 9,000,000          |
| Rail Station ("Medium")   | Ea         | 7       | \$ 2,250,000  | \$ 15,800,000         |
| Rail Station ("Large")  | Ea         | 3       | \$ 2,750,000  | \$ 8,300,000          |
| Maintenance Facility & Operations Center  | Ea         | 1       | \$ 9,000,000  | \$ 9,000,000          |
|   |            |         |               | \$ 42,100,000         |
| <b>Construction Total (Without Contingency)</b>   |            |         |               | <b>\$ 198,300,000</b> |
| <b>Rail Vehicles</b>  |            |         |               |                       |
| Vehicles - Light Rail (Off-Wire)  | Ea         | 8       | \$ 7,000,000  | \$ 56,000,000         |
| Charging Infrastructure   | Ea         | 7       | \$ 1,000,000  | \$ 7,000,000          |
|   |            |         |               | \$ 63,000,000         |
| Contingency   |            |         | 50%           | \$ 127,200,000        |
| Soft Costs (Documentation, Permitting, Bid Document Preparation, Project Administratio                  |            |         | 30%           | \$ 76,300,000         |
| <b>Grand Total (Rounded)</b>  |            |         |               | <b>\$ 465,000,000</b> |





**Table 4.2: Commuter Rail Transit Capital Cost Estimates**

| Commuter Rail Transit - Pajaro to Westside Santa Cruz  |            |         |               |                     |
|--|------------|---------|---------------|---------------------|
| Total Route Miles  | 21.9 Miles |         |               |                     |
| Item   | U/M        | Qty     | Unit Cost     | Ext. Cost (Rounded) |
| <b>Infrastructure</b>  |            |         |               |                     |
| <b>Track</b>   |            |         |               |                     |
| Tie Replacement (75% of ties)  | Ea         | 40,150  | \$ 150        | \$ 6,100,000        |
| Rail Replacement (100% replacement)  | TF         | 91,453  | \$ 120        | \$ 11,000,000       |
| Ballast for Surfacing  | Ton        | 20,000  | \$ 60         | \$ 1,200,000        |
| Out of Face Surfacing  | TF         | 115,872 | \$ 8          | \$ 1,000,000        |
| New Track Construction   | TF         | 16,234  | \$ 425        | \$ 6,900,000        |
| Grade Crossing Track - Concrete Panels   | TF         | 7,085   | \$ 1,800      | \$ 12,800,000       |
| Grade Crossing Track - HMA Paved   | TF         | 1,100   | \$ 1,000      | \$ 1,100,000        |
| Private Crossing   | Ea         | 8       | \$ 1,500      | \$ 100,000          |
| Ditching/Drainage Improvements   | Day        | 90      | \$ 10,000     | \$ 900,000          |
| Hirail Vacuum Truck Ballast Cleaning   | Day        | 60      | \$ 5,000      | \$ 300,000          |
| Tree Trimming  | Day        | 60      | \$ 7,000      | \$ 500,000          |
| Misc. Grading to Support New Track Construction  | LF         | 23,000  | \$ 80         | \$ 1,900,000        |
| Power Turnouts   | Ea         | 8       | \$ 250,000    | \$ 2,000,000        |
| Hand Throw Turnouts  | Ea         | 9       | \$ 135,000    | \$ 1,300,000        |
| Trackwork for 400' Long Gauntlet Tracks at Stations  | Ea         | 11      | \$ 200,000    | \$ 2,200,000        |
| Trackwork Between Siding Turnouts  | TF         | 3000    | \$ 425        | \$ 1,300,000        |
| Main Track Construction to Allow for Siding  | TF         | 3000    | \$ 425        | \$ 1,300,000        |
| Separate RC&BT Track, Xing Signals to Boardwalk  | Ea         | 1       | \$ 2,900,000  | \$ 2,900,000        |
| Curve Lubricator   | Ea         | 20      | \$ 25,000     | \$ 500,000          |
| Utility Relocation Allowance   | AL         | 1       | \$ 2,000,000  | \$ 2,000,000        |
| Fencing  | AL         | 1       | \$ 5,000,000  | \$ 5,000,000        |
|  |            |         |               | \$ 62,300,000       |
| <b>Crossing Signal</b>   |            |         |               |                     |
| Grade Crossing Equipment: Bells, Flashers, Gates   | Ea         | 43      | \$ 400,000    | \$ 17,200,000       |
| Quiet Zones  | Ea. Xing   | 43      | \$ 125,000    | \$ 5,400,000        |
|  |            |         |               | \$ 22,600,000       |
| <b>Train Control</b>   |            |         |               |                     |
| Positive Train Control   | Mile       | 21.9    | \$ 1,000,000  | \$ 22,000,000       |
| Centralized Traffic Control System (Wayside Signals)   | Mile       | 21.9    | \$ 1,000,000  | \$ 22,000,000       |
| Centralized Dispatching Center, Systems, & Communications Equip.   | LS         | 1       | \$ 4,000,000  | \$ 4,000,000        |
|  |            |         |               | \$ 48,000,000       |
| <b>Structures</b>  |            |         |               |                     |
| Bridge Rehabilitation  | LS         | 1       | \$ 32,000,000 | \$ 32,000,000       |
| Retaining Wall Allowance   | SF         | 42000   | \$ 200        | \$ 8,400,000        |
|  |            |         |               | \$ 40,400,000       |
| <b>Stations/Maintenance Facility</b>   |            |         |               |                     |
| Rail Station ("Small")   | Ea         | 4       | \$ 1,500,000  | \$ 6,000,000        |
| Rail Station ("Medium")  | Ea         | 5       | \$ 2,250,000  | \$ 11,300,000       |
| Rail Station ("Large")   | Ea         | 2       | \$ 2,750,000  | \$ 5,500,000        |
| Maintenance Facility & Operations Center   | Ea         | 1       | \$ 9,000,000  | \$ 9,000,000        |
|  |            |         |               | \$ 31,800,000       |
| <b>Construction Total (Without Contingency)</b>  |            |         |               | \$ 205,100,000      |
| <b>Rail Vehicles</b>   |            |         |               |                     |
| Vehicles - Commuter Rail Trainset  | Ea         | 6       | \$ 10,000,000 | \$ 60,000,000       |
| Charging Infrastructure  | Ea         | 3       | \$ 1,000,000  | \$ 3,000,000        |
| Positive Train Control Equipment for Vehicles  | Ea         | 6       | \$ 75,000     | \$ 500,000          |
|  |            |         |               | \$ 63,500,000       |
| Contingency  |            |         | 50%           | \$ 130,800,000      |
| Soft Costs (Documentation, Permitting, Bid Document Preparation, Project Administration and Construction Management) |            |         | 30%           | \$ 78,500,000       |
| <b>Grand Total (Rounded)</b>   |            |         |               | \$ 478,000,000      |





**Table 4.3: Light Rail Operation & Maintenance Costs**

| LIGHT RAIL TRANSIT - OPERATION & MAINTENANCE COSTS  |        |  |                       |
|---|--------|--|-----------------------|
|   |        | Operations & Maintenance Cost per Vehicle Revenue Hour | Annual Operating Cost |
| Number of vehicles operating/day  | 6      |  |                       |
| Operating Hours Per Day   | 15     |  |                       |
| Operating Days per Year   | 365    |  |                       |
| Annual Vehicle Revenue Hours  | 32,850 | \$ 710   | \$ 23,300,000         |
| Additional Maintenance of rail right-of-way (not included in Cost per Vehicle Revenue Hour) |        |  | \$ 1,440,000          |
| <b>TOTAL COST</b>   |        |  | <b>\$ 24,700,000</b>  |

**Table 4.4: Commuter Rail Operation & Maintenance Costs**

| COMMUTER RAIL TRANSIT - OPERATION & MAINTENANCE COSTS                                       |        |  |                       |
|---|--------|--|-----------------------|
|   |        | Operations & Maintenance Cost per Vehicle Revenue Hour | Annual Operating Cost |
| Number of vehicles operating/day  | 5      |  |                       |
| Operating Hours Per Day   | 15     |  |                       |
| Operating Days per Year   | 365    |  |                       |
| Annual Vehicle Revenue Hours  | 27,375 | \$ 845   | \$ 23,100,000         |
| Additional Maintenance of rail right-of-way (not included in Cost per Vehicle Revenue Hour) |        |  | \$ 1,440,000          |
| <b>TOTAL COST</b>   |        |  | <b>\$ 24,500,000</b>  |





## 5 - IMPLEMENTATION PLAN

This section presents the plan to implement electric passenger rail on the SCBRL that was presented above in Section 2. The process of developing the project's ultimate implementation plan will be iterative and need to evolve. The following two factors are expected to be dynamic and impact implementation.

- **Funding Schedules.** As presented in the TCAA/RNIS Final Report and below in Section 6, a variety of currently available funding sources were identified across all types of local, state, and federal sources to support electric passenger rail implementation. The funding sources and amounts reflect current policy and are expected to evolve and change over time. Funding sources will need to be monitored to evaluate how changes in funding policy may provide opportunities and/or limitations in seeking and securing actual funding. Implementation of passenger rail will require an ongoing commitment to secure funds for all components of the project.
- **Infrastructure Needs.** The TCAA/RNIS provided the RTC and its partners with planning level analysis that did not include detailed engineering design, environmental analysis, and other issues related to implementing electric passenger rail. A variety of infrastructure, environmental, right-of-way and other assumptions will become better understood after more advanced engineering. This knowledge may alter assumptions and result in changes to the project definition and implementation plan

Based on these factors, the implementation plan presented below represents the initial strategy for the project and will be updated by RTC periodically over time as these factors change and evolve.

### 5.1 PROJECT DELIVERY METHOD

There are numerous project delivery methods that could be utilized to implement passenger rail on the SCBRL. The more common project delivery methods that are used to construct transportation projects are described below.

**Design-bid-build** is the more traditional method for project delivery in which the agency contracts for the design and construction of the project separately and often with separate contractors. Design-bid-build provides more agency control of the contracting, schedule, cost and financing but the agency also assumes the risk.





**Design-build** is a method where the design and construction services are contracted by a single entity known as the design-build contractor. This method can reduce the delivery schedule by overlapping the design and construction component of the project. The agency generally has less control of the project but there is greater accountability, efficiency and therefore greater cost control, and some of the risk is transferred to the contractor.

**Construction manager/general contractor (CMGC)** delivery method allows the agency to engage a construction manager to provide input during the design process. The construction manager then becomes the general contractor. The benefits of CMGC include greater cost control, fewer change orders, an optimized schedule, improved constructability and transfer of some of the risk to the contractor.

**A public private partnership (PPP or P3)** can be a form of governance as well as a project delivery method. As discussed in **Section 3. Governance**, P3 is a collaborative arrangement between a public agency and a private partner to deliver a public service or facility. The skills and assets of each sector are shared as are the potential risks and rewards. A P3 can take many forms and may involve the participation of the private partner in all or some of the components of a project – environmental review, design, construction, finance, operation, and maintenance of a project. A P3 can allow a public agency to accelerate a project, improve performance and minimize costs by utilizing private sector expertise in building and operating a project. P3's are usually not formed until near the completion of the environmental document.

Regardless of the ultimate project delivery method, all methods require preliminary engineering and an environmental document to be completed as the next step. Although the below implementation components are based on the traditional design-bid-build approach to project delivery, future policy decisions can dictate whether the project should consider an alternative delivery method, such as design-build, construction manager/general contractor (CMGC), or a public private partnership. Although all components of the traditional design-bid-build approach are shown in the subsequent sections, more breakdown is provided for the initial preliminary engineering and environmental documentation component. This detail is provided to understand what is more immediate and to provide potential options to implement in one step at a time, considering the limitations on funding to complete this initial component of work. An outline of the various project components is provided in Table 5-1 at the end of this section.

## 5.2 TRADITIONAL DESIGN-BID-BUILD APPROACH TO IMPLEMENTATION

The following section presents the different components required to implement electric passenger rail on the SCBRL.







### **Component 1 – Preliminary Engineering and Environmental Documentation**

The preliminary engineering and environmental documentation will be the first component of implementation for the project. RTC will need to procure one or more consultants to complete the work outlined in the steps below. Some of the steps may be done in parallel to implement the project more quickly.

**Component 1, Step 1.1 – Initial Conceptual Design and Operating Plan.** This step will be used to develop the initial conceptual design and operating plan for the electric passenger rail alternative. The steps of component 1 were developed to account for the fact that many design parameters are dependent upon other parameters. For example, station locations, train speeds, vehicle types, travel times, infrastructure improvements, and ridership are all variables, that affect each other. As the project develops, each design parameter may shift as the design becomes more refined. The results of the TCAA/RNIS will be used to guide the development of the conceptual design and operating plan. This step includes:

- a. *Track alignment in CAD.* Accurate information will be developed about the existing alignment and right-of-way. This will include preparing a CAD file representing the existing alignment to include high-resolution aerial imagery with vertical information provided either by aerial photogrammetry or LiDAR.
- b. *Track vertical and horizontal curvature.* Identify the existing curvature, both horizontal and vertical to assess need to modify the track alignment at locations along the SCBRL ROW for improved vehicle speeds and optimum use of the ROW. Based on a visual inspection of the SCBRL ROW, there may be areas of the ROW where the distance between curves is short enough that curve realignments may be recommended to improve the operational speeds of the train. A preliminary assessment of potential realignments will be prepared at this time in the analysis.
- c. *STOPS Ridership Forecast.* Develop/refine ridership results using the Federal Transit Administration's (FTA's) Simplified Trips-On-Project Software (STOPS) modeling. The ridership analysis for the TCAA/RNIS provided total ridership results for the rail alternatives, although ridership by station and ridership from station-to-station across the length of service was not determined. The STOPS ridership forecast will be developed to determine the ridership by station and from station to station to help refine station locations and connectivity needs to other modes for first and last mile connections to support the conceptual design and operating plans. Ridership forecasts using the STOPS model will ensure that RTC adheres to FTA requirements for demand modeling if the agency seeks federal funds as the STOPS ridership forecast is required for FTA and other federal grant programs. It is recommended that the Santa Cruz County Travel Demand Model used for the TCAA/RNIS be utilized in the STOPS modeling system.
- d. *Initial Conceptual Design.* Initial concepts of the station locations and configurations, siding locations, right-of-way needs, infrastructure needs including bridge structures, and maintenance facility location will be built into this design for both commuter rail and light rail. The station types will be evaluated to assess the roadway connections and feasibility to





provide parking and other first and last mile solutions to provide passenger rail users the ability to get to their origin and/or destinations. As siding locations are determined, detailed ground surveys and ROW delineations will be collected to refine the design. ROW acquisition may be required to meet the needs of new station locations, a maintenance facility, and siding locations. Any critical issues that are determined in this initial conceptual design will be evaluated in the Step 1.2.

- e. *Initial Operating Plan.* The Initial Operating Plan will include an analysis on the headways, schedules, span of service, vehicle type and integration with both the local METRO services and the regional rail service. This will involve identifying the performance characteristics of various vehicle types based on the development and analysis of an operating simulation of the passenger rail services represented on the SCBRL ROW that will identify what travel times are possible based on the existing alignment. This effort will be developed to quantify the types of constraints encountered and, at an early stage in the design process, be used to rule-out vehicle types and technologies that cannot provide a reasonable running time on the corridor. The Initial Operating Plan will identify the operating schedule and any time delays for trains in full operations, including times when trains meet and pass at siding locations. Any constraints to achieving a reasonable operating speed, typically related to curvature issues, will be identified with potential mitigations investigated. Mitigations could include curve realignments or increasing operating speed in other areas to compensate for the slower speed sections.
- f. *Cost Estimates.* While planning level costs were identified in the TCAA/RNIS and documented above in Section 4, capital and operations and maintenance costs will be updated each time the design is refined to a greater level. Cost estimates based on the initial conceptual design and operating plan will be determined including estimates for METRO connector services. The potential farebox recovery can also be determined based on STOPS ridership forecasts.

#### Component 1, Step 1.2 – Identify Critical Design Issues and Prepare Governance Strategy.

- a. *Identify Critical Design Issues.* The information prepared in Step 1.1 will be used to identify any critical design issues for implementing passenger rail on the SCBRL. The engineering alignment and profile (vertical alignment) of the track will identify the potential range of service running times and service frequencies and help identify which infrastructure investments will yield the most benefits to implementing electric passenger rail service on the ROW. The location of stations (where trains must slow to stop and accelerate) will typically affect the need to make infrastructure investments that will allow an increase in train speeds. Any design elements that are excessively expensive (e.g. specific bridge structures) or which offer insufficient flexibility to meet the RTC's implementation goals will be determined. The engineering design strategy will be refined to consider infrastructure issues that are identified in this step. This approach also will provide the RTC with a series of milestones in which decision makers will be able to review the information developed, understand the potential risks, and make informed decisions about project implementation.





- b. *Determine Governance Strategy.* This Step includes the development of a governance strategy that provides a recommendation to be approved by the RTC and its partners. The recommended governance model will include the requisite state (Caltrans), regional (TAMC, Others), and local (METRO, RTC) agency communication, coordination, and analysis required to create the most appropriate model for implementation of electric passenger rail. Preliminary information on governance models is discussed in Section 3.

**Component 1, Step 1.3 – Final Conceptual Design and Operating Plan.** Building on the initial conceptual design and plan developed in Step 1.1 and critical design issues identified in Step 1.2, the final conceptual design and operating plans for the electric passenger rail alternatives will be prepared. The elements of Step 1.1 will be revised in this step as needed based on the critical issues identified in Step 1.2. Rather than repeating all of the detail provided in Step 1.1, the steps are summarized in less detail below. This step will include the following:

- a. *Refine STOPS ridership projections.* As conceptual design and operations is refined, the STOPS ridership projections should also be refined as needed to assess impacts on ridership and potential station locations.
- b. *Final Conceptual Design.* Use the passenger rail operating plan from Step 1.1 and revise based on the Step 1.2 analysis of critical design issues and mitigation strategies including updating station locations and configurations, siding locations, infrastructure needs including bridges and roadway crossings, maintenance and operations facility location(s) and any project right-of-way requirements. Detailed information about the existing ROW conditions will be used to identify improvements for further design refinements for electric passenger rail.
- c. *Final Conceptual Operating Plan.* This step will be used to refine the operating plan in conjunction with the refinement of the conceptual design above including headways, schedules, vehicle type and integration with local METRO services and regional rail service. With sufficient design information for new infrastructure to be refined in this step, the required permits will also be determined.
- d. *Refine Cost Estimates.* Capital and operational and maintenance costs will be refined based on the Final Conceptual Design and Operating Plan.
- e. *Identify alternative to be carried forward into an environmental analysis.* There will be sufficient information in the Final Conceptual Design and Operating Plan to select alternatives to move forward into the environmental documentation process.

**Component 1, Step 1.4 – Environmental Review, Documentation, and 30% Preliminary Design.** In this last Step of Component 1, the information prepared in the previous Steps above will be used to prepare the full environmental review, documentation, and 30% preliminary design to meet federal and/or state requirements.

- a. *Prepare environmental document.* A CEQA Environmental Impact Report (EIR) and NEPA Environmental Impact Study will be required based on the intended reuse of the SCBRL ROW and the assumption that federal funds may be available for the project. Given the







nature of the project, it is assumed that a lesser level of documentation (e.g., Mitigated Negative Declaration or Environmental Assessment) will not be sufficient for this project, although this will need to be determined using the preliminary engineering and design work conducted in the previous steps.

- b. *30% Preliminary Design.* The final conceptual design, operating plan, and associated materials from Step 1.3 will be used as input to prepare the 30% preliminary design plans in support of the environmental documentation.
- c. *Define vehicle technology.* There will be a range of possible vehicle technologies available to the RTC and its partners, ranging from battery power, battery with wayside charging, to hydrogen fuel cell. Although several of these technologies are emerging and promising, not all have been proven in-service with this type of passenger rail system. The Governing body will be able to make a more informed decision of the project's defined vehicle as information on the emerging technologies become more available. While the vehicle technology will be evaluated in detail and initially selected in this step, the vehicle type selection and procurement will be finalized in the Component 2 Final Design (see below).
- d. *Determine project delivery approach.* There are a few different project delivery methods that can be used to contract construction services as discussed above. The actual method of project delivery for design and construction will be evaluated and selected as the project nears completion of the preliminary engineering and environmental documentation and more information on funding is available.
- e. *Determine potential for project phasing, including developing an initial operating segment (IOS), which may be required due to funding limitations.* If funding limitations may prevent the project from being completed in one operational segment between Pajaro and Santa Cruz, the governing body should identify operations segments that can be completed in phases. It is typical for a project of this magnitude to have an initial operating segment (IOS); however, any segment or phase must have independent utility and logical termini. An analysis of this type of potential phasing should be first considered during the environmental component.
- f. *Refine the Cost estimate* based on 30% design, including any right-of-way needs.
- g. *Refine STOP Ridership Projections* based on 30% design.

### **Component 2 – Final Design and Permitting**

Upon completion and clearance of the Component 1 Preliminary Engineering and Environmental Documentation and assuming this project will continue with the design-bid-build delivery method, the governing body will need to procure a consultant to prepare a final design of the selected alternative for construction. The 30% preliminary engineering design developed in Component 1 will be further refined and finalized to 100% plans, specifications, and estimates during this component of the work. Final design will include designing track reconstruction, and station and roadway crossing plans. The final operations plan including the fare policy, final service plan with schedule coordination and integration with local METRO and





regional services will also be completed. The final design will be sufficiently advanced that formal value engineering and construction cost risk analysis will be undertaken. During the Final Design component, a final decision on whether to construct the project in phases will be made given the likelihood of funding limitations to construct the entire project at one time. The vehicle selection process started in Component 1, Step 1.4 will be finalized. See Component 4 – Construction for additional information on how the project could be phased. Construction documents and final cost estimates, including the estimated cost of any potential right-of-way needs, will be completed in Final Design.

In traditional design-bid-build contracts, the design team coordinates obtaining regulatory permits as outlined below:

- a. *Develop a Regulatory Compliance Analysis.* This analysis will describe all permits that will be needed prior to construction. The purpose of this analysis will be to facilitate early coordination regarding the concepts and approaches to be considered by RTC. The analysis will include identifying permits and approvals required for implementing the project and developing a comprehensive and coordinated approach to obtaining the necessary permits and approvals to meet the project's schedule. Permits and approvals that may be needed for the project include the following federal, state, and local permits. The below list is not all-encompassing and will be refined and finalized during final design.
  - Federal
    - Federal Endangered Species Act - Section 7 Consultation with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service
    - U.S. Army Corps of Engineers – Section 404 of the Clean Water Act
    - State Historic Preservation Office and the Advisory Council on Historic Preservation - Section 106 compliance
  - State
    - California Regional Water Quality Control Board (Central Coast Region) – Section 401 Water Quality Certification
    - Section 402 National Pollutant Discharge Elimination System General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activity
    - California Endangered Species Act – Section 2081 Incidental take permit through California Department of Fish and Wildlife (CDFW)
    - CDFW Section 1602 and 1603 – Notification of streambed alterations and obtaining a streambed alteration agreement.
    - State Lands Commission – land use lease
  - Local
    - Monterey Bay Air Resources District – compliance with various regulations, including Federal Clean Air Act.





- Santa Cruz County and Cities of Santa Cruz, Watsonville, and Capitola– various ordinances and municipal codes

### ***Component 3 – Right-of-Way Acquisition***

If right-of-way needs are identified in final design, the governing body will need to procure a right-of-way consultant to perform right-of-way services as outlined below:

- a. *Identify ROW acquisitions for purchase.* As with the above permitting discussion, the potential ROW acquisition needs will be identified in Final Design, and if needed, will be acquired in this component of the work. Services will include performing appraisals and negotiating offers to purchase real property.
- b. *Utility Relocations.* Utilities impacted by the project will be investigated and arrangements will be made to relocate any utilities that conflict with the project.
- c. *Environmental Mitigation.* Any environmental impacts requiring off-site mitigation will be determined and off-site mitigation will be procured as part of the right-of-way component of the project.

### ***Component 4 – Construction***

Assuming the project continues with design-bid-build delivery method, the governing agency will procure construction and construction management contractor(s). The construction contract would be awarded to the lowest responsible bidder based on the plans, specifications and estimates prepared during the final design component of the project. There could be a separate procurements of contractors for reconstruction of the track infrastructure, station construction, bridge repair or replacement, and/or roadway crossing infrastructure replacement.

As mentioned under Final Design, the construction of the project will likely be phased given the amount of funds needed to construct the entire project. Rail projects of this size will often identify an initial operating segment (IOS). A logical IOS may be one that provides the greatest potential ridership, such as a segment between the Boardwalk/Downtown Santa Cruz Station and Aptos Station, and subsequent phases could connect the Aptos Station to the Pajaro Station and the Boardwalk/Downtown Santa Cruz Station to the Natural Bridges Station. Each phase would have to have independent utility and logical termini. A final decision for how the project will be phased will likely be determined during Final Design, based on the availability of funding.

### ***Component 5 – Vehicle Procurement***

Rail vehicle procurement is typically completed separate from the construction contract but in parallel with start of construction. Caltrans Division of Rail and Mass Transportation (DRMT) provides rail vehicle procurement support for local agencies. Coordination between the governing body and DRMT may be instrumental in streamlining this process. There could also





be an option in the future for the rail vehicles to be leased from Caltrans which would shift the cost from capital to operations & maintenance and could provide a cost savings.

### ***Component 6 – Testing, Commissioning, Operations and Maintenance***

A separate procurement will be needed for a consultant to performing testing and commissioning of the constructed railway and then operate and maintain the system. Testing and commissioning of the system requires a series of activities to meet regulatory requirements prior to opening of a rail service. Details of the requirements for testing and commissioning will be based on the type of service implemented. Types of testing and inspections will include rail car, crossing gate and train control system testing and various types of inspections.

Depending on the governance strategy, a vendor may be needed to operate and maintain the system. Operations includes the day to day operations of the transit system including operating the train control system and coordination with freight rail activities. Maintenance includes right of way maintenance, all required track maintenance and vehicle maintenance and repair.

Marketing of the passenger rail service would also be planned and begin prior to opening of service. Marketing strategies can target specific markets to develop ridership by raising awareness of destinations, transit connections, and amenities. Opportunities to develop ridership through seasonal campaigns can be planned as well as coordination with local partners on promotions, outreach, and shared marketing collateral.





**Table 5.1: Summary of Components of Passenger Rail Project Delivery**

|  |  |
|--|--|
| <b>Component 1 – Preliminary Engineering and Environmental Documentation</b>   |  |
| Step 1.1- Initial Conceptual Design and Operating Plan   |  |
| <ul style="list-style-type: none"> <li>Track alignment in CAD</li> <li>Track vertical and horizontal curvature determined</li> <li>STOPS ridership projections</li> <li>Initial Conceptual Design and Operating Plan                             <ul style="list-style-type: none"> <li>Initial Conceptual Design                                     <ul style="list-style-type: none"> <li>Station locations and configurations</li> <li>Siding locations</li> <li>Infrastructure needs (bridges, roadway crossings etc.)</li> <li>Maintenance facility location</li> </ul> </li> <li>Initial Conceptual Operating Plan                                     <ul style="list-style-type: none"> <li>Headways</li> <li>Schedules</li> <li>Stringline charts</li> <li>Span of service</li> <li>Vehicle type</li> <li>Integration with METRO services and regional rail service</li> </ul> </li> </ul> </li> <li>Refined Cost Estimates</li> </ul> |  |
| Step 1.2 - Identify Critical Design Issues and Determine Governance Strategy   |  |
| <ul style="list-style-type: none"> <li>Identify and assess critical design issues</li> <li>Determine governance strategy</li> </ul>  |  |
| Step 1.3 –Final Conceptual Design and Operating Plan   |  |
| <ul style="list-style-type: none"> <li>Refine STOPS Ridership Projections</li> <li>Final Conceptual Design                             <ul style="list-style-type: none"> <li>Station locations and configurations</li> <li>Siding locations</li> <li>Infrastructure Needs (bridges, roadway crossings etc.)</li> <li>Maintenance facility location</li> </ul> </li> <li>Final Conceptual Operating Plan                             <ul style="list-style-type: none"> <li>Headways</li> <li>Schedules</li> <li>Stringline charts</li> <li>Span of service</li> <li>Vehicle type</li> <li>Integration with METRO services and Regional Service</li> </ul> </li> <li>Refined Cost Estimates</li> </ul>   |  |
| Step 1.4 – Environmental Review, Documentation, and 30% Preliminary Design   |  |
| <b>Component 2 - Final Design and Permitting</b>   |  |
| <b>Component 3 - Right-of-Way Acquisition</b>  |  |
| <b>Component 4 - Construction</b>  |  |
| <b>Component 5 – Vehicle Procurement</b>   |  |
| <b>Component 6 – Testing, Commissioning, Operations and Maintenance</b>  |  |







## 6 - PROJECT FINANCING

In order to implement electric passenger rail on the Santa Cruz Branch Rail Line, numerous funding sources will be needed to move this project through the project delivery components of environmental review, design, construction and operation. Funding is expected to be available from local, state, and federal sources. This section summarizes the project cost; lists the existing funding programs that could be accessed, based on existing conditions; summarizes funding assumptions from each program; and discusses potential strategies for funding the remaining cost of the project.

As is typical for transportation projects, including this type of passenger rail project, the mix of potential sources and funding levels are expected to change over time. Funding sources will need to be re-evaluated regularly during the project's implementation to ensure that funding source options are well understood, as passenger rail development continues to evolve. This section presents the present day snapshot of available funding programs with a high likelihood that the mix and amount of accessible funding sources required to support the project will change over time.

### 6.1 PROJECT COSTS

Electric passenger rail is estimated to cost between \$465 million and \$478 million based on the cost estimates for CRT and LRT respectively developed in the TCAA/RNIS. Given the small difference between the two cost estimates for CRT and LRT, cost estimates used in the cash flow model for electric passenger rail will assume the higher cost of \$478 million. The total cost for the cash flow analysis is divided into the costs for each component below.

6. Components 1-3: Pre-Construction Costs, ~ \$51 million, including
  - a. Component 1: Preliminary Engineering & Environmental Documentation, ~\$17.1 million
    - i. Initial Conceptual Design and Operating Plan (\$2 million)
    - ii. Identification of Critical Design Issues and Preparation of Governance Strategy (\$600,000)
    - iii. Final Conceptual Design and Operating Plan, including cost estimation and STOP ridership projections (\$3.1 million)
    - iv. Preparation of Environmental Document for Review, 30% Design (\$11.4 million)
  - b. Component 2: Final Design and Permitting, ~ \$34 million
  - c. Component 3: Right-of-Way Acquisition if needed, no costs anticipated at this time
7. Component 4: Construction, ~ \$364 million including construction management (~28 million) and contingency costs of (~ \$131 million).
8. Component 5: Vehicle Procurement, ~ \$64 million





Operations and maintenance (O&M) activities are expected to cost \$25 million per year, based on the estimates developed during this TCAA/RNIS. Detailed cost estimates are presented in Section 4 of this report. Over time, design information will be developed for both alternatives to better inform these capital and O&M costs.

## 6.2 POTENTIAL FUNDING SOURCES

In the TCAA/RNIS, a variety of local, state and federal funding sources were identified that may be available to implement passenger rail. Some of these sources are competitively awarded, which means that there is no guarantee that these sources will be available to fund passenger rail on the SCBRL. The majority of the funding sources are focused on capital expenditures. A more limited number of funding sources are available for operations and maintenance (O&M). The information presented below describes the various potential funding sources and estimated amounts to support the capital and operations and maintenance costs of the project. A summary of this information is provided in Table 1 at the end of this section.

Additional federal, state, local, and/or private sources of funds will be needed to fund the shortfall from what is reasonably expected from existing fund sources. A discussion on these potential additional sources is also presented towards the end of this section.

### ***Potential Funding Sources for Capital***

#### **Federal Funding Sources**

The following are the existing federal grant programs and funding sources that could be utilized for passenger rail:

- Capital Investment Grant 5309 (CIG 5309) (Small Starts or New Starts)
- Better Utilizing Investments to Leverage Development (BUILD) Transportation Grants
- Surface Transportation Block Grant (STBG)/RSTPx
- Consolidated Rail Infrastructure and Safety Improvements (CRISI)
- Advanced Transportation and Congestion Management Technologies Deployment
- Railway Highway Crossing (Section 130)

#### **Capital Investment Grant (CIG) 5309<sup>1</sup> (Small Starts or New Starts)**

A significant amount of funding is available through this Federal Transit Administration (FTA) program, also known as the Small Starts or New Starts programs. Funding can be used for final design and construction. It is important to note, however, that it is a reimbursement program. In addition, it requires a local funding match that can come from a variety of different sources.

<sup>1</sup> [https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/5309\\_Capital\\_Investment\\_Grant\\_Fact\\_Sheet.pdf](https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/5309_Capital_Investment_Grant_Fact_Sheet.pdf)





If this funding is pursued by RTC, all non-CIG funds (the required local match) will need to meet FTA “Committed” requirements before the grant can be executed. In 2020 guidelines, “New Starts” projects are defined as projects with a total estimated capital cost of \$300 million or more, or as projects that are seeking at least \$100 million in Section 5309 CIG program funds. Fixing America’s Surface Transportation (FAST) Act limits the maximum Section 5309 CIG program share of a New Starts project to 60 percent. The maximum federal contribution from all federal sources to a New Starts project is 80 percent. It should be noted that the FAST Act will expire at the end of September 2021 and will be replaced with a new act that could change these limits.

FTA’s requirements include all legislative approvals and actions to be complete (i.e., the funds are available to be used on the project without any additional action from the Board, City Council, or County Commission). CIG grant agreements are not executed until after the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) environmental documentation are completed and enough preliminary engineering is completed (typically at least 30%) to provide a high level of confidence about the project’s cost estimate. Depending on the ultimate contract sponsor and governance strategy developed by RTC for passenger rail transit, the project sponsor will need to cover these costs until the grant is executed. This typically considers a two- to four-year window for preliminary to final engineering.

Once FTA approves a project into the Project Development Process, final design and construction activities are eligible expenses that can be reimbursed with 5309 funds. The agency will have to pay for these costs initially (using non-5309 funds), but the implementing agency could be reimbursed at the agreed upon 5309 share of total project costs, once the grant agreement is executed. The amount of funds from this source that is assumed in the cash flow model is \$100 million.

#### [Better Utilizing Investments to Leverage Development \(BUILD\) Transportation Grants](#)

The Better Utilizing Investments to Leverage Development (BUILD) transportation discretionary grant program supports investments in road, passenger and freight rail, transit, and port projects that are expected to achieve national objectives. Funding can only be used for construction. It is a highly competitive program and may or may be modified in 2021 to more closely resemble the program formerly referred to as TIGER. Previous rounds have required a minimum 20 percent non-federal funding match. The amount of funds from this source that is assumed in the cash flow model is \$15 million.







### Surface Transportation Block Grant (STBG)/RSTPx<sup>2</sup>

This funding program supports capital projects for a variety of modes, including transit. Funding can be used for pre-construction, construction, and vehicle procurement. The FAST Act directs the Federal Highway Administration (FHWA) to apportion funding as a lump sum for each State and then divide that total among apportioned programs, with each state's apportionment calculated based on a percentage specified in law. In turn, the state assigns a portion of the funds to regional transportation agencies such as the RTC. In California, smaller regions like RTC typically exchange the federal STBG for more flexible state Regional Surface Transportation Program Exchange (RSTPX) funds. For federal funds, an 11.47% non-federal match is required. RTC has provided STBG/RSTPx funds on a competitive basis as well as by formula to the local jurisdictions and other transportation providers in Santa Cruz County. The amount of funds assumed to be available for Passenger Rail through this program is 25% of the estimated total for Santa Cruz County which equates to \$9 million over a 25 year timeframe.

### Consolidated Rail Infrastructure and Safety Improvements (CRISI)<sup>3</sup>

The CRISI grant program provides funding for projects that improve the safety, efficiency, and reliability of passenger and freight rail, including projects that improve highway-rail grade crossings, upgrade short-line railroad infrastructure, improve intercity passenger rail capital assets, address rail congestion challenges, and deploy railroad safety technology. In addition to typical capital projects, CRISI funds can also be used to support pre-construction activities (such as designing, engineering, location surveying, mapping, acquiring rights-of-way) and related relocation costs, as well as environmental studies, and all work necessary for the Federal Railroad Administration (FRA) to approve the project under NEPA. There are no minimum or maximum awards, but applicants have been required to provide a 20% funding match in recent years. It is worth noting that FRA will provide selection preference to applications where the proposed federal share is 50 percent or less. There is a low likelihood that these funds would be available for implementation of a new transit project. The cash flow model currently assumes no funding from this program, but RTC will continue to monitor this program.

### Advanced Transportation and Congestion Management Technologies Deployment<sup>4</sup>

This program is a competitive grant program. Funds can be used to deploy advanced transportation and congestion management technologies, including:

- advanced traveler information systems and advanced transportation management technologies
- infrastructure maintenance, monitoring, and condition assessment
- public transportation systems with advanced technologies

<sup>2</sup> <https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>

<sup>3</sup> <https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/consolidated-rail-infrastructure-and-safety-2>

<sup>4</sup> <https://www.fhwa.dot.gov/fastact/factsheets/advtranscongmgmtfs.cfm>





- transportation system performance data collection, analysis, and dissemination systems
  - advanced safety systems, including vehicle-to-vehicle and vehicle-to-infrastructure communications
  - technologies associated with autonomous vehicles, and other collision avoidance technologies, including systems using cellular technology
  - integration of intelligent transportation systems with the Smart Grid and other energy distribution and charging systems
  - electronic pricing and payment systems
  - advanced mobility and access technologies, such as dynamic ridesharing and information systems to support human services for elderly and disabled individuals.
- [23.U.S.C. 503(c)(4)(E)]

The federal share can be no more than 50 percent. There is a low likelihood that these funds would be available for the implementation of a new transit project. The cash flow model currently assumes no funding from this program, but RTC will continue to monitor this program.

#### Railway Highway Crossing (Section 130)<sup>5</sup>

These funds support the elimination of hazards at railway-highway crossings. The funds are apportioned to the states by formula, and Section 130 projects are funded at a 90 percent federal share. In California the CPUC identifies and prioritizes project locations. Funds can only be used for construction component of project. There is a low likelihood that these funds would be available for the implementation of a new transit project. The cash flow model currently assumes no funding from this program, but RTC will continue to monitor this program.

#### **State Funding Sources**

In addition to the federal funding sources described above, state sources available for rail transit include:

- SB1 Solutions for Congested Corridors Program (SCCP)
- Transit and Intercity Rail Capital Program (TIRCP)
- SB1 Local Partnership Program (LPP) - Competitive
- SB1 Local Partnership Program (LPP) – RTC Formula
- SB1 State Rail Assistance (SRA)
- State Transportation Improvement Program (STIP)
- Affordable Housing and Sustainable Communities (AHSC)
- STEP – Implementation

<sup>5</sup> <https://safety.fhwa.dot.gov/hsip/xings/>; <https://dot.ca.gov/programs/rail-and-mass-transportation/railroad-highway-at-grade-crossings-section-130-guidelines>





### SB1 - Solutions for Congested Corridors Program (SCCP)<sup>6</sup>

The purpose of the SCCP grant program is to provide funding to achieve a balanced set of transportation, environmental, and community access improvements to reduce congestion throughout California. This SB1-funded statewide, competitive program makes \$250 million available annually for projects that implement specific transportation performance improvements and are part of a comprehensive corridor plan by providing more transportation choices while preserving the character of local communities and creating opportunities for neighborhood enhancement. Regional transportation planning agencies such as RTC and Caltrans are eligible to apply for program funds through the nomination of projects. In 2020, the California Transportation Commission (CTC) scored projects based on criteria that included safety, congestion, accessibility, economic, pollution benefits, as well as deliverability and matching fund levels. Funds from SCCP can only be used for construction and vehicle procurement unless project delivery is design-build and then they can be used for final design as well. The amount of funds from this source that is assumed in the cash flow model over 25 years is \$52 million.

### Transit and Intercity Rail Capital Program (TIRCP)

TIRCP funds transformative capital improvements that modernize California's intercity, commuter and urban rail, bus and ferry transit systems. The focus of the program is on projects that reduce greenhouse gases, expand and improve transit service and increase transit ridership, integrate the rail service of various operations, and improve transit safety, especially for those serving disadvantaged communities. Funding is available for the construction and vehicle procurement components of the project. The amount of funds from this source that is assumed in the cash flow model over 25 years is \$30 million.

### SB1 Local Partnership Program (LPP) - Formula and SB-1 Local Partnership Program - Competitive<sup>7</sup>

This program provides funding to counties, cities, districts, and regional transportation agencies in which voters have approved fees or taxes dedicated solely to transportation improvements or that have imposed fees, including uniform developer fees, dedicated solely to transportation improvements. Due to Measure D and METRO local sales taxes (approved by voters in 2016 and 1978 respectively), SCCRTC and METRO are eligible applicants. Funds for a new local tax would provide additional eligibility. In 2020, the Local Partnership Program funds were distributed through a 40 percent statewide competitive component and a 60 percent formulaic component. The California Transportation Commission (CTC) updates guidelines and selects projects for the competitive program. In 2020, projects funded from the Local Partnership program required at least a one-to-one match of non-LPP funds. Funds from LPP formula can be used for all components of the project. Funds from LPP competitive can be used only for

<sup>6</sup> <https://catc.ca.gov/programs/sb1/solutions-for-congested-corridors-program>

<sup>7</sup> <https://catc.ca.gov/programs/sb1/local-partnership-program>





construction and vehicle procurement unless project delivery is design-build and then they can be used for final design as well. The amount of funds from the competitive source that is assumed in the cash flow model over 25 years is \$25 million and 50% of the formula funds (RTC discretionary funding) at \$150,000/year once final design begins for a total of \$3 million.

#### SB1 State Rail Assistance (SRA)<sup>8</sup>

Provides operating and capital assistance for commuter and intercity rail agencies. Eligible activities cover a full range of transportation planning and mass transportation purposes, with the direction that rail agencies spend these funds in a cost-effective manner to provide operations and capital improvements for the benefit of the public. SB1 created the SRA by directing a portion of new revenue specifically to intercity rail and commuter rail.

- SB1 directs a 0.5 percent portion of new diesel sales tax revenue for allocation: half to the 5 commuter rail providers and half to intercity rail corridors
- Half of revenue was allocated in equal shares to commuter operators through FY 2019-2020, and will be allocated via guidelines thereafter
- Half of revenue is allocated to intercity rail corridors such that each of the existing three corridors receives at least 25 percent of the intercity rail share
- Funding is available for all components of the project from environmental review through operations and maintenance.
- The majority of program funding is directed by statutory formula to rail operators, with guidelines defining process and timeline for agencies to obtain funding.

The amount of funds assumed in the cash flow model over 25 years is \$17.1 million for Preliminary Engineering and Environmental Documentation based on conversations with Caltrans Division of Rail and Mass Transportation. Funds from SRA for operations and maintenance at \$500,000/year are also assumed in the cash flow model as discussed below under operations and maintenance funding sources.

#### State Transportation Improvement Program (STIP)

The STIP can be used to fund all components of a construction project. Funded primarily by state resources, including SB 1 gasoline tax revenues, the STIP consists of two broad programs, the Regional Improvement Program (RIP) funded from 75 percent of new STIP funding and the Interregional Transportation Improvement Program (ITIP) funded from 25 percent of new STIP funding. The RTC is responsible for selecting projects to receive Santa Cruz County's formula share of RIP funds every two years. The State selects projects to be funded from the ITIP every two years. The STIP is not considered a competitive grant funding program. The amount of funds assumed in the cash flow model over 25 years is \$10 million. The amount of funds assumed to be available for passenger rail through this program is 20-25% of the estimated

<sup>8</sup> <https://calsta.ca.gov/subject-areas/state-rail-assistance>





total for Santa Cruz County (RTC discretionary funds) which equates to \$10 million over a 25 year timeframe.

#### Trade Corridor Enhancement Program (TCEP)

The purpose of the Trade Corridor Enhancement Program is to provide funding for infrastructure improvements on federally designated Trade Corridors of National and Regional Significance, on California's portion of the National Highway Freight Network, as identified in California Freight Mobility Plan, and along other corridors that have a high volume of freight movement. The Trade Corridor Enhancement Program will also support the goals of the National Highway Freight Program, the California Freight Mobility Plan, and the guiding principles in the California Sustainable Freight Action Plan. This statewide, competitive program administered by the CTC provides approximately \$300 million per year in state funding and approximately \$515 million in National Highway Freight Program funds, if the federal program continues under the next federal transportation act. In 2020, the CTC required 30% in matching funds. Funds from TCEP can only be used for construction. There is a low likelihood of these funds being available for implementation of a commuter rail project. The cash flow model currently assumes no funding from this program, but RTC will continue to monitor the program.

#### Affordable Housing and Sustainable Communities (AHSC)

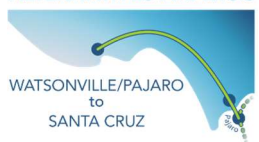
Administered by the Strategic Growth Council and implemented by the California Department of Housing and Community Development, the AHSC Program funds land-use, housing, transportation, and land preservation projects to support infill and compact development that reduce greenhouse gas ("GHG") emissions. It provides grants and/or loans to projects that achieve GHG emission reductions and benefit Disadvantaged Communities, Low-Income Communities, and Low-Income Households through increasing accessibility of affordable housing, employment centers and Key Destinations via low-carbon transportation resulting in fewer vehicle miles traveled (VMT) through shortened or reduced vehicle trip length or mode shift to transit, bicycling or walking. Three Project Area types have been identified to implement this strategy: 1) Transit Oriented Development (TOD) Project Areas, 2) Integrated Connectivity Project (ICP) Project Areas, or 3) Rural Innovation Project Areas (RIPA). In addition to affordable housing, eligible projects include sustainable transportation infrastructure, transportation-related amenities, as well as active transportation, transit ridership, and workforce development partnerships programs. Funding is available for the construction component of the project. The amount of funds from this source that is assumed in the cash flow model over 25 years is \$10 million.

#### Sustainable Transportation Equity Project (STEP) – Implementation

Provides funding to address transportation needs, increase access to key destinations, and reduce greenhouse gas emissions by funding planning, clean transportation, and supporting projects in cities and unincorporated areas. STEP's overarching purpose is to increase transportation equity in disadvantaged and low-income communities throughout California.







Funds are available for construction and vehicle procurement component of project. The amount of funds from this source that is assumed in the cash flow model over 25 years is \$7 million.

### ***Potential Funding sources for Operations & Maintenance (O&M)***

For operations and maintenance, the primary funding programs identified as available for O&M are:

- *Federal* – State of Good Repair Grants Program (49 U.S.C. 5337)
- *Federal* –Restoration and Enhancement Grants
- *State* - State Transit Assistance (STA) and State of Good Repair (SGR) - New Service/Revenue-based (99314)
- *State* – LPP - Formula
- *State*- State Rail Assistance (SRA)
- *Local* - Measure D: 2016 Transportation Sales Tax - Rail Corridor system preservation and analysis
- *Local* - Rail Line Lease, Concession Revenue and Advertising
- *Local* – Fare Revenues

### **FEDERAL**

#### **State of Good Repair Grants Program (49 U.S.C. 5337) <sup>9</sup>**

The State of Good Repair Grants Program (49 U.S.C. 5337) provides capital assistance for maintenance, replacement, and rehabilitation projects of high-intensity fixed guideway systems including track, signal systems, bridges, vehicles, and stations. Its goal is to help transit agencies maintain their assets in a state of good repair. Funds are apportioned by statutory formulas and the federal share of eligible capital costs is 80 percent, unless the grant recipient requests less than 80 percent. Funds from this source will be available for maintenance after service is operational for seven years at approximately \$2.25 million/year.

#### **Restoration and Enhancement Grants**

The Restoration and Enhancements Grants program funds operating assistance for initiating, restoring, or enhancing intercity passenger rail transportation. In recent years, there was no potential award minimum or maximum amount and applicants can apply for up to three years of operating funding assistance on a sliding matching scale. Applicants are required to provide a 20 percent funding match in the first year, 40 percent in the second year, and 60 percent in the third year. There is a low likelihood that these funds would be available for this project. The cash flow model currently assumes no funding from this program, but RTC will continue to monitor the program.

<sup>9</sup> <https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337>





## STATE

### STA and SGR - New Service/Revenue-based (99314)

This program has the specific goal of keeping transit systems in a state of good repair, providing regions and transit operators in California funding for eligible transit maintenance, rehabilitation, and capital projects. This can include the purchase of new transit vehicles and the maintenance and rehabilitation of both existing vehicles and transit facilities. These funds are distributed to eligible agencies using the State Transit Assistance Program formula. The State Controller's Office distributes half of the State of Good Repair funds by formula according to population (99313) and half of the State of Good Repair funds according to transit operator revenues relative to other operators in California (99314). This plan only assumes the new 99314 funds that would be allocated to a new rail transit operator in Santa Cruz County. The cash flow model assumes \$220,000/year from STA and \$36,000/year from SGR.

### SB1 Local Partnership Program (LPP) - Formula

As discussed above under the capital fund sources, this program provides formula funds to counties, cities, districts, and regional transportation agencies in which voters have approved fees or taxes dedicated solely to transportation improvements or that have imposed fees, including uniform developer fees, dedicated solely to transportation improvements. Funds from LPP formula can be used for all components of the project including operations and maintenance. The amount of funds from the formula source that is assumed in the cash flow model is 50% of the formula funds at \$150,000/year once final design begins for a total of \$3 million.

### SB1 State Rail Assistance (SRA)<sup>10</sup>

As discussed above under potential funds for capital expenses, SRA provides both operating and capital assistance for commuter and intercity rail agencies. Eligible activities cover a full range of transportation planning and mass transportation purposes, with the direction that rail agencies spend these funds in a cost-effective manner to provide operations and capital improvements for the benefit of the public. The cash flow model currently assumes \$0.5 million/year from SRA for operations and maintenance.

## LOCAL

### Measure D: 2016 Santa Cruz County Transportation Sales Tax<sup>11</sup>

In November 2016, Santa Cruz County voters passed Measure D, a one-half cent sales tax that funds transportation projects for a 30-year period. A portion (8%) of the Measure D funds is available for the rail corridor infrastructure preservation and analysis of options, including environmental review. These funds are not available for operations of a new passenger rail service. RTC estimates that this funding will be needed to preserve the rail line, while the rail

<sup>10</sup> <https://calsta.ca.gov/subject-areas/state-rail-assistance>

<sup>11</sup> [Measure D: www.sccrtc.org/move](http://www.sccrtc.org/move)





transit project is delivered. This expense is not included in the cost estimate for the TCAA, so this revenue is not applied against the project cost during project development. After the project is delivered, this revenue (approximately \$1.6 million/year) is applied against future rail preservation needs and is included in the cash flow model.

#### Rail Line Lease, Concession Revenue and Advertising

Revenue generated from leases of the rail property, as well as concessions and advertising are potential sources of funds for operations and maintenance. The amounts assumed (\$750,000/year) are based on revenues earned by other transit operators of similar systems.

#### Rail Operator Maintenance Responsibilities Based on Freight Operations

The RTC currently has an administration, coordination, and license agreement with a freight rail operator to conduct common carrier freight rail operations on the Santa Cruz Branch Rail Line. Based on the existing agreement, the operator is required to maintain the ROW for portions that have been repaired up to a Class 1 track classification. Given the challenges with developing freight operations outside of Watsonville, maintenance expenses on the corridor paid by the rail operator are assumed to be \$0 in the cash flow model.

#### Fare Revenue

Passenger fare revenue is also available to support O&M costs. Transit fares can be determined using a target farebox recovery rate, or ratio (percent of O&M cost covered by fare revenue) and/or using an achievable target "market" fare. The variation in recovery rates can be due to many factors, including but not limited to system size, system age, local labor costs, local transit mode share and ridership. Farebox recovery percentages are often low in the early years of a system's operation, particularly for new services. The vast majority of rail systems in the United States experience farebox recovery rates (FRR) of between 20 percent and 40 percent when mature. Ultimately, farebox recovery goals need to consider the impacts of higher fares on ridership and affordability especially for disadvantaged and underserved communities as well as the impact of lower fares on the need for a greater amount of local funds that would likely be needed.

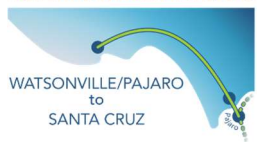
For the cash flow calculations, it is assumed that fares are an average of \$4.50 per rider, and ridership is based on consultant estimates of ridership in 2040 (7150 boardings/day weekdays and 2800 boardings/day on weekends). A growth rate of one percent per year is assumed for ridership beyond 2040. Similarly, a reduction in ridership of one percent per year is assumed for years prior to 2040.

### 6.3 OPTIONS TO ADDRESS ADDITIONAL FUNDING NEEDS

While the listing of funding options above is fairly extensive, given the current assumptions for the amount of funds from each of these federal, state or local sources, there is still a shortfall of funding to construct and operate this service. Additional funds will be needed from federal,







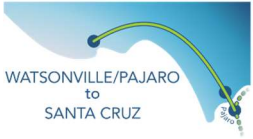
state, local, and/or private sources that are currently unidentified. Funds that could fill this gap include new federal and state programs that would fund transit projects or an increased amount of funds in existing programs. While difficult to predict the potential for future funding sources, funding for transit will likely increase in the future both on the federal and state levels. At the federal level, numerous policies and programs are under development with the new Biden-Harris administration. Legislation that embraces a climate resiliency approach to improving transportation infrastructure including alternative modes of transportation is being developed. This administration's Secretary of Transportation has an agenda that includes "investing in robust transit and transportation infrastructure" in both urban and rural communities. At the state level, Governor Newsom's recent Executive Order (EO N-79-20) directs state agencies to "Build towards an integrated, statewide rail and transit network, consistent with the California State Rail Plan, to provide seamless, affordable multimodal travel options for all."

An additional local source of funds is likely to be needed to match state and federal funds with local match requirements. Additionally, a local source will be needed to fund the remaining shortfall, particularly for operations and maintenance. A local source of funds could be a dedicated sales tax measure, which requires a 2/3 super majority of county voters similar to Measure D that was passed in November 2016 to fund various transportation projects. Other potential sources of local funds include funds from vehicle levy or registration fees, local fuel tax, property tax, income tax, transient occupancy tax, student fees, vehicle miles traveled charges, and parking fees.

The governing agency could also consider the possibility of seeking private financing for the work by forming a public private partnership (P3). As discussed in **Section 3. Governance** and **Section 5. Implementation**, P3 is a collaborative arrangement between a public agency and a private partner to deliver a public service or facility. The skills and assets of each sector are shared as are the potential risks and rewards. A P3 can take many forms and may involve the participation of the private partner in all or some of the components of a project. A P3 can allow a public agency to accelerate a project, improve performance and minimize costs by utilizing private sector expertise in building and operating a project. P3's are usually not formed until near the completion of the environmental document so the local governing body can maintain control over the project definition and can more effectively negotiate key aspects of the P3 relationship that are necessary to maintain public support, such as determining ticket prices and service patterns.

If the Commission is interested in a P3 relationship, RTC could issue a Request for Expressions of Interest to answer key questions about whether a P3 relationship and financing would be appropriate for Santa Cruz. If it is, RTC should complete preliminary engineering and be close to completing environmental review, in order to maintain the appropriate level of local control in defining the scope of the project.





The cash flow analysis shown in **Section 7. Funding Strategy - Cash Flow Model** presents one potential mix of sources, but it is quite likely that the mix will change as the project evolves. It is possible that more funding may be available through one funding program, and thus less funding will be needed from another funding program. For example, our cash flow analysis currently assumes that \$100 million will be available through Capital Investment Grant 5309 over the next 25 years. That represents less than 25 percent of the total capital costs of the project. Some agencies have received significantly more than that through this funding source. There may be an opportunity to seek as much as 60 percent of the total project cost through the 5309 funds, which would shift the mix of other sources that are needed. These and other funding programs will be identified as the project continues to evolve and will be considered in updates to the cash flow analysis.





**Table 6.1: Funding Programs & Amounts Assumed Accessible to Support Capital and Operations & Maintenance Costs over 25 Years**

| <b>CAPITAL FUNDS</b>   |                           |
|--|---------------------------|
|  | REVENUE<br>(Millions \$)  |
| <b>FEDERAL SOURCES</b>   |                           |
| Capital Investment Grant 5309  | \$ 100.00                 |
| Better Utilizing Investments to Leverage Development (BUILD) Grant     | \$ 15.00                  |
| Surface Transportation Block Grant (STBG)/RSTPX                        | \$ 13.00                  |
| Consolidated Rail Infrastructure and Safety Improvements (CRISI)       | \$ -                      |
| Advanced Transportation and Congestion Mgmt Technologies Deployment    | \$ -                      |
| Railway Highway Crossing (Section 130)                                 | \$ -                      |
| Restoration and Enhancement Grants                                     | \$ -                      |
| <b>STATE SOURCES</b>   | <b>\$ -</b>               |
| SB1 - Solutions for Congested Corridors Program (SCCP)                 | \$ 52.00                  |
| Transit and Intercity Rail Capital Program (TIRCP)                     | \$ 30.00                  |
| SB1 Local Partnership Program (LPP) - Competitive                      | \$ 25.00                  |
| SB1 Local Partnership Program (LPP) - Formula                          | \$ 1.35                   |
| SB1 State Rail Assistance (SRA)  | \$ 17.10                  |
| State Transportation Improvement Program (STIP)                        | \$ 10.00                  |
| Trade Corridor Enhancement Program (TCEP)                              | \$ -                      |
| Affordable Housing and Sustainable Communities                         | \$ 10.00                  |
| STEP - Implementation  | \$ 7.00                   |
| <b>TOTAL ASSUMED AVAILABLE - CAPITAL REVENUES</b>                      | <b>\$ 280.45</b>          |
| <b>TOTAL CAPITAL COSTS</b>   | <b>\$ 478.00</b>          |
| <b>OPERATIONS AND MAINTENANCE FUNDS</b>                                |                           |
|  | REVENUES<br>(Millions \$) |
| <b>FEDERAL SOURCES</b>   |                           |
| State of Good Repair Grants Program (49 U.S.C. 5337)                   | \$ 9.00                   |
| <b>STATE SOURCES</b>   |                           |
| State Rail Assistance (SRA) Intercity Rail/Commuter Rail-Formula       | \$ 5.50                   |
| SB1 Local Partnership Program (LPP) - Formula                          | \$ 1.65                   |
| STA- New Service/Revenue-based (99314)                                 | \$ 2.43                   |
| SGR- New Service/Revenue-based (99314)                                 | \$ 0.40                   |
| <b>LOCAL SOURCES</b>   |                           |
| Measure D: 2016 Sales Tax – Rail corridor system preservation/analysis | \$ 17.6                   |
| Rail Operator Maintenance Responsibilities based on Freight operations | \$ -                      |
| Rail Line Lease, Concession Revenue and Advertising                    | \$ 8.25                   |
| Passenger Fare Revenue   | \$ 105.51                 |
| <b>TOTAL OPERATIONS AND MAINTENANCE FUNDS</b>                          | <b>\$ 150.34</b>          |
| <b>TOTAL OPERATIONS AND MAINTENANCE COST</b>                           | <b>\$ 275.00</b>          |





## 7 - FUNDING STRATEGY – CASH FLOW MODEL

This section presents a cash flow model for implementing electric passenger rail on the Santa Cruz Branch Rail Line. A cash flow model is a detailed picture of the anticipated revenues and expenditures and can be used as a guide for determining the level of funding per year that is required to implement the project. The cost estimates used in the cash flow model for the various components of the project were presented earlier in Section 4 of this report. The revenues that are assumed available from various funding programs were presented in Section 6. The cash flow model will be maintained and updated regularly as the project develops. The discussion below emphasizes the expenses, assumed available revenue and unidentified revenue for the near-term components of the project. The cash flow presented below is based on 2020 dollars assuming that any escalation in expenses will be offset by growth in the revenues.

The cash flow model covers a 25-year time frame starting in Fiscal Year (FY) 21/22 and ending in FY 45/46. The cash flow model assumes that the first year (FY 21/22) would be used for seeking funding for the first component of the project. As presented in Table 1, Component 1 – Preliminary Engineering and Environmental Documentation is assumed to start in FY 22/23 and be completed in 4 years. Component 2 – Final Design and Permitting is assumed to start in FY 26/27 and be completed after 3 years. Component 4 - Construction is assumed to start in FY 29/30 and be completed after 6 years in FY 35/36.

**Table 7.1: Cash Flow Scheduling Assumptions**

| Project Schedule (to be refined)  | Start    | End      |
|---|----------|----------|
| Component 1, 1.1: Initial Conceptual Design and Operating Plan                    | FY 22/23 | FY 22/23 |
| Component 1, 1.2: Identify Critical Design Issues and Prepare Governance Strategy | FY 22/23 | FY 23/24 |
| Component 1, 1.3: Final Conceptual Design and Operating Plan                      | FY 23/24 | FY 23/24 |
| Component 1, 1.4: Environmental Documentation                                     | FY 24/25 | FY 25/26 |
| Component 2: Final Design & Permitting  | FY 26/27 | FY 28/29 |
| Component 3: Right-of-Way Acquisition (if needed)                                 | FY 28/29 | FY 28/29 |
| Component 4: Construction   | FY 29/30 | FY 34/35 |
| Component 5: Rail Vehicle Acquisition   | FY 31/32 | FY 34/35 |





Table 2 presents the details of the project expenses and assumed project revenues on a cash flow basis. From the revenue side, there are several different funding sources that may be available to support the project as discussed in Section 6. Many of the funding sources are available only for capital expenditures and most of those funds are only available for the construction and/or the vehicle procurement components of the project. A fewer number of funding sources are available for operations and maintenance. Many funding sources require matching funds typically between 10% and 20% although some funding programs do not require any match.

During the first four years of the project, starting in FY 22/23, all capital costs are focused on Component 1-Preliminary Engineering and Environmental Documentation, at an estimated cost of \$17.1 million. The roughly \$1.6 million/year generated by Measure D for the rail corridor has been used on various studies, including the Unified Corridor Investment Study (UCS) and the TCAA/RNIS. Funds have also been used to preserve the corridor which has included bridge inspections, a major bridge repair contract, and other infrastructure preservation activities. Measure D-Rail Corridor funds are needed to preserve this infrastructure which has many competing needs and limits the availability of funds for Preliminary Engineering and Environmental Documentation.

RTC is working with Caltrans Division of Rail and Mass Transportation (DRMT) on the possibility of fully funding the project's Preliminary Engineering and Environmental Documentation with a combination of state funding sources including the State Rail Assistance (SRA) program and/or Caltrans planning funding. These funds do not require matching funds. There may be other funding programs that could assist in funding environmental analysis. If one grant cannot be secured to fund the entirety of Component 1, the work could be funded and completed in sequence of iterative steps, as discussed in Section 6. The cash flow model assumes that Component 1 – Preliminary Engineering and Environmental Documentation is fully funded by the SRA program or similar funds available through California State Transportation Agency (CalSTA) and Caltrans.

After completing Component 1, the following 3 years are focused on Components 2 and 3 – Final Design, Permitting, and Right of way to get the project ready to construct. A total of \$34 million is estimated for this component, spread over 3 years. Capital Investment Grant (CIG) funding will be sought for these project components along with funds for construction. This federal grant program can provide up to 60% of project costs. The matching funds requirement for the design, permitting and right-of-way components total approximately \$13.5 million and could be acquired from a state source or a local source of funds. The cash flow model presents the federal Capital Investment Grant as the primary source of funds for Final Design/Permitting/Right-of-Way and the source of the matching funds as unidentified revenue of \$4.35 million/year for 3 years. The total pre-construction cost is estimated to be approximately \$51 million.





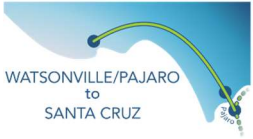


Construction is divided up over six years as shown in Table 2 with vehicle procurement occurring over the first four years of construction. The amount of construction funds needed for each year is currently divided up evenly, but this could vary as the project is developed. Construction costs are \$364 million (including construction management and contingency costs) spread out over these six years and \$64 million for vehicle procurement are spread out over the last 4 years of construction. Besides funds from the Capital Investment Grant program, funds would also be sought from both federal and state sources including the BUILD program, California state SB 1 Solutions for Congested Corridors and Local Partnership Program, as well as Transit and Intercity Rail Capital Program (TIRCP). Projects that are identified in the California State Rail Plan and that help to deliver regional and statewide rail network goals compete well for TIRCP funds. Electric passenger rail will help the state not only meet climate emission reduction goals but will also provide an equitable transportation option that serves the disadvantaged communities in Santa Cruz County – both of these benefits will rank this project high on the list for TIRCP funds.

Operations and maintenance funds are less available from federal and state sources and are expected to be funded primarily from local sources. Federal State of Good Repair funds are available as formula funds that can also be used for rehabilitation of rail infrastructure after 7 years of operations. There are three state sources of funds for O&M that are all formula funds, LPP formula (RTC discretionary funds), STA funds, and SGR funds. The local sources of funds that are assumed available for operations and maintenance are Measure D rail corridor preservation funds, rail line lease, concession and advertising income and passenger fare revenue.

The revenue and expense table provides an estimate of the unidentified funds that are still needed beyond the assumed available funds from existing funding programs or sources. Roughly half of the construction funds and half of the O&M funds are currently unidentified. Funds that could fill this gap include new federal and state programs that would fund transit projects or an increased amount of funds in existing programs. While difficult to predict the potential for future funding sources, funding for transit will likely increase in the future both on the federal and state levels. At the federal level, numerous policies and programs are under development with the new Biden-Harris administration. Legislation that embraces a climate resiliency approach to improving transportation infrastructure including alternative modes of transportation is being developed. This administration's Secretary of Transportation has an agenda that includes "investing in robust transit and transportation infrastructure" in both urban and rural communities. At the state level, Governor Newsom's recent Executive Order (EO N-79-20) directs state agencies to "Build towards an integrated, statewide rail and transit network, consistent with the California State Rail Plan, to provide seamless, affordable multimodal travel options for all." An additional local source of funds is likely to be needed to fund a shortfall from what is reasonably expected from existing fund sources, particularly for





operations and maintenance. A local source of funds could be a dedicated sales tax measure, which requires a 2/3 super majority of county voters similar to Measure D that was passed in November 2016 to fund various transportation projects. Other potential sources of local funds include funds from vehicle levy or registration fees, local fuel tax, property tax, income tax, transient occupancy tax, student fees, vehicle miles traveled charges, and parking fees.



**Table 7.2: Electric Passenger Rail Transit Cash Flow of Estimated Revenues and Expenses (\$Millions 2020)**

| REVENUES   | CAPITAL                  |          |          |          |          |          |          |          |          |          |          |          |          |          |          | OPERATIONS & MAINTENANCE |          |          |          |          |          |          |          |          |          |          |
|--|--------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|  | FISCAL YEAR              | FY 21/22 | FY 22/23 | FY 23/24 | FY 24/25 | FY 25/26 | FY 26/27 | FY 27/28 | FY 28/29 | FY 29/30 | FY 30/31 | FY 31/32 | FY 32/33 | FY 33/34 | FY 34/35 | FY 35/36                 | FY 36/37 | FY 37/38 | FY 38/39 | FY 39/40 | FY 40/41 | FY 41/42 | FY 42/43 | FY 43/44 | FY 44/45 | FY 45/46 |
| FEDERAL  | REVENUE<br>(Millions \$) |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                          |          |          |          |          |          |          |          |          |          |          |
| Capital Investment Grant 5309  | \$ 100.00                | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 6.76  | \$ 6.76  | \$ 6.76  | \$ 13.29 | \$ 13.29 | \$ 13.29 | \$ 13.29 | \$ 13.29 | \$ 13.29 | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Better Utilizing Investments to Leverage Development (BUILD) Grant     | \$ 15.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 2.50  | \$ 2.50  | \$ 2.50  | \$ 2.50  | \$ 2.50  | \$ 2.50  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Surface Transportation Block Grant (STBG)/RSTPX                        | \$ 13.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 2.17  | \$ 2.17  | \$ 2.17  | \$ 2.17  | \$ 2.17  | \$ 2.17  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| State of Good Repair Grants Program (49 U.S.C. 5337)                   | \$ 9.00                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 2.25  | \$ 2.25  | \$ 2.25  | \$ 2.25  |
| STATE SOURCES  |                          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                          |          |          |          |          |          |          |          |          |          |          |
| SB1 - Solutions for Congested Corridors Program (SCCP)                 | \$ 52.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 8.67  | \$ 8.67  | \$ 8.67  | \$ 8.67  | \$ 8.67  | \$ 8.67  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Transit and Intercity Rail Capital Program (TIRCP)                     | \$ 30.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 5.00  | \$ 5.00  | \$ 5.00  | \$ 5.00  | \$ 5.00  | \$ 5.00  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| SB1 Local Partnership Program (LPP) - Competitive                      | \$ 25.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 4.17  | \$ 4.17  | \$ 4.17  | \$ 4.17  | \$ 4.17  | \$ 4.17  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| SB1 Local Partnership Program (LPP) - Formula                          | \$ 3.00                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15                  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  | \$ 0.15  |
| SB1 State Rail Assistance (SRA)  | \$ 17.10                 | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| State Rail Assistance (SRA) Intercity Rail/Commuter Rail-Formula       | \$ 5.50                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 0.50                  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  | \$ 0.50  |
| State Transportation Improvement Program (STIP)                        | \$ 10.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Affordable Housing and Sustainable Communities                         | \$ 10.00                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ 1.67  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| STEP - Implementation  | \$ 7.00                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 1.17  | \$ 1.17  | \$ 1.17  | \$ 1.17  | \$ 1.17  | \$ 1.17  | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| STA- New Service/Revenue-based (99314)                                 | \$ 2.43                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 0.22                  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  | \$ 0.22  |
| SGR- New Service/Revenue-based (99314)                                 | \$ 0.40                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 0.04                  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  | \$ 0.04  |
| LOCAL SOURCES  |                          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |                          |          |          |          |          |          |          |          |          |          |          |
| Measure D: 2016 Sales Tax – Rail corridor system preservation/analysis | \$ 17.60                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 1.60                  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  | \$ 1.60  |
| Rail Line Lease, Concession Revenue and Advertising                    | \$ 8.25                  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 0.75                  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  | \$ 0.75  |
| Passenger Fare Revenue   | \$ 105.51                | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 9.12                  | \$ 9.21  | \$ 9.30  | \$ 9.40  | \$ 9.49  | \$ 9.59  | \$ 9.68  | \$ 9.78  | \$ 9.88  | \$ 9.98  | \$ 10.08 |
| TOTAL ASSUMED AVAILABLE - CAPITAL REVENUES                             | \$ 280.45                | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ 6.91  | \$ 6.91  | \$ 6.91  | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 |                          |          |          |          |          |          |          |          |          |          |          |
| TOTAL ASSUMED AVAILABLE - OPERATIONS AND MAINTENANCE REVENUE           | \$ 150.34                |          |          |          |          |          |          |          |          |          |          |          |          |          |          | \$ 12.38                 | \$ 12.47 | \$ 12.56 | \$ 12.65 | \$ 12.75 | \$ 12.84 | \$ 12.94 | \$ 15.29 | \$ 15.39 | \$ 15.48 | \$ 15.58 |
| TOTAL ASSUMED AVAILABLE REVENUE  | \$ 430.78                | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ 6.91  | \$ 6.91  | \$ 6.91  | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 40.44 | \$ 12.38                 | \$ 12.47 | \$ 12.56 | \$ 12.65 | \$ 12.75 | \$ 12.84 | \$ 12.94 | \$ 15.29 | \$ 15.39 | \$ 15.48 | \$ 15.58 |
| UNIDENTIFIED REVENUE   | \$ 322.12                | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 4.35  | \$ 4.35  | \$ 4.35  | \$ 15.48 | \$ 15.48 | \$ 38.36 | \$ 38.36 | \$ 38.36 | \$ 38.36 | \$ 12.62                 | \$ 12.53 | \$ 12.44 | \$ 12.35 | \$ 12.25 | \$ 12.16 | \$ 12.06 | \$ 9.71  | \$ 9.61  | \$ 9.52  | \$ 9.42  |
| TOTAL REVENUE  | \$ 752.90                | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ 11.26 | \$ 11.26 | \$ 11.26 | \$ 55.91 | \$ 55.91 | \$ 78.80 | \$ 78.80 | \$ 78.80 | \$ 78.80 | \$ 25.00                 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 |
| EXPENSES   | CAPITAL                  |          |          |          |          |          |          |          |          |          |          |          |          |          |          | OPERATIONS & MAINTENANCE |          |          |          |          |          |          |          |          |          |          |
| Component 1 Preliminary Engineering & Environmental Documentation      | \$ 17.10                 | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Component 2 Final Design & Permitting                                  | \$ 33.78                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 11.26 | \$ 11.26 | \$ 11.26 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Component 3 Right-of-Way Acquisition (if needed)                       | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Component 4 Construction + Contingency                                 | \$ 363.52                | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 55.91 | \$ 55.91 | \$ 62.92 | \$ 62.92 | \$ 62.92 | \$ 62.92 | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Component 5 Vehicle Procurement (6 trainsets with 3 cars each)         | \$ 63.50                 | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 15.88 | \$ 15.88 | \$ 15.88 | \$ 15.88 | \$ -                     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     |
| Component 6 Testing, Commissioning, Operations and Maintenance         | \$ 275.00                | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ -     | \$ 25.00                 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 |
| TOTAL EXPENSES   | \$ 752.90                | \$ -     | \$ 2.28  | \$ 3.42  | \$ 5.70  | \$ 5.70  | \$ 11.26 | \$ 11.26 | \$ 11.26 | \$ 55.91 | \$ 55.91 | \$ 78.80 | \$ 78.80 | \$ 78.80 | \$ 78.80 | \$ 25.00                 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 | \$ 25.00 |



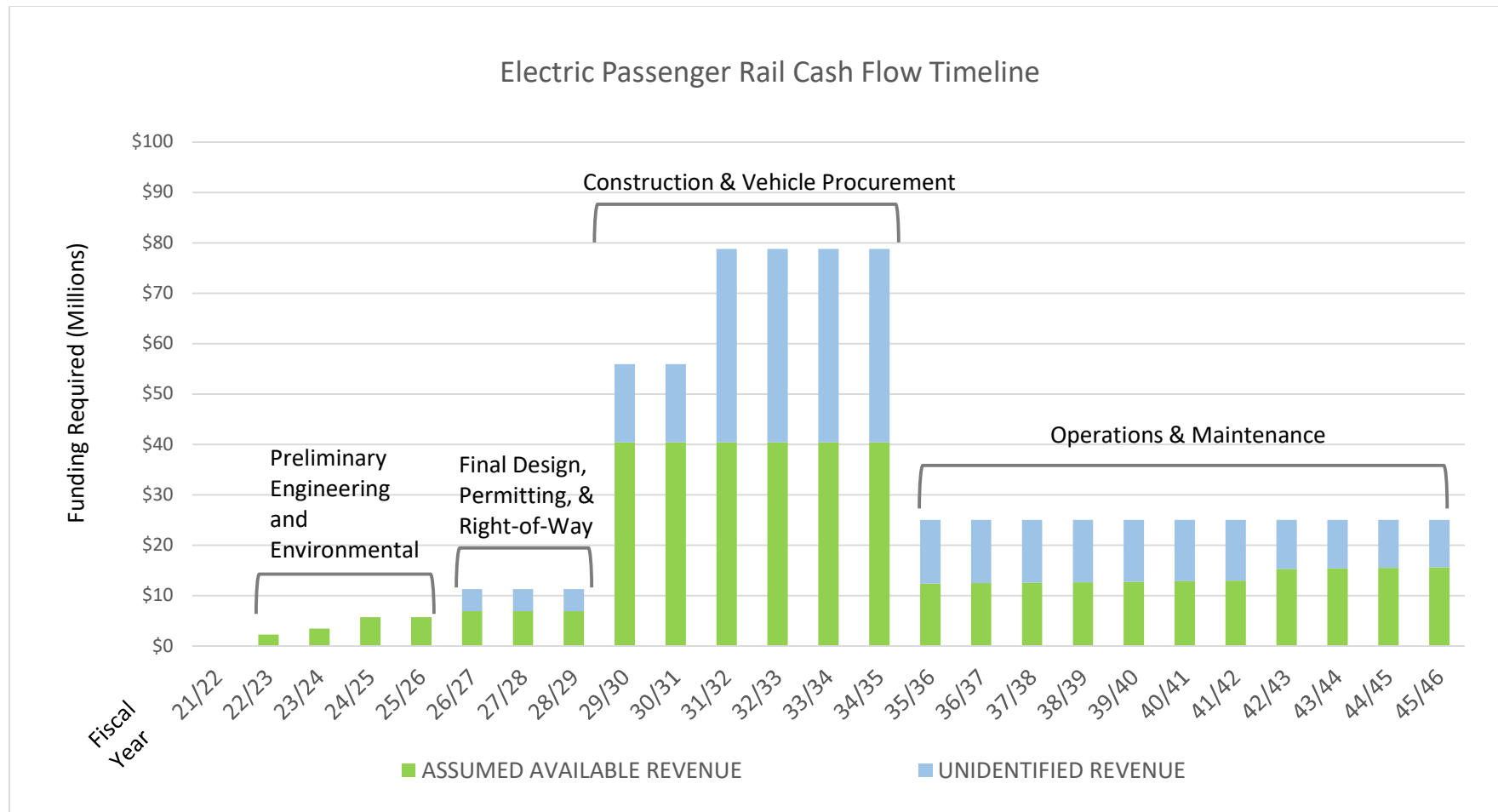


**Figure 7.1** presents a graph of the annual expenses needed over time as well the assumed available revenues and the amount of unidentified revenues needed to complete the project. The timeline for the various components of the project are presented with preliminary engineering and environmental documentation during FY 22/23 through FY 25/26, final design/permitting/right-of-way during FY 26/27 through FY 28/29 and construction and vehicle procurement during FY 29/30 through FY 34/35.

The most significant financial resources will be needed for the construction component from but there are also a great number of potential revenue sources that could be obtained to fund construction. Once the project is constructed, the funds needed will decrease substantially to the annual operations and maintenance expenses.



**Figure 7.1: Anticipated Revenues and Expenses – Annual Increments Over 25 Years**





## 8 - RISK IDENTIFICATION AND MITIGATION

Risk is inherent to any large-scale capital project. Actively managing risk is critical to objectively frame and guide decision making and to achieve the project's strategic objectives. The process of identifying risk is iterative, as is developing adequate risk mitigation strategies and management actions. A summary of the initial risks and mitigations identified to implement electric passenger rail on the SCBRL ROW are summarized below:

### 8.1 FUNDING

The availability of sufficient funds presents one of the key challenges to the delivery of the Santa Cruz Branch Rail Line (SCBRL) electric passenger rail program. As described in detail in **Section 6: Project Financing**, access to an ongoing, stable funding stream affects the ability to complete and operate the system. An unstable funding stream can impact the cost of the program, including via inflationary escalation, until sufficient funding has been identified for construction, as well as for operations and maintenance.

The early stages of project approval create the initial challenge of delivering an environmental document without a stable and dedicated funding source. Measure D, passed by the voters of Santa Cruz County in 2016 with more than 2/3 of the vote, is a multi-modal transportation program with a Rail Corridor category receiving 8 percent of the revenue. The Rail Corridor category provides funding for infrastructure preservation and analysis of transit options on the SCBRL. The Measure revenues do not include funding for any new train/rail service, but the funding can be used on environmental analysis.

The roughly \$1.6 million generated annually by Measure D for the rail corridor has been used on various studies, including the Unified Corridor Investment Study (UCS) and the Transit Corridor Alternatives Analysis and Rail Network Integration Study (TCAA/RNIS). Funds have also been used to fund efforts to preserve the corridor, which have included bridge inspections, a major bridge repair contract, and other infrastructure preservation activities. Measure D Rail Corridor funds are needed to continue the work to preserve this infrastructure, which limits availability to fund an Environmental Impact Report (EIR), estimated at \$17.1 million. Therefore, RTC will seek a different funding source to fully fund preliminary engineering and environmental analysis.

Meeting the 2/3 voter threshold for approval of a new dedicated local tax for a project of this magnitude prior to completion of an EIR could be difficult. Work to complete an EIR will include developing plans to 30% completion, provide for more accurate cost estimates, and provide





final analysis of project impacts. This level of detail is generally needed to produce enough understanding necessary for voters to feel properly informed when considering approval of a tax measure. Therefore, RTC will seek state or federal fund sources to prepare an EIR.

There are limited State and Federal funding programs that permits funds to be used on pre-construction activities such as an EIR. Additionally, most funding programs have local match requirements, which has made it historically challenging to identify funding programs to fully fund an EIR. RTC's other discretionary state and federal funding programs, such as the TDA, STIP, LPP formula, and STBG/RSTPX programs are currently committed to Santa Cruz METRO, the Highway 1 program, and local streets and road maintenance. RTC is working with Caltrans on the possibility of fully funding the project's EIR with a combination of state funding sources including the State Rail Assistance (SRA) program, which does permit funds to be used to fully fund an EIR. There may be other future funding programs that could assist in funding an EIR, if the SRA grant is not secured. Fully funding an EIR with grant funds would allow the governing agency to defer the need for a local dedicated funding source for several years, while preliminary engineering and environmental analysis work is completed to more fully define the project.

Funding could remain the biggest risk for the electric passenger rail project, even if an EIR can be funded without a new revenue source. A new dedicated local funding source will be needed for local match requirements for most federal and state grant funding programs and to close the anticipated gap in funding. However, the trend towards more sustainable transportation funding programs provides considerable optimism that more state and federal funds could be made available to fund both capital and O&M activities. Securing grant funding and completing funding plans early is critical to avoid delays to the anticipated schedule. RTC will need to consider strategic planning decisions, such as building the project in stages. Identifying a potential initial operating segment (IOS), is a means of mitigating the risk that enough grant funding may not be available to fund the construction of the full project in one segment.

## **8.2 COMPATIBILITY WITH FREIGHT RAIL, RECREATIONAL RAIL AND TRAIL ON THE SCBRL ROW**

The SCBRL is part of the national freight network, with a private operator owning the freight easement with common-carrier freight obligations. RTC has an administrative, coordination and license (ACL) agreement with the operator to provide freight and recreational rail service. The ACL provides RTC's use of the property to construct public projects of any kind (including but not limited to a trail or rail transit) provided that RTC does not interfere with the rail operator's rights and operations under the ACL or their rights and obligations under federal law or under the freight easement. These limitations create risks for the construction and operations of both the rail transit and trail projects on SCBRL segments where freight traffic exists.





There has been strong community support for an active transportation facility (bicycles and pedestrians) on the SCBRL. In 2013, RTC completed the Monterey Bay Sanctuary Scenic Trail (MBSST) Master Plan and associated programmatic EIR, with the SCBRL serving as its spine. RTC and its local agency partners are developing the spine, or primary alignment, of the MBSST Network as a parallel facility to the existing 20-foot freight rail easement, within the rail right-of-way, to the extent possible.

Coordination of these four uses (freight rail, recreational rail, rail transit, and trail) is necessary to avoid the risk of increased cost and delay to the rail transit project. Maintaining freight and recreational rail service on applicable segments during rehabilitation of the rail infrastructure for the purpose of rail transit could add significant scope, cost and delay to the rail and trail projects.

The SCBRL right-of-way width varies considerably along the 32-mile long branch line. Significant portions of the SCBRL abut private residences and/or are located on or adjacent to challenging geography and land conditions. The location of the existing track is generally close to the center of the right-of-way, which does not always allow for the maximize use of the corridor's limited width. If sufficient width is not available or geographical conditions create the need for unaffordable infrastructure or other undesirable impacts, the trail could need to detour off the SCBRL right-of-way.

RTC and its partners have started preliminary engineering and environmental review on significant portions of the rail trail, as stand-alone projects, where the trail will be located on either side of the existing rail tracks as to not materially interfere with the freight operator's rights and obligations. Significant investment in retaining walls, bridges, drainage structures, vegetation removal and other aspects of trail construction could occur prior to the determination of the optimal horizontal and vertical alignment of track for the electric passenger rail transit project. Additionally, rail transit features, such as stations and passing sidings, may also detour the trail off the SCBRL, due to insufficient right-of-way width. Failure to coordinate all uses of the right-of-way could lead to additional cost for re-work or building around one use to accommodate another use.

To mitigate this risk, RTC will need to work closely with the freight and recreational rail operator to seek opportunities to design, construct and operate the new rail transit system in a manner that does not materially interfere with the service rights granted by the ACL and the freight obligation regulated by the STB. These measures may add time and cost to the project for additional track and infrastructure needed to accommodate the multiple rail services. RTC should also consider advancing and coordinating preliminary engineering of the rail transit project with the trail project in a manner that could allow adjusting the track location to





optimize use of the corridor, such that major infrastructure is minimized, use of the corridor is maximized, and detours of the trail off the SCBRL right-of-way are minimized.

### 8.3 STAKEHOLDER SUPPORT

There is much support for electric passenger rail in the Santa Cruz County community, but there is also some opposition. Public and/or private opposition to development of passenger rail service on the SCBRL ROW and related facilities required for implementation could have impacts related to communications, scoping, scheduling, and budgeting.

It is imperative that RTC continue to work diligently with the communities and stakeholders along the alignment and countywide to ensure a transparent public process. Maintaining strong public support at all levels through education and outreach is vital to the rail system's success. Clearly articulating the plan for the project as well as the benefits, costs, and impacts, will be vital for maintaining support for the project. Design or other project modifications can be communicated through regular contact with regional partners, stakeholders, and the community.

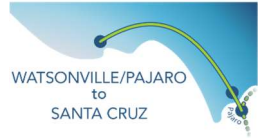
At the state level, ongoing communication with Caltrans Division of Rail and Mass Transportation and other state agencies ensures that current and factual information is shared. At the county and neighborhood levels, outreach activities could include, webinars, open houses, regular community meetings, community and technical working groups, community and stakeholder outreach specific to each project section, internal and external fact sheets and other information tailored to specific issues areas, digital engagement across social media platforms including video, animations, graphics, and regular one-on-one connections. Regular stakeholder and/or public meetings facilitate communication and build relationships between RTC and public participants and ensure that system designs and plans address community issues and concerns. Considering stakeholder and public input throughout the process and endeavoring to reach community consensus will minimize impacts to the project.

### 8.4 ORGANIZATIONAL DEVELOPMENT

Addressing the organizational framework of the RTC and any future agency tasked with delivering and/or operating a major rail transit project is necessary to effectively meet the goals of the project. RTC will be actively using an organizational expert to assess itself. RTC will implement recommendations, as needed, to ensure it has the organizational capacity and expertise needed to provide management and oversight of upcoming strategic planning and project delivery functions associated with the rail transit project, as well as its other on-going responsibilities. Broad areas assessed for development include strategic planning, engineering, project delivery management, contract management, construction management, and project controls.







## 8.5 PROGRAM AND PROJECT DELIVERY RISK

The TCAA/RNIS and the 2015 Rail Transit Feasibility Study have helped define a rail transit project that will advance through environmental review, design, and construction. More advanced scoping and engineering will lead to a more refined project definition, which may result in changes to previous assumptions about the project. Changes in a defined project scope will usually result in impacts to the project cost and schedule, so effective project delivery methods are critical in managing this risk. There are unique risks associated with each specific components of project delivery.

### ***Engineering and Design***

It is critical to complete an adequate level of preliminary engineering to create a stable project definition identifying the track alignment, bridge and other structure work, drainage improvements, and the locations and extent of stations, passing sidings and a maintenance and operations facility. Using the existing infrastructure to the greatest extent possible will help control the initial capital cost of the project, however overly relying on infrastructure re-use may lead to greater O&M costs or result in unreliable service.

The existing track infrastructure was constructed and maintained to serve freight rail with occasional recreational use by slow-moving trains. To serve the needs of a modern transit system, there could need to be improvements made to the horizontal and vertical alignment of the track. If existing rail bridges are retained, the track alignment at bridge locations will need to be considered. However, replacing some bridges on a modified alignment allows for potential adjustments in the overall track alignment as part of an overall strategy to maximize the efficient use and compatibility of the corridor with its various planned uses (See section 8.2 above).

Within the limits of the proposed transit project, the SCBRL has 24 railroad bridges. Many of these bridges are near the end of their useful service life. RTC is currently working to identify bridge rehabilitation needs, so that freight and recreational traffic can resume on the line. RTC will need to conduct additional inspection, loading assessments, and perform a life-span analysis of existing bridges to help guide early decisions on the final bridge replacement and retrofit work to include in the project's scope. RTC will need to develop and implement a clear process for making decisions on restoring or replacing certain critical infrastructure. This process will need to include careful consideration of potential environmental, community, cost, performance, and schedule impacts.

Throughout design, RTC will perform value engineering to identify ways to mitigate the cost risk associated with the design of the project. Design teams will seek innovative ways to produce a design that delivers the maximum value, without reducing the project's functionality.





### ***Environmental Analysis***

The environmental review process is the main opportunity for the public and government stakeholders to understand and comment on the proposed project, including the potential impacts associated with construction and operations. It is important for RTC to engage all stakeholders early, so that the preliminary engineering can be done in a way that avoids significant impacts, where possible, and adequately identifies mitigation measures that may be required to offset unavoidable impacts. RTC will need to work with a large number of cooperating and responsible federal, state, and local agencies to address concerns potential impacts and mitigation. These include agencies such as the Surface Transportation Board, the U.S. Army Corp of Engineers, the U.S. Fish and Wildlife Service, the Federal Railroad Administration, the Federal Transit Administration, the California Department of Fish and Wildlife, the State Lands Commission, the State Water Resources Control Board, the California Coastal Commission, the California Public Utilities Commission, and the Santa Cruz County Department of Environmental Health. Often, the interests of different agencies are competing, so it is advisable to concurrently engage with all agencies to fully understand, identify and quantify impacts and associated mitigation that may be required.

### ***Right of Way***

Although the main alignment of the track is expected to fit within the existing SCBRL right-of-way, there are features of the rail transit project, such as passing sidings, stations, and a maintenance and operations facility, that may require RTC to acquire additional right-of-way. Additional right-of-way needs can be costly and/or controversial and require time to acquire. Initial right-of-way needs will be identified during preliminary engineering, but it is advisable to advance design to at least 60% complete, before beginning the costly process of appraising and making offers on properties, including easements determined necessary for construction and drainage.

Coordinating the disposition of utilities that may conflict with the construction of the rail transit project is considered part of the right of way component of project delivery and should be started early to prevent unnecessary delays to project construction. Determination of easement rights is critical in understanding financial liability for potential utility relocations. RTC will conduct an extensive review and search for all third-party utilities and verify records by performing field surveys. RTC will work with third-party utility owners to relocate all utilities, prior to the start of construction, wherever possible. RTC will include specifications and allowances for remaining utilities as part of the construction contract, in order to avoid delay claims. Strong relationships and frequent communication are needed to avoid potential delays by utility companies.

Depending on the project impacts and required mitigation, the project may need to acquire off-site environmental mitigation. Early work will be done to identify any anticipated off-site







environmental needs and potential sites. It can be difficult to find locations that are acceptable to regulatory agencies. A pro-active approach to identifying, negotiating, and acquiring all off-site mitigation, before the start of construction, will minimize the cost to the project.

### **Construction**

There are inherent risks associated with the construction component of any project. Delays and unanticipated work during the construction phase can lead to increased cost. Construction reviews will be done throughout the design component of the work to identify construction needs, such as access to work locations and identification of staging areas. RTC will coordinate any proposed mitigation measures, including seasonal work windows, with construction experts to understand and mitigate the impacts. Construction review of the contract specifications with respect to permit requirements is critical in ensuring that the construction contractor can properly bid the work.

There are several project delivery methods that the governing body can seek, in order to transfer certain risk to the contractor. Although the business plan is built on an initial assumption of design-bid-build, in order to maximize local control, other delivery methods such as design-build and construction management general contractor (CMGC) are often effective in managing and controlling the risk of expensive claims during the construction component of the work.

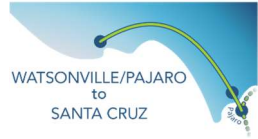
### **8.6 RIDERSHIP REVENUE**

Inaccurate ridership forecasts could affect funding assumptions, increasing the reliance on public funding and potentially damaging stakeholder support. Travel demand modelling must incorporate the latest developments in ridership estimating and assessing travel network forecasts. Systematic updates to the Santa Cruz County travel model will allow ridership estimates to be reevaluated periodically. RTC will consider ridership during the design of the station locations and service plans to help mitigate this risk. A strong communications and marketing plan will be employed as the project nears completion and enters operations to help encourage ridership.

### **8.7 FUTURE RISKS REGARDING NEW TECHNOLOGY**

New information and new technology are continually being developed as it relates to the design of track, equipment, and systems for rail transit operations. Potential risk that electric commuter rail equipment appropriate for the SCBRL will not be available to meet the implementation schedule may have specific scheduling and budgeting impacts. The potential mitigation measures will include conducting proactive coordination with equipment manufacturers during contracting and project development to identify and mitigate any potential delays in production, testing, and delivery. Potential opportunities will include lease of





available equipment for use on an interim basis and/or working with Caltrans to procure rolling stock through their rolling stock procurement branch.

### 8.8 LITIGATION RISKS

Given the magnitude of the project and the broad base of stakeholders, litigation on the project may arise in the future. These include potential litigation related to project funding, environmental clearances, potential property acquisition, and contract disputes. As the program advances, working closely with affected stakeholders to address issues before they become formal lawsuits will be critical. In addition, the practice of using alternative dispute resolution processes, such as mediation or arbitration, can be used where possible.



## **General Plan**

LU4.2.3 Prepare a Rail Transit Land Use Plan and recommend land use changes at and near proposed transit stops in anticipation of local rail service. Cf. LU4.5 and M1.4.1 and 1.4.2.

LU4.5 Seek opportunities to secure land for transit center development along rail lines. Cf. LU4.2.3, M1.4.1, M1.4.2, M2.2.

LU4.5.1 Consult with the Regional Transportation Commission on land dedications or land use changes related to future transit centers.

LU4.5.2 Condition projects located along rail lines for potential rail stops.

M2.2 Encourage passenger rail transit or other alternative transportation options via the continued support, acquisition, and expansion of railroad rights-of-way. Cf. LU4, LU4.5, ED1.9.2, M1, M2.3.2.

M2.2.1 Protect existing and potential railroad lines and rights-of-way, and other potential rights-of-way, from land uses that would prevent the development of rail or fixed-guideway services or other transportation related uses in the future.

M2.2.2 Encourage the continued transport of goods by rail.

M4.3.2 Develop bike commute routes along railroad rights-of way (while ensuring the ability to develop rail transit) and along West Cliff Drive, Broadway, King, and other streets.

## **Climate Action Plan**

4a. Work with the local partners and regional transportation planning groups to support the use of the rail corridor as a supplemental regional commute option.

5g. Participate in RTC processes to develop a rail corridor that provides an economically viable trail and rail service by 2020.

## Rosemary Balsley

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**From:** Philip Boutelle <philboutelle@gmail.com>  
**Sent:** Sunday, April 25, 2021 8:25 PM  
**To:** City Council  
**Subject:** 4/27/2021 Item 19: Urge RTC to Accept the TCAA Business Plan

Mayor and Council Members,

I'm writing to thank you for bringing this thoughtful resolution forward, and asking you to vote in support. The rail line has the potential to disrupt the transportation and development patterns that we inadvertently created when we didn't properly plan for our current levels of growth. This was known 30 years ago, when we first started working on purchasing the rail line; we can't let a few wealthy NIMBYs stop literally decades of progress on this public right of way.

We need a fixed transit line coupled with the rail trail to serve as a backbone of future transportation in our county. Please vote in support of this resolution to ask the RTC to approve the TCAA business plan for the preferred alternative.

Thank you,  
-Philip Boutelle



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Council

**SUBJECT:** Resolution in Support of Federal Medicare for All (H.R. 1976) and California Guaranteed Health Care for All Act (AB 1400) (CN)

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**RECOMMENDATION:** Resolution supporting two legislative items - federal Medicare for All (H.R. 1976) and California Guaranteed Health Care for All Act (AB 1400).

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**BACKGROUND:** The number of Americans without health insurance before the COVID-19 pandemic was nearly 30 million, with more than 40 million Americans underinsured, and the number of Californians without health insurance was 2.7 million, with 12 million Californians underinsured, despite important gains made since the implementation of the Affordable Care Act. Communities of color are disproportionately represented among the uninsured, underinsured, and are subjected to medical debt, medical bankruptcies, and homelessness due to medical bills, which has an adverse impact on those families and the entire community.

The current COVID-19 pandemic has led to record levels of unemployment, loss of employer-sponsored health insurance, a severely strained health care system, widespread illness, and has taken a profound toll on our community's mental health, all of which is placing significant demands on our health care system. The COVID-19 pandemic also further exposed the dangers of our fragmented, profit-driven health care system, which leads many Californians to delay seeking needed health care due to an inability to pay, leading to a sicker and poorer population in the long run. Such a population is significantly more likely to develop serious illness if exposed to diseases like COVID-19 and will subsequently face higher mortality rates.

The ever-increasing costs of health care, which are further elevated due to the pandemic, may challenge our already strapped state and municipal budgets. The federal Medicare for All Act of 2021 (H.R. 1976) and the California Guaranteed Health Care for All Act (Calcare - AB 1400) would guarantee health care free at the point of service for every person in the United States and California, respectively, for all necessary medical care including prescription drugs; hospital, surgical, and outpatient services; primary and preventive care; emergency services; reproductive care; dental and vision care; and long-term care.

The Medicare for All Act of 2021 and Calcare would provide coverage without copays, deductibles, or other out-of-pocket costs, and would slash bureaucracy, protect the doctor-patient relationship, and assure patients a free choice of doctors. Calcare would establish state-wide comprehensive universal single-payer health care and a health care cost control system for the benefit of all residents of the state. The Medicare for All Act of 2021 and the Calcare would

save millions in taxpayer dollars now spent on premiums that provide often inadequate health insurance coverage for government employees.

**DISCUSSION:** The present presidential administration has the policy to empower states to use Affordable Care Act innovation waivers to develop locally tailored approaches to health coverage, including removing barriers to states that seek to experiment with statewide universal health care approaches.

This resolution of the Santa Cruz City Council:

- Expresses the Council’s support for the Medicare for All Act of 2021 (H.R. 1976) and calls on our federal legislators to work toward its immediate enactment, assuring health care for all residents of the United States; and
- Expresses the Council’s support for the California Guaranteed Health Care for All Act (AB 1400) and calls upon our state legislators to work toward its immediate enactment.

**FISCAL IMPACT:** None.

**Prepared By:**  
Ralph Dimarucut  
Principal Management  
Analyst

**Submitted By:**  
Donna Meyers  
Mayor

Justin Cummings  
Councilmember

**ATTACHMENTS:**

1. MAYORS4MEDICARE RESO.DOCX

RESOLUTION NO. NS-29

RESOLUTION IN SUPPORT OF CALCARE (AB 1400) AND MEDICARE FOR  
ALL (H.R. 1976)

WHEREAS, every person in the City of Santa Cruz deserves high quality health care; and

WHEREAS, the number of Americans without health insurance before the Covid-19 pandemic was still nearly 30 million, with more than 40 million Americans underinsured, and the number of Californians without health insurance was 2.7 million, with 12 million Californians underinsured, despite important gains made since the implementation of the Affordable Care Act; and

WHEREAS, communities of color are disproportionately represented among the uninsured, underinsured, and subjected to medical debt, medical bankruptcies, and homelessness due to medical bills, which has an adverse impact on those families and the entire community; and

WHEREAS, the current Covid-19 pandemic has led to record levels of unemployment, loss of employer-sponsored health insurance, a severely strained health care system, widespread illness, and has taken a profound toll on our community's mental health, all of which is placing significant demands on our health care system, and

WHEREAS, the Covid-19 pandemic further exposed the dangers of our fragmented, profit-driven health care system, which leads many Californians to delay seeking needed health care due to an inability to pay, leading to a sicker and poorer population in the long run; and

WHEREAS, such a population is significantly more likely to develop serious illness if exposed to diseases like Covid-19 and will subsequently face higher mortality rates; and

WHEREAS, the ever-increasing costs of health care, which are further elevated due to the pandemic, may challenge our already strapped state and municipal budgets; and

WHEREAS, the Medicare for All Act of 2021 (H.R. 1976) and the California Guaranteed Health Care for All Act (AB 1400) would guarantee health care free at the point of service for every person in the United States and California, respectively, for all necessary medical care including prescription drugs; hospital, surgical, and outpatient services; primary and preventive care; emergency services; reproductive care; dental and vision care; and long-term care; and

WHEREAS, the Medicare for All Act of 2021 and the California Guaranteed Health Care for All Act would provide coverage without copays, deductibles, or other out-of-pocket costs, and would slash bureaucracy, protect the doctor-patient relationship, and assure patients a free choice of doctors; and



RESOLUTION NO. NS-29,

WHEREAS, the California Guaranteed Health Care for All Act would establish state-wide comprehensive universal single-payer health care and a health care cost control system for the benefit of all residents of the state; and

WHEREAS, the Medicare for All Act of 2021 and the California Guaranteed Health Care Act would save millions in taxpayer dollars now spent on premiums that provide often inadequate health insurance coverage for government employees; and

WHEREAS, the quality of life for the residents of the City of Santa Cruz would vastly improve because they would be able to get the ongoing care they need, instead of waiting until they have a medical emergency that could upend their lives as well as further burden local resources; and

WHEREAS, recent polls show that a majority of Americans and Californians support Medicare for All; and

WHEREAS, the present presidential administration has the policy to empower states, as laboratories of democracy, to use Affordable Care Act innovation waivers to develop locally tailored approaches to health coverage, including by removing barriers to states that seek to experiment with statewide universal health care approaches; and

NOW THEREFORE BE IT RESOLVED, that the Santa Cruz City Council enthusiastically supports the Medicare for All Act of 2021 (H.R. 1976) and calls on our federal legislators to work toward its immediate enactment, assuring health care for all residents of the United States; and

BE IT FURTHER RESOLVED, that the Santa Cruz City Council expresses its enthusiastic support for the California Guaranteed Health Care for All Act (AB 1400) and calls upon our state legislators to work toward its immediate enactment.

PASSED AND ADOPTED this 27th day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

## Rosemary Balsley

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**From:** Garrett <garrettphilipp@aol.com>  
**Sent:** Thursday, April 22, 2021 10:37 PM  
**To:** City Council  
**Subject:** 4.23.21 Agenda Item #20 Medicare for all

4.23.21 Agenda Item #20 Medicare for all

Dear Council,

You may not realize it, but Medicare is paid into by workers over a lifetime to fund the program. I cannot say it is well managed, but instead is going bankrupt anyway, but at least the original idea was people put into a fund over time to take care of medical expenses for themselves in old age was at least potentially a good idea. As with most all social programs the US has engineered, it is, or soon will be, a bankrupt failure.

However, with this is a clear "I'm entitled" generation spewing forth it's nonsense where they believe someone else, perhaps the unborn, should pay for their Medicare even if they themselves wouldn't do the same for others, or even themselves.

It's immoral. It's lacks principals and values like all socialist/communists theories.

How you figure you speak for everyone is astounding, and especially so since this has ZERO to do with local government.

Obamacare was an abomination, and now this proposes to go further. It may have helped poor people at the expense of the "rich" , but let me explain to you who the "rich" are.

In Obamacare Covered-Ca, if a self-employed person made \$47,521 they do not qualify for a subsidy. If someone made \$47,520, they would, and the amount of Premium Tax credit is around \$6000. Therefore, there is ZERO incentive to make over \$47,520 and could make even about \$10,000 more and would not net a single dollar, having paid it all to someone making a dollar less in AGI. (These figure were from about 2018 that I am familiar with).

No, it's not fair. While it's true there are billionaires like Bezos who have a net worth of more than the entire 50% bottom of the population, the bottom 37% of the population has a net worth of ZERO and I guess everyone in the middle class is "rich".

I would say if you enable poverty you will have more poverty. If you enable homelessness, you will have more homelessness. We have plenty of that in Santa Cruz because it is enabled here.

Sincerely, Garrett Philipp



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Council

**SUBJECT:** Resolution Recognizing Tobacco Waste as a Public Health and Environmental Threat (CN)

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**RECOMMENDATION:** Resolution recognizing the negative impacts that tobacco waste has on the public health of Santa Cruz residents as well as to the environment in the City, with the intention of pursuing policies to mitigate tobacco waste therein, and requesting the Mayor to write a letter to our local legislative representatives encouraging a ban on plastic cigarette filters.

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**BACKGROUND:** Cigarette butts are the most prevalent form of litter found on beaches around the world, including in Santa Cruz. The Ocean Conservancy, which has sponsored beach cleanups across the globe every year since 1986, has collected more than 60 million cigarette butts on the world's beaches. Once littered on beaches, these cigarette butts will, at some point, be washed into the ocean, where cigarette butts are also a prevalent form of litter. Cigarette butts are also ubiquitous on City sidewalks, and in our parks, playgrounds, trails, and other public spaces.

Cigarette butts are not biodegradable. They are made of a plastic called cellulose acetate. Once littered, they leave not only that plastic behind, but also the toxic chemicals contained within the butts, including lead, arsenic, and nicotine. These dangerous chemicals then leach into our soil and water.

In addition to the environmental impacts, cigarettes negatively impact those that use or encounter them. Cigarettes are responsible for killing nearly half a million people in the United States each year, 40,000 of those individuals are Californians. Littered cigarette butts can also poison small children, pets, wildlife, and marine life when consumed.

Furthermore, the environmental and health risks associated with cigarettes and their litter are not uniformly distributed across groups of people. Low-income communities and communities of color are disproportionately impacted by exposure to their toxic chemicals and litter.

Traditional cigarettes are not the only type of cigarettes leaving behind harmful waste. The rise in vaping has led to a subsequent increase in other forms of waste including toxic liquid nicotine, plastic cartridges, batteries and other electronic parts capable of exploding or burning. These relatively new forms of waste are often incorrectly disposed of, and can harm the environment, wildlife, and humans.

Big Tobacco has not taken responsibility for its toxic waste. Local governments and volunteer organizations are left with both the physical and the financial burden of cleaning up this litter. Moreover, these plastic cigarette filters do not make cigarettes safer, rendering their continued use despite the negative impact more perturbing.

**DISCUSSION:** Despite the City's attempts to reduce tobacco waste, including anti-litter laws, anti-smoking signage, providing increased waste and cigarette disposal containers, and clean-up efforts, tobacco waste continues to persist in excess in our community.

To initiate a broader conversation on ways to lessen tobacco waste in our community, acknowledgement of the great harm this waste has on the environment as well as our community's health is necessary. This acknowledgement, through resolution, will motivate the City Council to contemplate and advance policies to combat this toxic waste now and in the future. Further, this acknowledgement, along with actions taken by the City, could result in broader changes across the State, including the eventual ban of plastic cigarette filters.

**FISCAL IMPACT:** None.

**Submitted**  
Martine Watkins  
Councilmember

Donna Meyers  
Mayor

Renee Golder  
Councilmember

**ATTACHMENTS:**  
1. RESOLUTION.DOCX

RESOLUTION NO.

A RESOLUTION OF THE CITY OF SANTA CRUZ RECOGNIZING TOBACCO WASTE AS  
A PUBLIC HEALTH AND ENVIRONMENTAL THREAT

WHEREAS, cigarette butts are the most littered item on Santa Cruz riverways and beaches, where they are washed into the Monterey Bay and contribute to a common form of litter in the world's oceans; and

WHEREAS, cigarette butts are an unsightly blight on Santa Cruz City sidewalks, parks, playgrounds, recreation trails, and other public spaces; and

WHEREAS, cigarette butts are made of cellulose acetate, a non-biodegradable plastic, which breaks down into microplastics and bioaccumulates in marine organisms; and

WHEREAS, cigarette butts are not just litter but toxic waste, leaching dangerous chemicals such as lead, arsenic, and nicotine into the environment; and

WHEREAS, improperly discarded cigarette butts can poison small children, pets, wildlife, and marine life; and

WHEREAS, improperly discarded cigarette butts are a fire hazard, responsible for burning 88,898 acres in California since 1980; and

WHEREAS, cigarette butts are the remnants of a deadly product that is responsible for killing almost half a million people in the United States each year, including 40,000 Californians; and

WHEREAS, emerging forms of tobacco waste include electronic cigarettes or vaping devices, and the e-juice, cartridges, batteries, and accessories associated with them; and

WHEREAS, tobacco waste is a health equity issue, disproportionately found in lower income communities and communities of color; and

WHEREAS, Big Tobacco takes no responsibility for its toxic waste, forcing the physical and financial burden of cleanup onto local government agencies and volunteer organizations; and

WHEREAS, previous approaches including anti-litter laws, anti-smoking signage, increased waste disposal containers, and robust cleanup efforts have failed to solve the problem.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Santa Cruz as follows:

1. That the City Council of Santa Cruz hereby recognizes and declares tobacco waste a public health and environmental threat to the residents of the City.

2. That the City Council resolves to advance policy approaches to reduce or eliminate this toxic waste in our community.
3. That the City Council requests the Mayor to write a letter to our local legislative representatives urging them to encourage the California State Legislature to ban plastic cigarette filters.

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator



## City Council AGENDA REPORT

**DATE:** 04/12/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Finance

**SUBJECT:** Theater Business License Taxes (FN)

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**RECOMMENDATION:** Motion authorizing a one-time reduction in business license taxes for theaters impacted by COVID-19 capacity restrictions.

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**BACKGROUND:** Title 5 of the City's Municipal Code establishes the business license taxes that are assessed annually for each person conducting business within the City limits. Businesses are categorized by type and generally assessed a basic license fee of \$145.15 plus a fee per employee. Some business types are charged an additional special fee as provided for in the Municipal Code.

Theaters fall into this special fee category and are assessed an additional \$0.65 for each seat in the theater. For example, the annual business license tax for a theater with 15 employees and 500 seats would consist of three components: (1) the basic license fee of \$145.15; (2) a charge of \$4.95 per employee or \$74.25; and (3) the special fee of \$0.65 per seat or \$325.00. In this example, the total annual business license tax would equal \$544.40.

**DISCUSSION:** To provide some financial relief and acknowledge the capacity restrictions faced by theaters due to the pandemic, staff recommends that Council approve a one-time waiver of the per seat charge for each theater doing business in the City. This waiver would apply to one renewal or one new application, whichever is applicable to the business.

During the prior calendar year, there were four theaters in the City with active business licenses that would benefit from a one-time reduction or waiver of the per seat charge.

**FISCAL IMPACT:** If approved, this fee reduction for local theaters would result in a minor loss of tax revenue to the City's General Fund of approximately \$2,550 and would apply to only one annual license period.

**Prepared By:**  
Kim Wigley  
Finance Manager

**Submitted By:**  
Kim Krause  
Director of Finance

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**  
None.





## City Council AGENDA REPORT

**DATE:** 04/12/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Finance

**SUBJECT:** 2021 Annual Alcohol Sales Permit Fees (FN)

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**RECOMMENDATION:** Motion authorizing a reduction in 2021 Alcohol Sales Permit Fees for certain businesses impacted by COVID-19 shelter-in-place restrictions and operational limitations caused by the pandemic.

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**BACKGROUND:** In 1998, the City Council established an annual Alcohol Sales Permit Fee to recover the costs of the Police Department's Alcohol Education, Monitoring, and Compliance Program (Program). The fee is billed annually to businesses licensed by the State of California Department of Alcoholic Beverage Control to conduct retail sales of alcohol.

Businesses subject to the fee are categorized in three ways: (1) high or low risk as defined by the City's Alcohol Ordinance Section 24.12.110; (2) low, medium, or high depending on the hours during which alcohol is sold; and (3) low, medium, or high based on the dollar value of wholesale alcohol purchases made in the preceding calendar year. Each of the three categories is assigned a multiplier in the formula, which is designed to recover the cost of the police officer assigned to the Program. There are approximately 220 participating businesses. For the 2021 billing cycle, the cost of the police officer is \$130,020.

**DISCUSSION:** During calendar year 2020, shelter-in-place restrictions and public health orders limiting the operations of nonessential businesses disrupted alcohol sales, particularly for those who sell alcohol for on-site consumption. Since business-specific operational data from 2020 drives the calculation of the Alcohol Sales Permit Fee assessed in 2021, the Finance Department reached out to participating businesses and heard from a number of them that their hours of operation and volume of wholesale alcohol purchases had been curtailed.

With this knowledge, the Finance Department worked with the Santa Cruz Police Department to understand how enforcement of the Program may have changed and whether a modification to the 2021 fee was appropriate. The PD reported that Driving Under the Influence (DUI) arrests had increased during the last year of the pandemic and concluded that it was appropriate to offer a discount for certain businesses impacted by pandemic-related operational restrictions. They did an evaluation of the amount of time that bars and other onsite alcohol consumption locations were forced to close in 2020 and determined that a discount of 25% for those sites would be a fair reduction.

In conjunction with the Police Department, Finance staff recommend that Council authorize a 25% reduction in the Alcohol Sales Permit Fees assessed for 2021 but only for businesses that sell alcohol for on-site consumption. The fee reduction would impact about 177 of the 220 businesses. The fees for the remaining businesses selling alcohol for off-site consumption would not be reduced.

**FISCAL IMPACT:** If approved, the fee reduction would have a modest fiscal impact on the City's General Fund and would result in a one-time revenue loss of approximately \$22,500. This amount represents 17% of the cost of the police officer assigned to the Alcohol Education, Monitoring, and Compliance Program.

**Prepared By:**  
Kim Wigley  
Finance Manager

**Submitted By:**  
Kim Krause  
Director of Finance

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**  
None.



## City Council AGENDA REPORT

**DATE:** 04/19/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Human Resources

**SUBJECT:** Approval of an Early Termination of the Cost Reduction Agreements with Various Bargaining Units, the Executives and the City Manager for Fiscal Year 2021 (HR)

---

**RECOMMENDATION:** Motion to:

- 1) End the Side Letter Agreements to the Memoranda of Understanding with the following Bargaining Units: SEIU 521; OE3 Mid-Managers; OE3 Supervisors; Fire Local 1716, and Fire Management, effective May 14, 2021;
  - 2) Adopt a resolution approving the early termination of the 10% furlough for the Executive Unrepresented Employees and the City Manager, effective May 14, 2021.
- 

**BACKGROUND:** This is an unprecedented time for our country and for the City of Santa Cruz as we continue to deal with the COVID-19 pandemic. The financial impact to the City has been significant with revenue losses estimated at \$21.7 million over a three year period (from the onset of the pandemic through July 30, 2022), and an on-going deficit projection ranging from \$1.0 million to \$7.8 million annually over the next 10 years. In order to mitigate these losses, the City had negotiated concession agreements with the various bargaining units, resulting in an estimated savings of \$5.4 million in Fiscal Year (FY) 2021.

**DISCUSSION:** In April of 2020, the City Council directed staff to engage in negotiations with all of the City's employee groups requesting concession the equivalent of a 10% reduction in compensation and personnel costs for the FY 2021. For the non-public safety employee's the proposal was to reduce the work week from 40 hours to 36 hours. For public safety employees, the 10% reduction proposals were varied because of the operational difficulties in reducing public safety work weeks. One year Agreements were reached with all of the bargaining units with the exception of the Police Officers Association. The anticipated savings from the concession was \$5.4 million.

With the recent passage of the American Rescue Act, the City will potentially receive up to \$15 million over two years. While the City is still facing a significant structural deficit and has utilized reserve to bridge the gaps, with the funds from the American Rescue Act, the City will be able to end the furloughs six weeks earlier than originally agreed upon with the following bargaining units: SEIU, OE3 Mid-Managers; OE3 Supervisors; Fire Management, Fire Local 1716, the Department Directors and the City Manager.

**FISCAL IMPACT:** The cost to the General Fund for terminating the side letter agreements six weeks early is approximately \$450,000 to the General Fund. However, the additional funds from the American Rescue Act Plan will be utilized to offset the impact.

**Prepared/Submitted By:**

Lisa Murphy  
HR Director

**Approved By:**

Martin Bernal  
City Manager

**ATTACHMENTS:**

1. RESOLUTION.DOC
2. AGREEMENT WITH SERVICE EMPLOYEES SEIU LOCAL 521.DOCX
3. AGREEMENT WITH OE3 MID-MANAGERS.DOC
4. AGREEMENT WITH FIREFIGHTERS LOCAL 1716.PDF
5. AGREEMENT WITH FIRE MANAGEMENT ASSOCIATION.DOCX.PDF

RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ EARLY  
TERMINATION OF THE PROVISIONS OF THE FISCAL YEAR 2021 COST SAVINGS  
PLAN FOR THE EXECUTIVE MANAGEMENT TEAM AND THE CITY MANAGER

WHEREAS, in order to address the projected FY 2021 General Fund deficit of \$10 million and \$6 million in FY 2021, the City entered into agreements with all employee groups to a ten percent (10%) reduction in salary costs;

WHEREAS, the Executive Management Team consists of the Assistant City Manager, Department Directors, and the Chiefs of Police and Fire;

WHEREAS, the City Manager is employed with the City through an Employment Agreement;

WHEREAS, for its part, the City of Santa Cruz Executive Management Team and the City Manager agreed to a ten percent (10%) salary reduction through a 10% furlough effective June 27, 2020 through June 25, 2021.

WHEREAS, the City is expected to receive funds through the American Rescue Act of approximately \$15 million over two years which will allow the City to terminate the agreements six weeks early.

NOW, THEREFORE, it is resolved by the City Council of the City of Santa Cruz to implement the following provisions: Termination of the salary reduction agreements effective May 14, 2021, and adjustment of the provision to allow the accumulation of vacation time up to three times the annual rate of accrual to be for eighteen months from June 25, 2021.

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

**AMENDMENT TO THE AGREEMENT BETWEEN**  
**City of Santa Cruz Service Employees, SEIU Local 521**  
**and the City of Santa Cruz**  
**Dated June 10, 2020**

SEIU Local 521 and the City of Santa Cruz (City) are parties to a Memorandum of Understanding (MOU) that expires on April 15, 2022.

Having met and conferred in good faith the parties wish to memorialize their Agreement to amend the Side Letter Agreement Dated June 10, 2020 which modified their MOU with respect to personnel cost savings which was effective June 27, 2020 through June 25, 2021.

The City is expected to receive \$15 million in funds from the American Rescue act over two years. These funds will allow the City to terminate the Side Letter Agreement six weeks early, effective May 14, 2021.

The following items remain in effect pursuant to the original Side Letter Agreement:

1. For the duration of this agreement, the reinstatement period defined in Section 17.05 (Reinstatement) of the MOU will be extended to thirty-six (36) months.
2. For the duration of the furlough and eighteen months beyond, starting with the original termination date, June 25, 2021, the accumulation of vacation time shall be expanded to allow three times the annual rate of accrual.
3. The language of any section of the MOU not modified by this agreement shall remain in effect for the duration of the term of the original MOU.

**City of Santa Cruz Service Employees**  
**SEIU Local 521**

**City of Santa Cruz**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

\_\_\_\_\_  
Kimberly Johnson

\_\_\_\_\_  
Lisa Murphy

\_\_\_\_\_  
Olivia Martinez

\_\_\_\_\_  
Ken Bare



## **AMENDMENT TO THE AGREEMENT BETWEEN**

### **Mid-Management Association of the City of Santa Cruz, Represented by Operating Engineers Union Local #3, and the City of Santa Cruz Dated June 11, 2020**

The Mid-Management Association of the City of Santa Cruz, represented by Operating Engineers Union Local #3 (Mid-Managers), and the City of Santa Cruz (City) are parties to a Memorandum of Understanding (MOU) that expires on August 19, 2022.

Having met and conferred in good faith, the parties wish to memorialize their Agreement to amend the Side Letter Agreement Dated June 11, 2020 which modified their MOU with respect to personnel cost savings which was effective June 27, 2020 through June 25, 2021.

The City is expected to receive \$15 million in funds from the American Rescue act over two years. These funds will allow the City to terminate the Side Letter Agreement six weeks early, effective May 14, 2021.

The following items remain in effect pursuant to the original Side Letter Agreement:

1. For the duration of this agreement, the reinstatement period defined in Section 17.05 (Reinstatement) of the MOU will be extended to thirty-six (36) months.
2. For the duration of the furlough and eighteen months beyond, starting with the original termination date, June 25, 2021, the accumulation of vacation time shall be expanded to allow three times the annual rate of accrual.
3. The language of any section of the MOU not modified by this agreement shall remain in effect for the duration of the term of the original MOU.

In addition, the parties agree to the following:

1. Until the end of the term of the original June 11, 2020 Side Letter Agreement (June 25, 2021), employees may request Voluntary Time Off (VTO) for the duration of the original Side Letter. Additional VTO will be considered as a new request, unrelated to the Side Letter.
2. While approval of VTO is dependent upon the specific needs of the department, Department Heads shall recognize and respect the needs of employees with child care, elder care, and other time conflicts due to or exacerbated by the Covid-19 pandemic and shall, whenever possible, grant these requests for VTO.



**MID-MANAGEMENT ASSOCIATION  
OF THE CITY OF SANTA CRUZ**

**CITY OF SANTA CRUZ**

---

Date

---

Date

---

Michael Moore

---

Lisa Murphy

---

Katherine Donovan

P:\Labor Relations\Unions\Negotiations\2020 Furlough Negotiations\OE3 Mid-Managers\Cost Savings Agreement\Mid-Mgt Removal of Furlough.doc

**AMENDMENT TO THE SIDE  
LETTER OF AGREEMENT**

**Between  
City of Santa Cruz Firefighters, IAFF Local 1716 and  
The City of Santa Cruz**

**DATED June 12, 2020**

The Santa Cruz City Firefighters IAFF Local 1716 (IAFF) and the City of Santa Cruz (City) are parties to a Memorandum of Understanding (MOU) which expires as of September 26, 2022.

Having met and conferred in good faith the parties wish to memorialize their Agreement to amend the Side Letter Agreement Dated June 12, 2020 which modified their MOU with respect to personnel cost savings which was effective June 27, 2020 through June 25, 2021.

The City is expected to receive \$15 million in funds from the American Rescue Act over two years. These funds in combination with the savings from the still vacant firefighter position has allowed the City to terminate the Side Letter Agreement six weeks early, effective May 14, 2021, the vacation modification policy shall expire, and the 2% COLA shall be restored effective May 15, 2021.

The language of any section of the MOU not modified by this agreement shall remain in effect for the duration of the term of the original MOU.

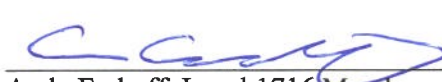
Local 1716

  
Cody Muhly, President 1716

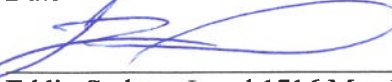
4/21/21  
Date

  
Brandon Yamasaki, Vice President 1716

4/21/21  
Date:

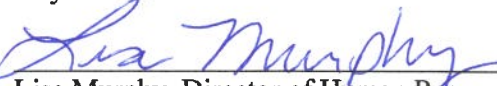
  
Andy Emhoff, Local 1716 Member

4/21/21  
Date

  
Eddie Carlson, Local 1716 Member

4/21/21  
Date

City of Santa Cruz

  
Lisa Murphy, Director of Human Resources

4/21/21  
Date

Date

**AMENDMENT TO THE SIDE LETTER OF  
AGREEMENT**

**Between  
City of Santa Cruz Fire Management Association and  
the City of Santa Cruz, Dated June 2, 2020**

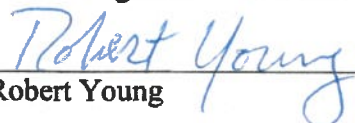
City of Santa Cruz Fire Management Association (FMA) and the City of Santa Cruz (City) are parties to a Memorandum of Understanding (MOU) that expires on September 30, 2022.

Having met and conferred in good faith the parties wish to memorialize their Agreement to amend the Side Letter Agreement Dated June 2, 2020 which modified their MOU with respect to personnel cost savings which was effective June 27, 2020 through June 25, 2021.

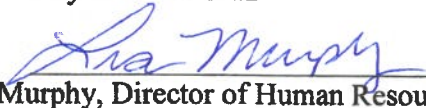
The City is expected to receive \$15 million in funds from the American Rescue act over two years. These funds in combination with the savings from the still vacant Battalion Chief position has allowed the City to terminate the Side Letter Agreement six weeks early, effective May 14, 2021.

The language of any section of the MOU not modified by this agreement shall remain in effect for the duration of the term of the original MOU.

Fire Management Association

  
Robert Young

City of Santa Cruz

  
Lisa Murphy, Director of Human Resources

  
Robert Oatey

4/20/21  
Date

4/20/21  
Date

**AMENDMENT TO THE AGREEMENT BETWEEN**  
**City of Santa Cruz Service Employees, SEIU Local 521**  
**and the City of Santa Cruz**  
**Dated June 10, 2020**

SEIU Local 521 and the City of Santa Cruz (City) are parties to a Memorandum of Understanding (MOU) that expires on April 15, 2022.

Having met and conferred in good faith the parties wish to memorialize their Agreement to amend the Side Letter Agreement Dated June 10, 2020 which modified their MOU with respect to personnel cost savings which was effective June 27, 2020 through June 25, 2021.

The City is expected to receive \$15 million in funds from the American Rescue act over two years. These funds will allow the City to terminate the Side Letter Agreement six weeks early, effective May 14, 2021.

The following items remain in effect pursuant to the original Side Letter Agreement:

1. For the duration of this agreement, the reinstatement period defined in Section 17.05 (Reinstatement) of the MOU will be extended to thirty-six (36) months.
2. For the duration of the furlough and eighteen months beyond, starting with the original termination date, June 25, 2021, the accumulation of vacation time shall be expanded to allow three times the annual rate of accrual.
3. The language of any section of the MOU not modified by this agreement shall remain in effect for the duration of the term of the original MOU.

In addition, the parties agree to the following:

1. Until the end of the term of the original Side Letter Agreement (June 25, 2021), SEIU employees may request to continue to work 10% furlough.
2. Employees may use paid time off such as vacation or compensatory time or Voluntary Time-Off (unpaid) leave on the furlough day. VTO hours will not be calculated towards overtime.
3. While approval is dependent upon the specific needs of the department, Department Heads shall recognize and respect the needs of employees with child care, elder care, and other time conflicts due to or exacerbated by the Covid-19 pandemic and shall, whenever possible, grant these requests for continuation of a 10% furlough.
4. SEIU will provide a list of employees who choose to use either paid time off or VTO to the Human Resources Director no later than May 3, 2021.

**City of Santa Cruz Service Employees**  
**SEIU Local 521**

**City of Santa Cruz**

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Date

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Date

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Kimberly Johnson

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Lisa Murphy

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Olivia Martinez

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Ken Bare



## City Council AGENDA REPORT

**DATE:** 04/14/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Police

**SUBJECT:** Award Contract for Getac A140 G2 Mobile Data Centers for Patrol Vehicles (PD)

---

**RECOMMENDATION:** Motion to award a contract for the purchase of Mobile Data Centers from CDW-G (Chicago, IL) in the amount of \$120,845.50.

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**BACKGROUND:** On September 26, 2019, Council approved the City's participation in a new consolidated law enforcement records management system (RMS) serving Capitola, Santa Cruz, and Watsonville Police Departments and the Santa Cruz County Sheriff's Office, in cooperation with Santa Cruz Regional 911 (SRC911). The selected system is now in the implementation stage. The new RMS is scheduled to go-live in November 2021.

As a result of the RMS consolidation and upgrade, we have identified additional hardware requirements for in-vehicle Mobile Data Centers. After a number of product trials and in consultation with SRC911 technical staff and other neighboring law enforcement agencies, the Department has selected Getac A140 G2 Mobile Data Centers.

**DISCUSSION:** Section 3.08.170 of the Municipal Ordinance allows the City to buy from cooperative purchasing agreements when is in the best interest of the City to do so.

The City of Mesa, AZ, National IPA and CDW-G successfully negotiated a contract and the City of Mesa executed the agreement with a contract effective date of March 1, 2018. Mesa, as the Principal Procurement Agency, partnered with the National Intergovernmental Purchasing Alliance Company to make the resultant Contract No. 2018011-01 from this solicitation available to other public agencies nationally, including state and local governmental entities, public and private primary, secondary and higher education entities, non-profit entities, and agencies for the public benefit, through National IPA's cooperative purchasing program.

The contract includes a comprehensive product and service offering including desktops, notebooks, servers, software, peripherals, cloud computing, consulting/analysis, design, technical support, leasing/financing, trade-ins, repair, configuration/system configurations, implementation, training, maintenance, installation, system testing, upgrades, and imaging.

The initial five-year agreement term is from March 1, 2018 through February 28, 2023 with the option to renew for two (2) additional one-year periods through February 28, 2025. The purchase

includes the equipment needed to outfit 33 patrol vehicles with Mobile Data Centers compatible with the RMS upgrade. CDW-G offers a percent off catalog pricing by category.

**FISCAL IMPACT:** As the Mobile Data Centers were an anticipated cost in FY 2021, there are adequate funds in the Police Department's FY 2021 operating budget for this \$120,845.50 purchase.

**Prepared By:**  
Patricia Dodge  
Principal Management  
Analyst

**Submitted By:**  
Andrew Mills  
Chief of Police

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. QUOTE.PDF

# QUOTE CONFIRMATION



DEAR PATRICIA DODGE,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.



**ACCOUNT MANAGER NOTES:** Thank You.

| QUOTE # | QUOTE DATE | QUOTE REFERENCE | CUSTOMER # | GRAND TOTAL         |
|---------|------------|-----------------|------------|---------------------|
| LZJT482 | 3/11/2021  | LZJT482         | 0596476    | <b>\$120,845.50</b> |

## IMPORTANT - PLEASE READ

Fees applied to item(s): 6363981

## QUOTE DETAILS

| ITEM  | QTY | CDW#    | UNIT PRICE | EXT. PRICE  |
|---|-----|---------|------------|-------------|
| <a href="#">Getac A140 G2 14" Core i7-10510U 16GB RAM 256GB SSD Windows 10 Pro</a><br>Mfg. Part#: AM42T4QAXDXX<br>Contract: National IPA Technology Solutions (2018011-01)              | 33  | 6363981 | \$2,618.80 | \$86,420.40 |
| <a href="#">Getac TF1 Vehicle Docking Station</a><br>Mfg. Part#: 543314010501<br>Contract: National IPA Technology Solutions (2018011-01)   | 33  | 6059749 | \$494.84   | \$16,329.72 |
| <a href="#">Getac 120W 11-16V 22-32V DC Vehicle Adapter</a><br>Mfg. Part#: GAD2X8<br>Contract: National IPA Technology Solutions (2018011-01)   | 33  | 5522532 | \$95.11    | \$3,138.63  |
| <a href="#">TG3 Electronics BLTX Series - keyboard - with touchpad</a><br>Mfg. Part#: KBA-BLTX-USNNR-US<br>UNSPSC: 43211706<br>Contract: National IPA Technology Solutions (2018011-01) | 33  | 4710120 | \$139.52   | \$4,604.16  |

## RECYCLING FEE DETAILS

| ITEM   | QTY | CDW#   | UNIT PRICE | EXT. PRICE |
|--|-----|--------|------------|------------|
| <b>RECYCLING FEE 4" TO LESS THAN 15"</b><br>Fee Applied to Item: 6363981 | 33  | 654809 | \$4.00     | \$132.00   |

| PURCHASER BILLING INFO   | SUBTOTAL                  | \$110,492.91        |
|--|---------------------------|---------------------|
| <b>Billing Address:</b><br>CITY OF SANTA CRUZ<br>ACCTS PAYABLE<br>809 CENTER ST<br>SANTA CRUZ, CA 95060-3826<br><b>Phone:</b> (831) 420-5098<br><b>Payment Terms:</b> Net 30 Days-Govt State/Local | SHIPPING                  | \$0.00              |
|  | RECYCLING FEE             | \$132.00            |
|  | SALES TAX                 | \$10,220.59         |
|  | GRAND TOTAL               | <b>\$120,845.50</b> |
| DELIVER TO   | Please remit payments to: |                     |



**Shipping Address:**  
CITY OF SANTA CRUZ  
CARLOS SILVA  
809 CENTER ST  
SANTA CRUZ, CA 95060-3826  
**Phone:** (831) 420-5098  
**Shipping Method:** DROP SHIP-GROUND

CDW Government  
75 Remittance Drive  
Suite 1515  
Chicago, IL 60675-1515

Need Assistance? CDW•G SALES CONTACT INFORMATION



Tim Sharkey

(877) 881-6919

timshar@cdwg.com

LEASE OPTIONS

| FMV TOTAL    | FMV LEASE OPTION | BO TOTAL     | BO LEASE OPTION  |
|--------------|------------------|--------------|------------------|
| \$110,624.91 | \$2,935.99/Month | \$110,624.91 | \$3,399.50/Month |

Monthly payment based on 36 month lease. Other terms and options are available. Contact your Account Manager for details. Payment quoted is subject to change.

Why finance?

- Lower Upfront Costs. Get the products you need without impacting cash flow. Preserve your working capital and existing credit line.
- Flexible Payment Terms. 100% financing with no money down, payment deferrals and payment schedules that match your company's business cycles.
- Predictable, Low Monthly Payments. Pay over time. Lease payments are fixed and can be tailored to your budget levels or revenue streams.
- Technology Refresh. Keep current technology with minimal financial impact or risk. Add-on or upgrade during the lease term and choose to return or purchase the equipment at end of lease.
- Bundle Costs. You can combine hardware, software, and services into a single transaction and pay for your software licenses over time! We know your challenges and understand the need for flexibility.

General Terms and Conditions:

This quote is not legally binding and is for discussion purposes only. The rates are estimate only and are based on a collection of industry data from numerous sources. All rates and financial quotes are subject to final review, approval, and documentation by our leasing partners. Payments above exclude all applicable taxes. Financing is subject to credit approval and review of final equipment and services configuration. Fair Market Value leases are structured with the assumption that the equipment has a residual value at the end of the lease term.

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at <http://www.cdwg.com/content/terms-conditions/product-sales.aspx>  
For more information, contact a CDW account manager

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## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Parks and Recreation

**SUBJECT:** Approval of Beach Flats Community Garden Lease Amendment between the City of Santa Cruz and Santa Cruz Seaside Company (PR)

---

**RECOMMENDATION:** Approve lease amendment between the City of Santa Cruz and the Santa Cruz Seaside Company for public use of Beach Flats Community Garden and authorize the City Manager to execute an agreement in a form approved by the City Attorney.

---

**BACKGROUND:** The Beach Flats Community Garden (BFCG) is a unique property and location serving as a cultural and community hub for the Beach Flats community. The garden plots are maintained by community members and the program is managed and overseen by the Parks and Recreation Department (Department). The garden consists of 32 plots on approximately 0.13 acres and are an important resource in an underserved and low-income part of the City.

Currently, the Department leases the land from the Santa Cruz Seaside Company (Seaside Company) for neighborhood use for the BFCG. The Parks Master Plan 2030 directs the Department to identify a permanent location for community garden space in the Beach Flats neighborhood.

**DISCUSSION:** At this time, a new location has not been identified nor does the Department have financial resources appropriated to acquire new land. However, the Department is pleased that Seaside Company will extend the lease another five (5) years so that it may continue to provide for the existing community garden space. The existing lease was approved in 2016 for a three (3) year term and was extended in 2018 for an additional three (3) years. The current proposed lease amendment will extend the duration of the agreement for an additional five (5) years into 2026.

The extension of the lease agreement fits into two aspects of the City's Health in All Policies initiative by 1) improving the health and wellness of community members who maintain and utilize the gardens; and 2) allowing for social equity in service to the Latino/a/x community and low-income neighborhood.

**FISCAL IMPACT:** The Seaside Company lease is scheduled at one dollar (\$1.00) per year and is covered by the Parks and Recreation operational budget.

**Prepared By:**

**Submitted By:**

**Approved By:**

Tony Elliot  
Director of Parks &  
Recreation

Martín Bernal  
City Manager

**ATTACHMENTS:**

1. BFG LEASE AMENDMENT 2021-26.PDF
2. BFG LEASE AGREEMENT 2018.PDF
3. BFCG LEASE EXTENSION - 2016 - FINAL SIGNED.PDF

**AGREEMENT TO EXTEND LEASE**  
**(SECOND AMENDMENT TO LEASE AGREEMENT)**

This Second Amendment to the Lease Agreement (“Second Amendment”) is made and entered into this \_\_\_\_ day of \_\_\_\_, 2021, by and between the Santa Cruz Seaside Company, a California Corporation, (hereinafter called “Landlord”), and the City of Santa Cruz, a municipal corporation (“Tenant”), (hereinafter referred to collectively as “Parties”).

**RECITALS**

WHEREAS, Landlord and Tenant entered into a certain lease agreement on April 1, 2016 (the “Lease”) for a term of three years beginning on April 1, 2016; and

WHEREAS, Landlord and Tenant entered into an amendment on June 26, 2018 (Amendment) to extend the term of the Lease until December 31, 2021, and

WHEREAS, the Parties desire to further extend the term of the Lease for an additional five (5) years and to further amend and modify the Lease as provided herein.

**AGREEMENT**

NOW, THEREFORE, in consideration of the mutual promises, terms, conditions, and covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged the Parties hereby agree as follows:

1. Recitals. All of the above recitals are incorporated herein and made a part hereof, as if fully set forth in the text of this Second Amendment.
2. Defined Terms. Unless otherwise provided in this Second Amendment, all defined terms used herein shall have the meanings ascribed to them in the Lease.
3. Term. Section 4, Term, of the Lease and Paragraph 3 of the First Amendment are hereby deleted in their entirety and replaced with the following:

The term of this Lease shall commence on the Effective Date and shall terminate on December 31, 2026, unless otherwise terminated under the terms of Section 12 of the Lease.

4. Other Provisions Still in Effect. Except as modified in this Second Amendment, all of the terms, conditions, covenants, provisions, representations and warranties contained in the Lease shall remain in full force and effect and are hereby ratified, confirmed, reaffirmed and republished in all respects and the Lease is deemed modified to reflect the changes set forth in this Second Amendment.

5. Conflicts. In the event of any conflict between this Second Amendment and/or the Lease or the Amendment, this Second Amendment shall control.
6. Section Headings. The section headings contained in this Second Amendment are for convenience only and shall in no manner be construed as part of this Second Amendment.
7. Binding. The covenants, agreement, terms, provisions and conditions contained in this Second Amendment shall be binding and inure to the benefit of the Parties hereto and their respective successors and assigns.
8. Counterparts. This Second Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument. A scanned, electronic, facsimile or other copy of a party's signature shall be accepted and valid as an original.
9. Authority. The individuals executing this Second Amendment on behalf of the Parties hereby warrant that they have the requisite authority to execute this Second Amendment on behalf of the respective Parties and that the respective Parties have agreed to be and are bound hereby.

In WITNESS WHEREOF, the Parties hereby execute this Second Amendment to the Lease as of the date first written above.


LANDLORD

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Santa Cruz Seaside Company

TENANT

By: \_\_\_\_\_ Date: \_\_\_\_\_  
City of Santa Cruz  
City Manager

Approved as to Form:

By:  3-19-2021  
Tony Condotti, City Attorney

## AGREEMENT TO EXTEND LEASE

This Amendment to the Lease Agreement ("Amendment") is made and entered into this 26th day of June, 2018, by and between the Santa Cruz Seaside Company, a California Corporation, (hereinafter called "Landlord"), and the City of Santa Cruz, a municipal corporation ("Tenant"), (hereinafter referred to collectively as "Parties").

### RECITALS

WHEREAS, Landlord and Tenant entered into a certain lease agreement on April 1, 2016 (the "Lease") for a term of three years beginning on April 1, 2016; and

WHEREAS, the Parties desire to extend the term of the Lease and to further amend and modify the Lease as provided herein.

### AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises, terms, conditions, and covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged the Parties hereby agree as follows:

1. Recitals. All of the above recitals are incorporated herein and made a part hereof, as if fully set forth in the text of this Amendment.
2. Defined Terms. Unless otherwise provided in this Amendment, all defined terms used herein shall have the meanings ascribed to them in the Lease.
3. Term. Section 4, Term, of the Lease is hereby deleted in its entirety and replaced with the following:

The term of this Lease shall commence on the Effective Date and shall terminate on December 31, 2021, unless otherwise terminated under the terms of Section 12, below.

4. Other Provisions Still in Effect. Except as modified in this Amendment, all of the terms, conditions, covenants, provisions, representations and warranties contained in the Lease shall remain in full force and effect and are hereby ratified, confirmed, reaffirmed and republished in all respects and the Lease is deemed modified to reflect the changes set forth in this Amendment.
5. Conflicts. In the event of any conflict between this Amendment and the Lease, this Amendment shall control.
6. Section Headings. The section headings contained in this Amendment are for convenience only and shall in no manner be construed as part of this Amendment.

7. Binding. The covenants, agreement, terms, provisions and conditions contained in this Amendment shall be binding and inure to the benefit of the Parties hereto and their respective successors and assigns.
8. Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument.
9. Authority. The individuals executing this Amendment on behalf of the Parties hereby warrant that they have the requisite authority to execute this Amendment on behalf of the respective Parties and that the respective Parties have agreed to be and are bound hereby.

In WITNESS WHEREOF, the Parties hereby execute this Amendment to the Lease as of the date first written above.

LANDLORD

By: [Signature] Date: 7/3/18  
Santa Cruz Seaside Company

TENANT

By: [Signature] Date: 7/16/18  
City of Santa Cruz  
City Manager

APPROVED AS TO FORM  
[Signature]  
CITY ATTORNEY

**LEASE AGREEMENT BETWEEN THE  
CITY OF SANTA CRUZ AND  
THE SANTA CRUZ SEASIDE COMPANY  
FOR THE USE OF BEACH FLATS COMMUNITY GARDEN**

This Lease is entered into on April 1, 2016 (the "Effective Date") by and between the Santa Cruz Seaside Company, a California corporation, referred to herein as "Landlord," and the City of Santa Cruz, a municipal corporation and California charter city, referred to herein as "Tenant."

**RECITALS**

- A. Landlord is the owner of certain real property in the City of Santa Cruz, CA, located at 313 Third Street, 213 Uhden Street, and 304 Park Place and known as Assessor Parcel Numbers 007-282-04, 08, and 09, consisting of approximately Twenty-Six Thousand (26,000) square feet, (the "Property") as shown on Exhibit "A", attached hereto and made a part of.
- B. Tenant and Landlord entered into a lease agreement on April 13, 1994, for nominal rent of One Dollar (\$1.00) per year, for use of the Property as a community garden for residents of the area (the "Original Lease"). Said lease agreement was for a term of one year, expiring April 12, 1995.
- C. The Original Lease agreement was subsequently amended to provide that the term would continue until cancelled by either of the parties, upon ninety days' notice.
- D. Tenant received notice from Landlord on March 16, 2015 that Landlord now wishes to utilize a portion of the Property (the "Landlord Parcel") for its own use and cancel the Original Lease agreement. Landlord has indicated willingness to lease the remainder of the Property to Tenant, under a new lease agreement, to continue as a community garden, for a period of three years.

**NOW THEREFORE**, for and in consideration of the covenants to be performed by Tenant under this Lease, Landlord agrees to lease certain property, as described below, to Tenant, and Tenant agrees to lease said property from Landlord, on the terms and conditions set forth herein.

- 1. Premises. Tenant shall lease from Landlord approximately Sixteen Thousand (16,000) square feet of the Property (the "Premises"), more particularly described in Exhibit "B," attached hereto and made a part hereof. Tenant has inspected the Premises prior to execution of this Lease, and agrees to take possession on the Premises "As Is" without any warranty, express or implied, other than those that may be set forth herein.



2. Use:

- a. Tenant agrees to utilize the property as a garden tended by community residents, subject to the terms of this Agreement and to all limitations and conditions established by the City of Santa Cruz Planning Commission in a Use Permit (Project No. CP-15-0202) issued December 17, 2015, (the "Use Permit") attached hereto as Exhibit "C." Landlord may restrict the use of the grounds to conform to applicable local, State, or Federal statutes. Tenant shall comply with all applicable statutes, ordinances, regulations, or rules pertaining to the use and occupancy of these grounds, as set forth in Exhibit C.
- b. Tenant shall have the discretion to establish the size and number of individual garden plots within the Premises.

3. Permits: Tenant shall obtain and keep in force all permits and permissions required to operate the garden.

4. Term. The term of this lease shall be three years commencing on the Effective Date, and terminating three years later, unless otherwise terminated according to the terms of Section 12, below.

5. Rent. The annual lease rental shall be One Dollar (\$1.00) payable by Tenant to Landlord at the Office of the Property Manager of the Santa Cruz Seaside Company. Rent for the entire period of the lease shall be paid within thirty (30) days of the execution of this Lease.

6. Utilities:

- a. Tenant shall be responsible for supplying and payment of all applicable utilities and other services furnished to or used on the Premises, including water, gas, electricity, green waste, and trash removal.
- b. If it becomes necessary to prohibit and regulate the use of water for conservation purposes, and the City Council has adopted an ordinance for such purposes, the Tenant shall bear the responsibility for payment of all fees, penalties, or charges for the use of water under such ordinance.

7. Taxes. Tenant shall be responsible for payment of any real-property taxes or possessory interest taxes that may be assessed upon the Premises under provision of State or Federal law. Tenant shall pay the taxes within thirty (30) days of receiving an invoice from Landlord showing total tax due for the entire parcel and breaking out Tenant's share.

8. Improvements to Property, Repairs and Maintenance, Inspections.

- a. Tenant shall not make or suffer to be made any alterations or improvements to the Premises without the prior written consent of Landlord, other than to divide the property into several individual plots of land and install fencing around the

perimeter of the Premises, as stated below. It is acknowledged and accepted by both parties that various alterations to the property will result from the planting and maintenance of gardens, and such activities are hereby approved by Landlord. All such alterations and improvements shall be made in accordance with the Use Permit.

- b. Tenant is responsible for all repairs and maintenance to the Premises and to the fencing installed around the Premises. Landlord is responsible for the repair and maintenance of the fencing on Third Street and the section on Uhden Street adjacent to Landlord's premises .
  - c. Landlord and Tenant shall together conduct an annual walkthrough inspection in October of each lease year. The date of the walkthrough shall mutually be scheduled and is subject to change by mutual agreement.
  - d. Landlord shall additionally have the right to make inspections of grounds, upon providing Tenant with 24-hour written notice, to assure compliance with the terms of this Agreement.
9. Fencing: Tenant and Landlord agree to share the cost to purchase and install fencing for the Premises. Landlord agrees to pay the cost to install fencing on the Third Street frontage and a proportionate share of the expense for Landlord's portion of Premises fronted by Uhden and Raymond Streets (based on linear footage) as well as 50% of the cost of the internal fence separating the Garden from the property being used by the Seaside Company. The fence separating the Garden from the Seaside Company portion shall be a visually solid wooden fence. Tenant shall bear the cost of the balance of the work. Tenant will install internal fencing. In addition, Tenant agrees to create a curb-cut on Uhden Street adjacent to the Seaside Company portion of the property, to provide vehicle access to the Seaside Company portion of the Property. The parties acknowledge that, pursuant to the California Labor Code, the fence installation work is subject to the payment of prevailing wages.

10. Hazardous Substance or Waste.

- a. Hazardous Materials. As used in this Lease, the term "hazardous materials" shall mean any substance or material which has been determined by the State of California, the federal government, or any agency of said governments to be capable of posing a risk of injury to health, safety and property including, but not limited to, all of those materials and substances designated as hazardous or toxic by the Environmental Protection Agency, the California Water Quality Control Board, the U.S. Department of Labor, the California Department of Industrial Relations, the Department of Transportation, the Department of Agriculture, the Consumer Products Safety Commission, the Department of Health, Education & Welfare, the Food & Drug Administration or any other governmental agency now or hereafter authorized to regulate materials and substances in the environment. Without limiting the generality of the foregoing, the term "hazardous materials" shall

include all of those materials and substances defined as "toxic materials" in Sections 66680 through 66685 of Title 22 of the California Administrative Code, Division 4, Chapter 30, as the same may be amended from time to time.

- b. **Tenant's Compliance.** Tenant shall promptly comply with all laws related to hazardous materials, including any and all required monitoring and record keeping, and any orders of a governmental authority requiring the cleanup and removal of hazardous materials from the Premises. If the Premises, or any part thereof (including the soil, surface water, ground water or the air in or about the Premises), becomes contaminated by any hazardous material through an act or omission of Tenant, its agents, employees, or invitees, Tenant shall promptly at its sole cost take all action necessary to clean up and remove such contamination and restore the Premises to the condition existing immediately prior to the existence of such hazardous material in or about Premises. Tenant's obligations under this paragraph shall survive Lease termination. Tenant shall immediately notify Landlord in writing if Tenant causes or permits any hazardous material to be used or kept in or about the Premises or knows or has reasonable cause to believe that any hazardous material has come to be located in or about the Premises or discovers the existence of any hazardous material in or about the Premises. Tenant shall be solely responsible for the cost of any required cleanup and removal of hazardous materials and/or toxic wastes which have been placed or left upon the Premises by Tenant after the date of execution of this Lease.
- c. **Indemnification by Tenant.** Tenant shall indemnify Landlord and its successors and assigns against and hold them harmless from any and all of the following claims, demands, liabilities, damages, including punitive damages, costs, expenses and reasonable attorney's fees, herein collectively referred to as "Claims":
  - i. Any claim by a federal, state or local government agency arising out of or in any way connected with the environmental condition of the Premises caused by an act or omission of Tenant, its agents, employees, or invitees, including, but not limited to, claims for cleanup of hazardous materials on the Premises; and
  - ii. Any claim by a successor in interest of Tenant, or by any subtenant, licensee, or invitee of Tenant arising out of or in any way connected with the environmental condition of the Premises caused by any act or omission of Tenant, its agents, employees, or invitees.
- d. **Indemnification by Landlord.** Landlord shall indemnify Tenant and its successors and assigns against and hold them harmless from any and all of the following claims, demands, liabilities, damages, including punitive damages, costs, expenses and reasonable attorney's fees, herein collectively referred to as "Claims":
  - i. Any claim by a federal, state or local governmental agency arising out of or in any way connected with the environmental condition of the Premises existing prior to commencement of the Tenant's Original Lease which

commenced April 13, 1994, that was not caused by any act or omission of Tenant, its agents, employees, or invitees, including, but not limited to claims for cleanup of hazardous materials on the Premises; and

- ii. Any claim by a successor in interest of Tenant, or by any subtenant, licensee, or invitee arising out of or in any way connected with the environmental condition of the Premises existing prior to commencement of the Tenant's Original Lease, which commenced April 13, 1994, that was not caused by any act or omission of Tenant, its agents, employees, or invitees.

#### 11. Insurance and Hold Harmless.

- a. Tenant agrees to indemnify, defend, and hold harmless Landlord, its affiliates, members, shareholders, officers, directors, employees, and agents, from and against any and all claims, demands, actions, damages, or judgments, including associated costs of investigation and defense, arising from any omission, fault, negligence, or other conduct of Tenant, its permittees, invitees, or any members of the public, in any way related to or in connection with Tenant's, its permittees', invitees', or any member of the public's occupancy, activity, use, maintenance or repair of the Property, except to the extent that such claims, demands, actions, damages or judgment are caused by the negligence or wrongful conduct of Landlord, its affiliates, members, shareholders, officers, employees or agents.
- b. Without limiting the foregoing in any way, Tenant shall carry Liability Insurance in an amount of not less than Two Million Dollars (\$2,000,000) per occurrence combined single-limit Bodily Injury and Property Damage liability coverage. Alternatively, Tenant may self-insure for said coverage.
- c. Tenant shall obtain and maintain, during the life of the agreement, Worker's compensation Insurance, covering all its employees on the project, with a company satisfactory to Landlord. Alternatively, Tenant may be self-insurance for said coverage.
- d. For all insurance provided above, policies shall provide that the same cannot be cancelled except upon thirty (30) days' written notice to Landlord.
- e. Except for Workers' Compensation, all insurance provided above shall name Landlord, its affiliates, members, shareholders, officers, directors, employees, and agents as an additional insured and shall include cross liability in favor of Landlord, its officers, agents and employees.
- f. A certificate of insurance, or evidence that Tenant is permissibly self-insured, shall be furnished to Landlord as evidence of the above coverages and conditions prior to occupancy of the Premises. Any statements that relieve the insurance company from liability if notice of cancellation is not sent are not acceptable.

12. Termination of Lease.

- a. This lease may be terminated immediately by Landlord, upon providing written notice to Tenant, for the following:
    - i. Landlord determines, in its sole discretion, that it desires to terminate the Lease, or in the event that Landlord's application for a use permit and coastal development permit for the project described in that certain application submitted to the City of Santa Cruz in April, 2016 and identified as Application No. CP16-0081 is denied by final action of the City Council.
    - ii. Tenant has not substantially complied with all applicable provisions of the Use Permit, attached hereto as Exhibit C.
    - iii. Tenant is in default of any term of this lease, and has failed to correct the default within thirty (30) days after being notified by Landlord of said default. Until the default is fully corrected, Tenant shall pay market rate rent for the Premises.
    - iv. Tenant's failure to correct, within thirty (30) days after Landlord provides written notice, any condition or practice which the Landlord, in its sole discretion, determines to be defective, unsafe, unhealthful, or unlawful.
    - v. Upon mutual written agreement of the Parties.
  - b. Notice of Termination under Paragraph 12(a) may be effective as soon as sixty (60) days after delivery of notice by Landlord of said termination. In the event of termination of this Lease, whether through expiration or exercise of rights under this Paragraph 12, Tenant shall make its best reasonable efforts to return the Premises to Landlord, vacant and clear of all garden-related improvements, by the effective date of a termination given hereunder.
13. Damage to Premises. If the Premises be so damaged by fire, flood, earthquake, casualty or other cause as to be unfit for use as a garden, then this lease shall terminate as of the date of such damage. Landlord shall not be liable to Tenant for any loss or damage sustained by Tenant due to such events, casualties, or other causes
14. Assignment or Subletting Prohibited. Tenant shall not assign this agreement or sublet the Premises or any portion thereof, under any circumstances. No assignment or subletting may be made to any invitee or licensee, including gardeners for garden plots. Plots shall be permitted annually, on a calendar year basis, utilizing a form of permit subject to Landlord's review and comment, and which disclaims and makes best efforts to preclude the creation of tenancy rights in the gardeners.

15. Notice. Any notice, demand or other communication required or permitted by law or any provision of this Lease to be given or served on either party shall be in writing, addressed to the party at the address set forth below, or such other address as the party may designate from time to time by notice, and (a) deposited in the United States Mail, registered or certified, return receipt requested, postage prepaid; (b) delivered by an overnight private mail service which provides delivery confirmation; (c) personally delivered at such address; or (d) sent electronically by way of facsimile or email transmission. All communications delivered as set forth herein shall be deemed received by the addressee on the delivery date, or the delivery refusal date shown on the return receipt or the delivery confirmation, or the facsimile confirmation date evidencing successful transmission, or the email transmission date provided the sending party does not receive electronic notification of failed delivery.

**To Landlord:**

Santa Cruz Seaside company  
Attn: Kris Reyes  
400 Beach Street  
Santa Cruz, CA 95060  
Phone: (831) 423-5590  
Email: [pr@scseaside.com](mailto:pr@scseaside.com)

**With a copy to:**

Baskin & Fowler, Inc.  
Attn: Caleb Baskin  
101 Cooper Street  
Santa Cruz, CA 95060  
Phone: 831-427-7970  
Email: [Caleb@baskinandfowler.com](mailto:Caleb@baskinandfowler.com)

**To Tenant:**

City of Santa Cruz  
Attn: Director of Parks & Recreation  
323 Church Street  
Santa Cruz, CA 95060  
Phone: (831) 420-5270  
Email: [parksandrec@cityofsantacruz.com](mailto:parksandrec@cityofsantacruz.com)

**With a copy to:**

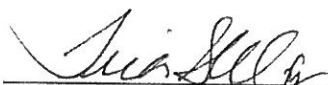
City of Santa Cruz  
City Attorney  
PO Box 481  
Santa Cruz CA 95061  
Email: [tcondotti@abc-law.com](mailto:tcondotti@abc-law.com)

IN WITNESS WHEREOF, the parties have executed this Lease as of the dates set forth below.

LANDLORD: Santa Cruz Seaside Company

TENANT: City of Santa Cruz

By: 

By:  Martin Bernal, City Manager


Date

4-26-16

Date

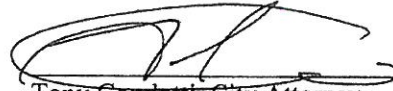
4/26/16

Approved as to Form:



Caleb Baskin, Baskin & Fowler, Inc.  
Attorneys for LANDLORD

Approved as to Form:



Tony Condotti, City Attorney  
Attorney for TENANT

Exhibit A  
("Property")



Updated:

Actualizado:

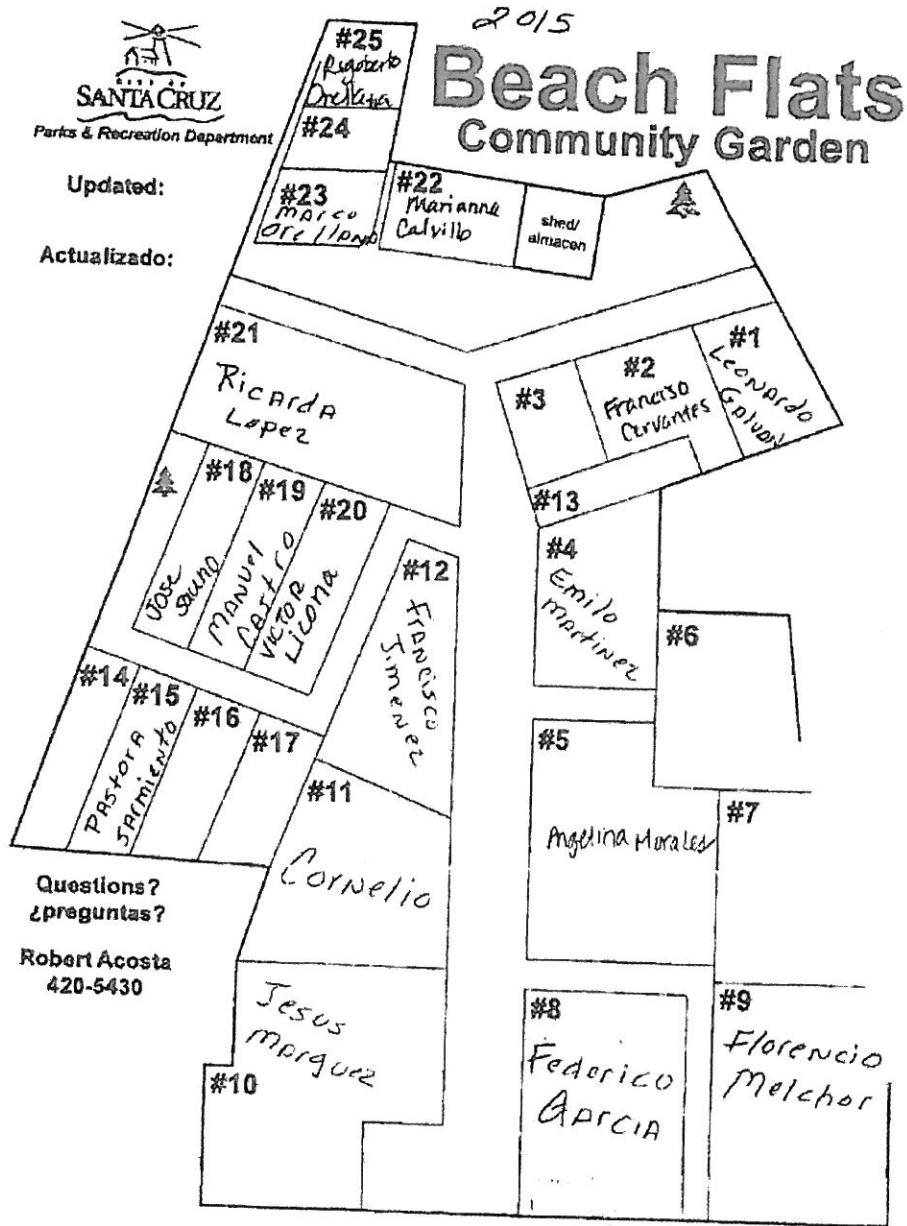




Exhibit B  
("Premises")





## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Public Works

**SUBJECT:** Highway 1/9 Intersection Improvements (c400805) – Budget Adjustment (PW)

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**RECOMMENDATION:** Resolution transferring and appropriating funds and amending the FY 2021 project budget in the amount of \$2,188,000 in RSTPX grant funds for the Highway 1/9 Intersection Improvements project (c400805).

---

**BACKGROUND:** The project was awarded \$2,188,000 in Regional Surface Transportation Exchange (RSTPX) funds for construction in 2019. See the attached letter for the funding allocation for the Highway 1/9 Intersection Improvements project (c400805).

**DISCUSSION:** The grant funds have not yet been incorporated into the project accounting, and this action formally incorporates the funds into the project budget. As previously reported, the project bids were opened on April 1, 2021 and the apparent low bidder is Graniterock, in the amount of \$6,063,000. The construction estimate is \$5,887,400. The grant funding will fully fund the project.

**FISCAL IMPACT:** Construction is currently funded from State transportation grants in the amount of \$5,041,000, with the remainder funded from Traffic Impact fees, Gas Tax. The RSTPX grant funds fully fund the project. STIP funds are being added to the project and Federal Capital Grants removed to match Project Accounting. There is no impact to the General Fund.

**Prepared By:**  
Christophe Schneiter  
Assistant Director and City  
Engineer

**Submitted By:**  
Mark R. Dettle  
Director of Public Works

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. BUDGET ADJUSTMENT.PDF
2. STBGRSTPX FUND REQUEST THROUGH FY 2021 LETTER DATED 10-18-2019.PDF

☒ Council Approval  
☐ Administrative Approval

**City of Santa Cruz  
BUDGET ADJUSTMENT REQUEST**

**Clear Form**

Fiscal Year: 2021  
 Date: 04/13/2021

CM/FN Use Only:  
 Reso #:  
 JE Post#:

Purpose: Receive and appropriate grant funds for c400805 State Route 1/9 Intersection Improvements to fully fund the project.

| ACCOUNT              | PROJECT                                   | REVENUE EDEN ACCOUNT TITLE   | AMOUNT     |
|----------------------|---|------------------------------|------------|
| 221-40-64-9330-43252 | c400805-400-2000-4047                     | State Capital Grants - RSTPX | 2,188,000  |
|                      | State Route 1/9 Intersection Improvements |                              |            |
| 221-40-64-9330-43253 | c400805-400-2000-1096                     | State Capital Grants - STIP  | 2,853,000  |
| 221-40-64-9330-43150 | c400805-111-0000-0                        | Federal Capital Grants       | -2,853,000 |
|                      |   |                              |            |
| TOTAL REVENUE        |   |                              | 2,188,000  |

| ACCOUNT              | PROJECT                                   | EXPENDITURE EDEN ACCOUNT TITLE | AMOUNT    |
|----------------------|---|--------------------------------|-----------|
| 221-40-64-9330-57304 | c400805-100-2020-0                        | Street Systems                 | 2,188,000 |
|                      | State Route 1/9 Intersection Improvements |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
|                      |   |                                |           |
| TOTAL EXPENDITURE    |   |                                | 2,188,000 |

**NET: \$ 0**

| REQUESTED BY           | DEPARTMENT HEAD APPROVAL  | BUDGET/ACCOUNTING* APPROVAL   | FINANCE DIRECTOR APPROVAL   | CITY MANAGER APPROVAL |
|------------------------|---|---|---|-----------------------|
| <i>Chris Schneider</i> | Chris Schneider<br><small>Digitally signed by Chris Schneider<br/>Date: 2021.04.21 07:57:34 -07'00'</small> | Lupita Alamos<br><small>Digitally signed by Lupita Alamos<br/>DN: cn=Lupita Alamos, o=City of Santa Cruz, ou=Finance, email=lupita.alamos@cityofsantacruz.com, c=US<br/>Date: 2021.04.21 08:15:51 -07'00'</small> | Kim Krause<br><small>Digitally signed by Kim Krause<br/>DN: cn=Kim Krause, o=City of Santa Cruz, ou=Finance Department, email=kkrause@cityofsantacruz.com, c=US<br/>Date: 2021.04.21 08:34:42 -07'00'</small> |                       |



PUBLIC WORKS DEPARTMENT  
809 Center Street, Room 201, Santa Cruz, CA 95060 • 831 420-5160 • Fax: 831 420-5161

October 18, 2019

Mr. Guy Preston  
Executive Director  
Santa Cruz County Regional Transportation Commission  
1523 Pacific Avenue  
Santa Cruz, CA 95060

Subject: STBG/RSTPX Fund Request through FY 20/21

Dear Mr. Preston,

The City is appreciative of the Commission and staff's endorsement of a formula allocation for the upcoming STBG/RSTPX program. The City of Santa Cruz hereby requests the following funding for eligible and programmed projects:

|                                       |             |
|---------------------------------------|-------------|
| Route 1/9 Intersection Improvements:  | \$2,188,000 |
| River Street Pavement Rehabilitation: | \$370,000   |

The Route 1/9 project has experienced cost increases over the life of project development. The increases will fully fund the project based on the current construction cost estimate. The final project plans, specification, estimate, and other documentation were submitted for approval to Caltrans this week. Right-of-way acquisition is moving along well and certification is anticipated in March 2020. The City is requesting \$2,000,000 in RSTPX funds available for programming through FY 20/21 and transferring \$188,000 in RSTPX funds from the Soquel Ave at Frederick St Intersection Modification project. The Soquel-Frederick project is more complicated than anticipated primarily due to the major utility poles and lines that intersect at this corner. A review of the intersection operations and 5-year collision history reflect that the existing intersection is working relatively well. The local and state funding currently programmed is inadequate to complete a project and staff resources are focused on higher priority projects.

The River Street Pavement Rehabilitation project design is complete and will be ready to advertise for bids this month. The project construction costs have increased since programming based on general construction cost escalation, green bike lanes and access ramp construction.

Thank you for considering this request to fund these much needed projects. Please call Chris Schneider, Assistant Director/City Engineer at 420-5422 should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark R. Dettle", followed by the letters "MRD" in a stylized, bold font.

Mark R. Dettle  
Director of Public Works

Attach: Summary Project List  
Route 1/9 Project Programming Request  
River Street Project Programming Request

cc: Assistant Director, Public Works  
Assistant Director, Finance  
Transportation Manager (JB)  
Senior Civil Engineer (JS)





## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Public Works

**SUBJECT:** Consulting Engineering Services for the San Lorenzo River Levees  
Geotechnical Investigation (c402109) – Advertise Request for Proposals  
and Award Contract (PW)

---

**RECOMMENDATION:** Motion to authorize staff to advertise for the San Lorenzo River Levees Geotechnical Investigation (c402109) Request for Proposals for consulting engineering services, award the contract, and authorize the City Manager to execute a contract in a form approved by the City Attorney. The Director of Public Works is authorized to execute change orders within the approved project budget.

---

**BACKGROUND:** The San Lorenzo River levees were constructed in 1959 as the main component of a large-scale cooperative flood control project between the City of Santa Cruz (City) and the United States Army Corps of Engineers (USACE). Subsequent flood control improvements and ecological enhancements were proposed in the 1987 and 1989 San Lorenzo River Plans to implement sediment removal and drainage maintenance practices, while establishing and maintaining a continuous corridor of riparian habitat in the flood channel.

Between 1996 and 2003, bridges crossing the San Lorenzo River were reconstructed to allow greater flood flows to pass, the existing levees were raised, and additional biological enhancement efforts were implemented. Today, the leveed portion of the San Lorenzo River is open to the public and the paved levee crown, known as the Santa Cruz Riverwalk, provides recreational opportunities and scenic views along the river. The Riverwalk provides direct access to downtown Santa Cruz and ends at the Santa Cruz Beach Boardwalk. The San Lorenzo River levees protect life and property within the City core areas, which include the City's central business district, and high-density residential and commercial areas.

**DISCUSSION:** In 2003, USACE completed construction of the San Lorenzo River Project (Project). In 2020 the responsibilities for operation, maintenance, repair, rehabilitation, and replacement (OMRR&R) of the flood control facilities was transitioned from USACE to the City. Portions of the city are currently mapped in a Federal Emergency Management Agency (FEMA) A-99 zone, including the downtown, beach flats, and lower Ocean areas.

The City is seeking to certify the levee system as meeting the FEMA criteria outlined in Title 44, Section 65.10 of the Code of Federal Regulations (44 CFR 65.10). This will result in the City being mapped into a Zone X on the flood insurance rate map (FIRM). Zone X indicates an area of moderate flood hazard, and can also designate base flood plains of lesser hazards, such as

areas protected by levees from 100-year floods. If the City does not complete certification of the levee system, property owners would lose their 50% discount on flood insurance rates for properties that fall within the city flood plain. This discount saves property owners \$1.5 million per year with lower flood insurance rates.

The City has retained MBK Engineers (MBK) to provide program management to oversee the engineering evaluation and identify any remaining items or other actions deemed necessary to complete FEMA certification of the San Lorenzo River levee system. In order to certify the levee, a thorough geotechnical investigation and subsequent evaluation are required for FEMA certification.

**FISCAL IMPACT:** This project is fully funded in the Stormwater Overlay Enterprise Fund under project c402112. There is no impact to the General Fund.

**Prepared By:**  
Katie Shurtleff  
Associate Professional  
Engineer

**Submitted By:**  
Mark R. Dettle  
Director of Public Works

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. REQUEST FOR PROPOSALS.DOC

**City of Santa Cruz**  
**Request for Proposals for Consulting Engineering Services for**  
**San Lorenzo River Levees Geotechnical Investigation**

**NOTICE INVITING PROPOSAL FOR:**

**Consulting Engineering Services for San Lorenzo River Levees Geotechnical Investigation**

**Proposals Due: Tuesday, June 8th, 2021 at 2:00 PM**

**Deliver Proposals to:**

Katie Shurtleff  
Santa Cruz Public Works  
809 Center Street, Room 201  
Santa Cruz, CA 95060

**It is the Consultant's responsibility to verify that the proposal is delivered on time.**

**Project Description:**

The City of Santa Cruz (City) Department of Public Works is soliciting proposals from qualified consultants to provide consulting and engineering support services for a geotechnical investigation of the City's levees and produce a Geotechnical Evaluation Report to meet the Federal Emergency Management Agency (FEMA) requirements for certification of the San Lorenzo River levee system. The work will generally consist of: geotechnical investigation, production of a geotechnical data report, geotechnical analysis, production of a geotechnical evaluation report, and a structural assessment of penetrations, drainage structures, floodwalls, and retaining walls

**For More Information:**

The Request for Proposals (RFP) document, dated April 27, 2021, may be downloaded from the City's website <http://www.cityofsantacruz.com> under Bidding Information. Paper copies may be obtained from Public Works Department, 809 Center Street Room 201, Santa Cruz, California, 95060.

For additional information or assistance, contact Katie Shurtleff, Associate Professional Engineer, at 831/420-5442, FAX 831/420-5161, Email: [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com) .

The City reserves the right to reject any or all proposals and waive any informality or minor defects in proposal received.

**Questions:**

Questions regarding the RFP must be submitted by **Tuesday, May 25<sup>th</sup>, 2021 at 2:00 PM.**



**City of Santa Cruz**  
**Request for Proposals for Consulting Engineering Services for**  
**San Lorenzo River Levees Geotechnical Investigation**

**SECTION 1: GENERAL INFORMATION**

**1.1 Summary Scope of Work**

The City of Santa Cruz (City) Department of Public Works is soliciting proposals from qualified consultants to provide consulting and engineering support services for a geotechnical investigation of the City's levees and produce a Geotechnical Evaluation Report to meet the Federal Emergency Management Agency (FEMA) requirements for certification of the San Lorenzo River levee system.

**1.2 Background**

The San Lorenzo River levees are located in an urbanized area, which lies within the central part of the City, and in the northern portion of Santa Cruz County (County). The original levees were constructed in 1959 as the main component of a large-scale cooperative flood control project between the City of Santa Cruz and the United States Army Corps of Engineers (USACE). Subsequent flood control improvements and ecological enhancements were proposed in the 1987 and 1989 San Lorenzo River Plans to implement sediment removal and drainage maintenance practices, while establishing and maintaining a continuous corridor of riparian habitat in the flood channel.

Between 1996 and 2003, bridges crossing the San Lorenzo River were reconstructed to allow greater flood flows to pass, the existing levees were raised, and additional biological enhancement efforts were implemented. Today, the leveed portion of the San Lorenzo River is open to the public and the paved levee crown, known as the Santa Cruz Riverwalk, provides recreation opportunities and scenic views along the river. The Riverwalk provides direct access to Downtown Santa Cruz and ends at the Santa Cruz Beach Boardwalk (City of Santa Cruz, 2003).

The Federal Project levees for the proposed Federal Emergency Management Agency (FEMA) geotechnical evaluation are comprised of two levees: 9,400 feet along the right bank (west levee) and 8,800 feet along the left bank (east levee). The levees have an average height of approximately 10 feet, with an effective crown width of approximately 20 feet. The waterside slopes vary between 2 horizontal and 4 horizontal to 1 vertical (H:V), whereas the landside slopes are approximately 2.5H:1V. Along most reaches, the levee is generally constrained on the landside by existing commercial development adjacent to the landside toe. There is vegetation comprised of trees and shrubbery that is present on the levee system. This vegetation was included in the USACE contract and is documented in the record drawings and OMRR&R manual.

The San Lorenzo River levees serve as a central levee system that protects life and property within the City core areas, including the City's Central Business District, high-density residential and commercial areas. The San Lorenzo River and its tributaries receive floodwaters within the San Lorenzo River Basin located in the Santa Cruz Mountains, and drain a total watershed area of approximately 135 square miles. The Basin is approximately 22 miles long and 9 miles wide

**Objectives:**

In 2003, USACE completed construction of the San Lorenzo River Project (Project) and has transferred the responsibilities for operation, maintenance, repair, rehabilitation, and replacement (OMRR&R) of the flood control facilities to the City of Santa Cruz (City). The City is currently mapped in a Federal Emergency Management Agency (FEMA) A-99 zone. With completion of the Project, the City is seeking

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to certify the levee system as meeting the FEMA criteria outlined in Title 44, Section 65.10 of the Code of Federal Regulations (44 CFR 65.10). This will result in the City being mapped into a Zone X on the flood insurance rate map (FIRM). The City has retained MBK Engineers (MBK) to provide program management to oversee the engineering evaluation and identify any remaining items or other actions deemed necessary to complete FEMA certification of the San Lorenzo River levee system.

Based on the evaluation of the USACE-led efforts to originally construct and implement subsequent improvements to the levees and the documentation available to date, there may not be enough information available to demonstrate that the levees meet FEMA 44 CFR 65.10 requirements and a thorough geotechnical investigation and subsequent evaluation are required for FEMA certification. Additional subsurface investigation and analyses may be needed to determine if the levees meet underseepage and stability requirements as defined in 44 CFR 65.10

### **1.3 City's Point of Contact**

All communications shall be submitted in writing, by fax, or email and shall specifically reference this RFP. Oral communications from the City Contact or other individuals will not be binding. If you have any questions concerning this solicitation, please contact Katie Shurtleff, Associate Professional Engineer, at 831/420-5442, FAX 831/420-5161, Email: [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com).

#### **1.3.1 City not Responsible for Assumptions Made by Respondent**

Each Respondent shall represent that they have incorporated their own understanding and assumptions into its Statement of Qualifications. Neither City's participation in the Collaboration Process, any clarification meetings, nor subsequent award, shall in any way be interpreted as agreement or approval that Respondent's assumption to be reasonable or correct. The City disclaims any responsibility or liability for Respondent's independent assumptions in preparation and submittal of its Proposal.

Questions regarding the RFP must be submitted by **Tuesday, May 25th at 2:00 PM.**

### **1.4 Proposal Deadline**

Proposals are due by **2:00PM on Tuesday, June 8<sup>th</sup>, 2021**. All proposals must be delivered to the Santa Cruz Public Works, 809 Center Street room 201, Santa Cruz, California, 95060 before the due date and time. **Late proposals shall not be considered. It is the consultant's responsibility to verify that the proposal is received on time.**

Respondents will deliver 2 unbound copies (one [1] original and one [1] copy) of the proposal in a sealed envelope. Respondents will deliver 1 electronic copy (PDF format) of the proposal to [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com). Respondents will deliver one [1] preliminary cost proposal in a separate sealed envelope. The original paper copy shall be clearly marked "Original" and must bear the original signatures. The City prefers for proposal to be printed on recycled and recyclable paper. Plastic covers, inserts and bindings are not allowed. Late proposals may be considered at the City's discretion.

### **1.5 Proposal Evaluation and Award**

A contract for Consulting Engineering Services for San Lorenzo River Levees Geotechnical Investigation will be awarded based on the following criteria:

1. Responsive Proposal received on time and completed per instructions,

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2. Compliant Proposal in accordance with specifications and industry standards,
3. Responsible Consultant based on the City's consideration of the following:
  - a. Consultant's qualifications, relevant project experience, and references
  - b. Resumes of consultant's key team members including individual project experience, professional/technical qualifications, and professional license information
  - c. Consultant's proposed work plan
  - d. Consultant's quality and responsiveness of the proposal

The City intends to conduct interviews in the process of selecting the most qualified firm. Interviews will be conducted remotely using Zoom or an equivalent video conferencing software. The firm deemed to be the most qualified will be engaged with negotiations of a contract to follow. The preliminary cost proposal shall be itemized correlating to tasks identified in Section 2 of this document. If an agreement cannot be reached with the first consultant selected, negotiations will be terminated, and the next consultant in order of ranking will be asked to negotiate.

Consultants have the right to take exception to the specifications or terms to this solicitation. Any exceptions taken must be explained in the proposal. Any exceptions that contradict the City's terms and conditions, or that contain provisions not in the best interest of the City, as determined by the City in its sole discretion, will disqualify the consultant. If exceptions are not explained, the Consultant will comply with the specifications as stated in this solicitation.

The City reserves the right to reject any or all proposals and waive any informality or minor defects in proposals received. The City is not liable for any cost incurred in the preparation of the proposals.

#### **1.6 Organization of this RFP Document**

The Request for Proposals (RFP) is organized in these sections:

**Section 1- General Information to Consultants:** Contains summary scope of work, contact information, proposal due date, and general background information.

**Section 2- Specifications:** Provides details regarding the contract requirements.

**Section 3- Process Instructions:** Contains the tentative RFP schedule, explains how the proposals will be evaluated, and presents administrative information on the conduct of the RFP process.

**Section 4- Terms and Conditions:** Details the City's contract terms and conditions, Sample Professional Services Agreement

#### **Attachment A – Sample Professional Services Agreement**

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## **SECTION 2: SPECIFICATIONS**

### **2.1 Scope of Services**

The scope of services, pertaining to consulting and engineering support services sought, are as follows:

#### Task 1 – Geotechnical Investigation

The Consultant will perform a geotechnical subsurface investigation consisting of a number of soil borings per Consultant's recommendation (approximately one boring for every 1,000 feet of levee at a minimum) to a depth of at least 4 times the levee height, measured from the levee crest to landside levee toe, or a minimum of 60 feet whichever is greater. Prior to performing any field activities, the Consultant will prepare draft and final Subsurface Investigation Work Plan (SWIP) which details the proposed locations and methods for performing geotechnical borings, soil sampling, and laboratory testing. Following approval from the City and USACE of the Final SWIP the Consultant will perform the geotechnical investigation including boring, sampling, and testing.

The Subsurface investigation will be performed in general accordance with the following requirements:

- The Consultant will confirm and mark all final exploration locations in the field.
- The City will provide hard copies of all required Environmental Clearances and Cultural Resource Monitoring and Clearances.
- The City will provide all required Right-of-Entry on private property. The Consultant will obtain all required Right of Entry on public areas from the City or other applicable public agency.
- The Consultant will obtain all Underground Service Alert (USA) clearances, and all other drilling and encroachment permits as required by Public Works, Santa Cruz County Environmental Health (grouting inspection permit), California Department of Fish and Wildlife, California Coastal Commission, California State Water Resources Control Board, and U.S. Army Corps of Engineers.
- The Consultant will notify the City a minimum of three (3) calendar days prior to starting field explorations.
- Only a licensed Geologist or Civil Engineer shall log the exploration and have at least 2 years' experience in logging and classifying soil in accordance with ASTM D 2488.
- Soil borings will be drilled using truck-mounted or all-terrain drill rig equipped with a 4-inch-diameter rotary wash drill bit or 6-inch diameter hollow stem auger. Borings located at the levee toe and landside field shall be drilled using rotary wash drilling methods. Borings located along the levee crown shall be drilled using hollow stem auger for the approximately upper 20 feet through levee fill materials. The hollow stem augers shall be left in place to provide casing within the levee and the remainder of the boring shall be drilled using the rotary wash drilling method.
- In the event of high water as determined by the City, all field exploration and boring shall be ceased and any open boreholes backfilled. The field exploration program shall not resume until the water levels are observed to be dropping and at an acceptable level.
- Sampling Procedures during the drilling operations shall include continuous penetration tests performed in accordance with ASTM D-1586 at maximum 2½ foot intervals.
- Coarse grained soils shall be sampled alternating between a California Penetration Sampler (3 inch outside diameter) and Standard Penetration Test Sampler (2 inch inside diameter) to evaluate the soils encountered and to retain soil samples for laboratory testing. The penetration tests shall be performed by initially driving the sampler 6 inches into the bottom of the bore hole using a 140

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pound trip-hammer falling 30 inches to penetrate loose soil cuttings and “seat” the sampler. Thereafter, the sampler shall be progressively driven an additional 12 inches, with the results recorded as the corresponding number of blows required to advance the sampler 12 inches, or any part thereof.

- If cohesive soils are encountered undisturbed samples shall be obtained using Shelby tubes. The pressure necessary to advance the sampling equipment shall be noted on the boring logs.
- Undisturbed soil samples (Shelby Tubes) obtained from the borings shall be packaged and waxed on both ends in the field to reduce moisture loss and disturbance and brought to the laboratory for testing. Small samples shall be collected from both ends and visually classified before the Shelby tubes are sealed. The Shelby tubes shall be stored vertically as collected from the borings.
- After completion of the borings, they shall be backfilled with grout in accordance with the local drilling permits.
- Leftover cuttings shall be placed in 55-gallon drums and disposed off-site, and the drilled area shall be cleaned prior to leaving the site.
- Upon completion of all soil boring activities, the Contractor shall survey the locations of the Borings in NAD 83, Feet, State Plane Zone 3 horizontal control and NAVD 88 datum vertical control.
- Hammer Energy Analysis – Perform one (1) Hammer Energy Analysis for each driller performing borings.
- Additional conditions from drilling permits issued by applicable local, state, and/or federal agencies will apply to the drilling activity.

Laboratory testing shall consist of primary and secondary tests. The laboratory shall have been accredited by AASHTO/ASTM in the tests they are required to perform. The Consultant shall be responsible for delivering the soil samples from the levee site to the laboratory. The Consultant shall select representative samples for testing. Upon completion of testing, the Consultant shall store all remaining samples for a minimum of 1 year or until the completion of all the Tasks in this scope of work. The Consultant shall perform soil classification, compression, strength, and permeability tests (consolidation, unconfined compression, triaxial shear, and/or hydraulic conductivity) on soil samples collected from the soil borings. Frequency of testing is anticipated to be as follows:

- Sieve analysis - one (1) sieve analysis test per sample obtained within all classified SM, SC, SP, and SW (ASTM D2488) soil types per boring. Maximum of ten (10) sieve analysis tests per boring. A hydrometer analysis on half of the sieve analyses performed shall be included to establish sample clay versus silt fraction.
- Atterberg Limits - one (1) Atterberg Limits per sample obtained within all classified SM, SC, CL, and ML (ASTM D2488) soil types located within twenty feet of the landside ground surface per boring. Maximum of 4 Atterberg Limits tests per boring. Each sample tested shall also have the natural water content determined.
- Consolidation - one (1) consolidation test within fine grained soil layer classified as CL and ML (ASTM D2488) soil types located within twenty feet of the landside ground surface per boring. Maximum of one (1) consolidation test per boring, with seven loads per consolidation test. Consolidation tests shall only be performed on samples obtained using the Shelby tubes. Additionally, an Atterberg Limits test shall be performed on each consolidation test sample.

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- Triaxial compression test on consolidated undrained samples with pore pressure measurements - (1) triaxial compression shear test (with a multiplier of 3 to reflect three different confining pressures per test) performed on observed weakest soil type based upon blow counts or exudation pressure, located within 20 feet of the landside ground surface per boring. Test specimen shall be taken from three specimens taken from the same Shelby tube on the same soil type. Maximum of two (2) triaxial shear tests per boring. Triaxial shear tests shall only be performed on samples obtained using Shelby tubes. Atterberg Limits and natural moisture content shall be determined on each sample tested.
- Hydraulic Conductivity – one (1) hydraulic conductivity test performed for each soil type encountered for each Levee Reach. Maximum of one (1) hydraulic conductivity test per boring.
- Moisture Density Tests- eight (8) moisture density tests per boring shall be performed.

**Task 2 – Geotechnical Data Report**

The Consultant will prepare a draft and final written report documenting all the work accomplished and the results of field and laboratory testing. The report shall contain, but not be limited to boring logs, laboratory test results, (N1)60 calculations and spreadsheets, CPT printouts, and all resulting summaries and conclusions related to the soil material properties and distribution. Final auger boring logs shall be in gINT format. The soils shall be classified in accordance to ASTM D2487. Final logs shall be included in the appendix. Electronic versions of the laboratory testing results shall be provided as shall summary plots that show all lab results. The Consultant shall submit a draft report for review. The City will review the draft report and provide written comments to the Consultant. The Consultant shall respond to the comments by making corrections or by written rebuttal. The Consultant shall revise the report and provide a final version to the City. Logs shall be submitted in gINT format or gINT compatible format in hard copy (paper) and electronic copy (compact disc) formats. Final laboratory test report shall be submitted in both hard copy (paper) and electronic copy (compact disc) formats.

**Task 3 – Geotechnical Analysis**

The Consultant will perform geotechnical analysis of the San Lorenzo River Levees in accordance with applicable FEMA guidance. This analysis will identify the existing geotechnical performance of the levee system for the 100-year water surface elevation. Water surface elevations will be provided to the Consultant by the City. Geotechnical evaluations will include analysis for underseepage, through seepage, landside slope stability, and waterside slope stability. Geotechnical analysis will be performed using computer numerical modeling software such as Geoslope GeoStudio SEEP/W and SLOPE/W. Cross-section locations used for modeling shall be based on soil profiles developed using existing and new subsurface investigations. Cross-sections used for modeling shall be based on recent survey data and extend sufficiently landward and waterward from the levee to capture conditions that can affect seepage entrance and exit conditions. The geotechnical analyses shall be coordinated with the City.

**Task 4 – Geotechnical Evaluation Report**

The Consultant shall prepare a draft and final Geotechnical Evaluation Report (GER) for the San Lorenzo River Levees. The purpose of this report is to summarize the geotechnical conditions based on the existing and new subsurface investigation, engineering analyses, and conclusions and recommendations to be used in support of a finding in regard to FEMA 44 CFR 65.10 geotechnical

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engineering requirements. At a minimum, the report will contain 1) background information, including a summary of the regional geology and geotechnical existing conditions based on existing geomorphology, previous and recent subsurface investigations, previous geotechnical studies and reports; 2) site geology and geomorphology, including regional groundwater settings; 3) site characterization including delineation of geotechnical reaches, cross-section characteristics, material properties and parameter selection; 4) geotechnical evaluation including analysis methodology and results. The geotechnical evaluation report shall be coordinated with the City.

**Task 5 – Assessment of Penetrations, Drainage Structures, Floodwalls, and Retaining Walls**

The Consultant shall conduct an assessment that determines the structural integrity and geotechnical impact of drainage structures (i.e., pipe, inlet/outlets, vaults), floodwalls, and retaining walls within the levee. Record Drawings and survey data will be provided to the Consultant and a field assessment will be required by the Consultant.

**Task 5.1 – Penetrations**

A penetration is defined as any linear element such as a pipe and conduit that is embedded in the levee prism and penetrates the core of the levee. For the purpose of this scope, penetrations include inlet and outlet structures associated with the penetration. Except as indicated for inlet and outlet structures, evaluation of penetrations that stop short of the levee prism are not included in this scope. Also included in this evaluation will be pressure piping that is within 20 feet of levee toe (where identifiable). Penetrations can be categorized as accessible (greater than 36” in diameter and ease of entry) and inaccessible (less than 36” or entry not possible). However, accessibility for physical inspection has not been confirmed and basis of scope is that the City will provide access. The Consultant will review and evaluate the external soil loads on penetrations and on inlet and outfall structures on the basis of known embankment geometry at the point of evaluation and soil characteristics obtained from existing geotechnical studies. The capacity of the pipe to withstand external soil load will be assessed. Where possible, penetration types and conditions will be grouped together in the analysis and the critical condition evaluated. Loading determination and structural analysis will be carried out in accordance with appropriate USACE Engineering Manuals and other standards.

Documentation shall include the study objectives, criteria, assumptions, methodology and results for the structural assessment of the penetrations.

**Task 5.2 – Floodwalls and Retaining Walls**

The Consultant will conduct a site reconnaissance with responsible maintenance personnel to verify and support the certification determination of the floodwalls and retaining walls that are present on the levees. The field reconnaissance will be documented through photographs and field notes. Compliance with as-built design details will be inspected for visible portions of wall. A site visit summary will be prepared documenting the findings of the floodwalls’ and retaining walls’ field condition.

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The Consultant will perform stability analysis and structural evaluation of floodwalls and retaining walls. Prior to start of analysis, a review of available information, including Routine and Periodic Inspection reports, as built drawings, levee system permits; original construction photographs; and other data that have been collected, shall be performed. The original design analysis, including calculations, will be compared to current USACE guidance to verify that the structures meet current design requirements. If the original design analysis is not available, then a detailed analysis using current USACE guidance will be completed. Loading determination and structural analysis will be carried out in accordance with EM 1110-2-2104 for a 1% event and EM 1110-2-2502. It is anticipated that this work will be performed in conjunction with the geotechnical evaluation. Hydraulic loading will be based upon the water surface profiles from others. It is anticipated that the Consultant will develop loading conditions for foundation analysis and hydraulic uplift loading based upon seepage analysis. In addition to structural analysis, the Consultant will assess floodwalls and retaining walls for proper detailing and compliance with design considerations presented in EM 1110-2-2502. Where there are consistent cross-sections along the floodwall and/or retaining wall reaches, analysis will be based upon critical and multiple cross-sections. As-built design details will be available in sufficient detail for analysis. Where further data is required, the Consultant will coordinate with the City to obtain the necessary data to support analysis.

Documentation shall include the study objectives, criteria, assumptions, methodology and results for the assessment of the floodwalls and retaining walls.

## **2.2 Additional Project Requirements**

### Reference Documents:

The Consultant's work shall meet the requirements for geotechnical investigation and analysis in the following:

- 44 CFR Part 65 – Identification and Mapping of Special Hazard Areas

The Consultant's geotechnical investigations and analysis shall be performed in general accordance with guidance provided in the following:

- ETL 1110-2-569 – Engineering and Design – Design Guidance for Levee Underseepage (2005)
- EM 1110-2-1913 Design and Construction of Levees (2000)
- EM 1110-2-1902 Slope Stability (2003)

The following existing reports relevant to the San Lorenzo River Levees are available for the Consultants use:

- City of Santa Cruz, 2003, San Lorenzo Urban River Plan, A Plan for the San Lorenzo River, Branciforte Creek, and Jessie Street Marsh. Prepared by City of Santa Cruz, San Lorenzo Urban River Plan Task Force. June 2003.
- USACE, 1994, San Lorenzo River, California, Feasibility Study, dated February 1994



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- USACE, 1999, San Lorenzo River, Contract 1 (Levee Improvement Project), final version dated May 17, 1999.
- USACE, 2000, San Lorenzo River, Contract 2 (Levee Improvement Project), final version dated June 5, 2000.
- USACE, 2011, Periodic Inspection Reports for San Lorenzo River Upper Left Bank, Lower Left Bank and Branciforte Creek, and Right Bank. Prepared by U.S. Army Corps of Engineers, San Francisco District. June 2011.
- USACE, 2014, San Lorenzo River Project, Performance Evaluation FINAL, Prepared by U.S. Army Corps of Engineers, San Francisco District. May 2014.
- USACE, 2015. Geotechnical Investigation Report. San Lorenzo River Right Bank Levee System (SZRR), Santa Cruz, California. Prepared by U.S. Army Corps of Engineers, San Francisco District. November 2015.
- USACE, 2019. Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) Manual. Prepared by U.S. Army Corps of Engineers, San Francisco District, dated September 27, 2019.
- MBK Engineers, 2019, City of Santa Cruz FEMA Evaluation Report, dated March 2019.

The following existing data are publicly available:

- County LiDAR data of the San Lorenzo River Levee system.

Meetings:

The Consultant's Project Manager or Engineering Lead will participate in the following milestone meetings:

- Project Kickoff Meeting
- Pre-Subsurface Investigation Meeting
- Geotechnical Analysis and Material Parameter Selection Review Meeting
- Geotechnical Analysis Results Meeting
- Draft Geotechnical Evaluation Report Review Meeting

All meetings shall be held at the City, unless otherwise notified. The Consultant will prepare meeting minutes and attendance records for each meeting. Draft meeting minutes will be provided to meeting attendees within 2 calendar days of the meeting and final meeting minutes within 7 calendar days.

Quality Control/Quality Assurance:

The Consultant will be responsible for providing Quality Control (QC) while the City will perform Quality Assurance (QA). The City's QA review of task deliverables will be assumed to be 15 calendar days. The Consultant will maintain an internal Quality Control Plan (QCP) that identifies the products and resources required to adequately perform QC technical reviews. The Consultant shall perform their own internal Independent Technical Review (ITR) of each submittal. The review shall be documented but documentation does not need to be submitted to the City except upon request. Products shall be reviewed for the following:

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- Compliance with established policy and other appropriate guidance
- Adequacy of the scope of the document
- Appropriateness of data used, including level of detail
- Appropriateness of alternatives evaluated
- Consistency
- Accuracy
- Comprehensiveness
- Reasonableness of results

Delivery Requirements:

The draft and final submittals shall be delivered directly to the City at the following address:

Katie Shurtleff  
Associate Professional Engineer  
City of Santa Cruz  
809 Center St.  
Santa Cruz, CA 95060

Report Format: Documents shall be provided in Microsoft Word (.doc) electronic format approved by the Government. Type face of report text shall be Times New Roman. Point size shall be 12. The report numbering shall be outline numbered as follows:

1.
  - 1.1.
    - 1.1.1 .

The first line on each sub paragraph shall be indented from the above paragraph.

Reports Production: Draft and Final Reports shall be provided bound with compact disks containing electronic copies of the reports. The Consultant shall submit three bound copies for each of the Draft, and Final versions of report deliverables to the City. Consultant shall submit one electronic (PDF format) copy for each Draft and Final version. A submittal letter shall accompany all Items of Work.

Bibliography/References: A complete list of all references cited in the report text and/or utilized in the analyses requested herein shall be included in the report.

Computations: All computations for the analyses requested herein shall be fully described and included in the technical engineering appendix to the report or other appropriate technical appendix.

Maps: Maps shall include a north arrow, scale, title block and legend. Fold-in or page-size maps shall show the study reach in relationship to nearby towns, rivers, and other major such features. Maps shall be legible when reproduced half-size. The Consultant shall provide full size reproducible maps, reduced size maps suitable for enclosure into the report and originals for all maps.

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GIS: Drawings shall be compatible with geodetic datum NAD 83, Zone 3 in U.S. Survey Feet and in ArcGIS. The Consultant shall use ArcGIS for layer development. The Consultant shall complete all data collection forms and conduct quality control on the data collection forms. The Consultant shall include all information in the appropriate electronic database and or format.

The Datum of the waypoints shall be NAD 83, Feet, State Plane Zone 3. Waypoint accuracy shall be Plus or Minus 30 feet.

Photos: Any digital pictures produced shall be “Hot-linked” to an appropriate location on the GIS theme and metadata shall be attached.

Electronic Media: All final text files generated under this task order shall be furnished to the City in Adobe Portable Document Format (PDF), with a working copy in Microsoft Office MS Word. Drawing files shall be submitted in AutoCAD or ArcGIS format.

Submittal Schedule: The submittal dates for the work are as follows:

| <u>Task</u>                            | <u>Task Completion (Calendar Days)</u>   |
|--|--|
| 1 – Subsurface Investigation Work Plan | <b>Draft:</b> 30 days after Task Order Award<br><b>Final:</b> 15 days after receipt of review comments   |
| 2 – Geotechnical Data Report           | <b>Draft:</b> Consultant to propose number of days based on work plan<br><b>Final:</b> 15 days after receipt of review comments  |
| 3 & 4 – Geotechnical Evaluation Report | <b>Draft:</b> Consultant to propose number of days based on work plan<br><b>Final:</b> 30 days after receipt of review comments, September 30 <sup>th</sup> 2022 or earlier. |
| 5 – Geotechnical Evaluation Report     | <b>Draft:</b> Consultant to propose number of days based on work plan<br><b>Final:</b> 30 days after receipt of review comments, September 30 <sup>th</sup> 2022 or earlier. |

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**SECTION 3: PROCESS INSTRUCTIONS**

**3.1 RFP Schedule**

The City will make every effort to adhere to the following schedule:

| <b>Action</b>                                      | <b>DATE</b>                |
|--|----------------------------|
| 1. Issue RFP                                       | <b>April 27, 2021</b>      |
| 2. Questions about RFP must be submitted by        | <b>May 25, 2021 by 2pm</b> |
| 2. Proposal due date                               | <b>June 8, 2021 by 2pm</b> |
| 3. Consultant selection/Notice of Selection Letter | <b>June 29, 2021</b>       |
| 4. Conclude Negotiations                           | <b>July 13, 2021</b>       |
| 5. Award Contract                                  | <b>July 20, 2021</b>       |

**3.2 Proposal Format**

PROPOSALS are due by **2:00 PM, on June 8<sup>th</sup>, 2021**. All proposals will be delivered to Santa Cruz Public Works, 809 Center Street room 201, Santa Cruz, California, 95060 before the due date. **Late submittals shall not be considered.**

Respondents will deliver 2 unbound copies (one [1] original and one [1] copy) of the Proposal in a sealed envelope. Respondents will deliver 1 electronic copy (PDF format) of the Proposal to [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com). Respondents will deliver one [1] preliminary cost proposal in a separate sealed envelope. The original paper copy shall be clearly marked “Original” and must bear the original signatures. The City prefers for proposals to be printed on recycled and recyclable paper. Plastic covers, inserts and bindings are not allowed. Late proposals may be considered at the City’s discretion.

**The City will not be liable for any expenses incurred by Consultants responding to this solicitation.**

**Proposal should be organized as follows:**

- a. Introductory Letter** - A brief formal letter that provides information regarding the firm and its understanding of the services to be performed. The letter shall include the following:
  - i. Company name (as it should appear in the contract)
  - ii. Company address
  - iii. Contact person, telephone number, and e-mail address
  - iv. The letter must be signed by an individual authorized to bind the proposing entity
- b. Describe firm’s capabilities and qualifications** – Your firm’s capabilities and resources in relation to the scope of services. This should include:
  - i. Provide a description of the firm, its qualifications, year business was established, and number of employees.
  - ii. Describe your firm’s capacity and ability to provide the required services in a timely manner; other on-going projects, accessibility of staff, flexibility and readiness to complete specified work.
- c. Identify key personnel and their qualifications**

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- i. Identify the key personnel assigned to this contract (including subconsultants when applicable and identify their expertise related to the required services) and describe their background, qualifications, credentials, recent similar experience, and responsibility on the required services. Provide resumes as appropriate.

**d. Demonstrate firm's experience**

- i. Describe methodologies, practices, process and standards used for accomplishing the work described in Section 2.
- ii. Describe firm's experience doing similar work for (a) other public agencies and (b) for private industries if applicable.
- iii. Describe experience with geotechnical investigation, analyses and reporting for FEMA levee accreditation.
- iv. Describe firm's knowledge of local, state, federal codes, and standards.
- v. List and describe 3 similar projects recently completed including dates of service and client. **NOTE: At least two (2) clients must be an entity other than the City of Santa Cruz.** Provide a minimum of 3 unique client references, including contact person and current telephone numbers and email addresses. References should focus on prior geotechnical investigation, analyses and reporting for FEMA levee accreditation.

### **3.3 RFP Addenda**

The City may determine it is necessary to revise any part of this solicitation. Revisions will be made by written addenda. It is each bidder's responsibility to understand and comply with any addenda to this solicitation.

Addenda will be:

- Emailed to known interested Consultants, or
- Posted on the City's website, [www.cityofsantacruz.com](http://www.cityofsantacruz.com), under Bidding Information, or
- Consultants may contact Katie Shurtleff, Associate Professional Engineer, at 831/420-5442 or email: [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com) to determine whether addenda have been issued.

### **3.4 Proposal Evaluation**

RFP responses will be evaluated and ranked according to the criteria below by an evaluation committee composed of City staff. The evaluation committee will open and review the proposals in confidence. Proposals will be available to the public after contract award.

|  | <u>Maximum Points</u> |
|--|-----------------------|
| a. Consultant's qualifications, relevant project experience, and references  | 35                    |
| b. Resumes of consultant's key team members including individual project experience, professional/technical qualifications, and professional license information | 25                    |
| c. Consultant's work plan  | 25                    |
| d. Consultant's quality and responsiveness of the proposal   | 15                    |
| Maximum Possible Points  | 100                   |

#### **3.4.1 Proposal Evaluation Criteria Definitions**

**City of Santa Cruz**  
**Request for Proposals for Consulting Engineering Services for**  
**San Lorenzo River Levees Geotechnical Investigation**

a. Consultant's qualifications, relevant project experience, and references (35 points)

Experience in performing work of a closely similar nature and size; experience working with public agencies; strength, stability, experience, and technical competence; assessment by client references.

b. Resumes of consultant's key team members including individual project experience, professional/technical qualifications, and professional license information (25 points)

Qualifications and experience of proposed personnel for requested services.

c. Consultant's work plan (25 points)

Depth of Consultants understanding of City's requirements; overall quality and logic of work plan..

d. Consultant's Quality and Responsiveness of the Proposal (15 points)

Completeness of response in accordance with the RFP instructions.

The City intends to interview Consultant teams prior to selecting the most qualified firm. Interviews will be conducted remotely using Zoom or an equivalent video conferencing software. The firm deemed to be the most qualified will be engaged with negotiations of a contract to follow. If an agreement cannot be reached with the first consultant selected, negotiations will be terminated, and the next consultant in order of ranking will be called to negotiate.

### **3.5 Contract Implementation**

The contract resulting from this solicitation is tentatively scheduled to begin **JULY 20<sup>TH</sup>, 2021**. Upon award notification and prior to final contract approval, the successful proposer will be required to submit:

- a. Proof of insurance as specified in section 4.1 of this solicitation;
- b. Documentation of all credentials necessary to legally perform the services specified;
- c. A completed W-9 form and, if applicable, non-resident withholding exemption form, if not already on file with the City; and
- d. Proof of a current City of Santa Cruz business tax certificate if the Consultant is located in, or performs services within, the city limits for more than 6 days annually.

The finalized contract will include the RFP Section 2, the RFP Section 4, the Consultant's Proposal, the Fee Schedule, the City's standard terms as Exhibit A, and any negotiated modifications agreed to by the parties.

### **3.6 Public Record**

Proposals received will become the property of the City. All proposals, evaluation documents, and any subsequent contracts will become public records subject to public disclosure per the "California Public Records Act," California Government Code, sections 6250 – 6270 once discussions and negotiations with proposers have been fully completed and an award has been announced. Submission of a proposal will constitute an agreement to this provision for public records.

Appropriately identified trade secrets will be kept confidential to the extent permitted by law. Any proposal section alleged to contain proprietary information will be identified by the proposer **in boldface**

**City of Santa Cruz**  
**Request for Proposals for Consulting Engineering Services for**  
**San Lorenzo River Levees Geotechnical Investigation**

**text** at the top and bottom as “PROPRIETARY.” Designating the entire proposal as proprietary is not acceptable and will not be honored. Pricing information is not considered proprietary information.

### **3.7 Award Protests**

The City desires to foster cooperative relationships with Consultants and to reach a fair agreement in a timely manner.

The City encourages Consultants to resolve issues regarding the solicitation requirements or the procurement process through written correspondence and discussions at least 5 business days prior to the proposal due date. This process will allow the City time to research the validity of the protest and either issue an addendum to the solicitation, cancel the solicitation, or determine the protest to be unfounded and proceed with the solicitation. In the event the protest of specifications is denied and the protester wishes to continue in the protest process, the protesting consultant must still submit a proposal in accordance with the proposal submittal procedures provided in this solicitation. Questions or concerns prior to the intent to award notice will be directed to:

Katie Shurtleff  
Associate Professional Engineer  
Phone: 831/420-5442, Fax: 831/420-5161,  
Email: [kshurtleff@cityofsantacruz.com](mailto:kshurtleff@cityofsantacruz.com)

Any Respondent who is unsuccessful as a result of the selection process (i.e., is not selected as a Consultant) may formally protest. Protest letters regarding a contract award will be directed to:

City of Santa Cruz  
Mark Dettle  
809 Center Street, Room 201  
Santa Cruz, California 95060

Protests regarding the consultant selection must be received no later than 5 business days after the written notice of selection of the most qualified respondent. The selection protest must be in writing and include:

- The name, address, and telephone number of the protester;
- The solicitation title and due date;
- A detailed statement of the legal and/or factual grounds for the protest; and
- The form of relief requested.

Protests regarding the selection resulting from this solicitation must be delivered to **Mark Dettle, City of Santa Cruz Director of Public Works**. The **Director of Public Works** will review the protest and issue a written response within 10 business days. The decision of the **Director of Public Works** will be final.

**City of Santa Cruz**  
**Request for Proposals for Consulting Engineering Services for**  
**San Lorenzo River Levees Geotechnical Investigation**

**SECTION 4: TERMS AND CONDITIONS**

**4.1 Professional Services Agreement**

See Attachment A. Any proposed modification to the Professional Services Agreement by the Consultant must be submitted in writing with the Consultants Proposal.

**4.2 Insurance Requirements**

Insurance requirements are listed in Appendix A Professional Services Agreement Exhibit D.

**4.3 Safety**

All service(s) and item(s) provided will comply with applicable safety laws, regulations, and standards. Consultant will provide proof of compliance, if requested by the City.





## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Public Works

**SUBJECT:** Ocean/Water Intersection (NW Corner) Improvements (c401410) – Final Change Order and Notice of Completion (PW)

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**RECOMMENDATION:** Motion to approve the final change order in the amount of \$96,526.04 and accept the work of Earthworks Paving Contractors, Inc (Capitola, CA) as completed per plans and specifications and authorizing the filing of a Notice of Completion for the Ocean/Water Intersection (NW Corner) Improvements (c401410).

---

**BACKGROUND:** At its February 13, 2019 meeting, the City Council approved a motion to authorize the City Manager to execute a contract with the lowest responsive and responsible bidder. On January 28, 2020, the project was awarded to the lowest responsive and responsible bidder, Earthworks Paving Contractors, Inc. (Capitola, CA).

The project included adding a second left hand turn lane from southbound Ocean Street on to eastbound Water Street, expanding the travel lanes to the west, enlarging and improving the pedestrian island, enhancing the bicycle striping and installing a new traffic signal pole. The total construction cost was \$548,683.00 and funded by Traffic Impact Fees.

**DISCUSSION:** The work for this project is now complete. This project was constructed in coordination with PG&E and was impacted by the onset of the public health emergency, both of which had unfortunate impacts on the project schedule and cost. In addition, some aspects of the project were changed during construction, primarily the need to add paving on Ocean Street to correct grade problems and the acquisition of a new signal pole. The original intention was to re-use the existing pole, but that pole was destroyed in a traffic accident during construction. The project was inspected by the staff and was completed in accordance with the plans and specifications.

**FISCAL IMPACT:** This project is included in the FY 2021 Capital Investment Program (c401410) and funded by Traffic Impact Fees. Funds are available in the project budget to fully fund the final change order. There is no impact to the General Fund.

**Prepared By:**  
Joshua Spangrud  
Senior Professional Engineer

**Submitted By:**  
Mark R. Dettle  
Director of Public Works

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. NOTICE OF COMPLETION.DOCX

RECORDED AT THE REQUEST OF:  
City of Santa Cruz, Public Works  
Attn: Joshua Spangrud

WHEN RECORDED MAIL TO:  
City Clerk's Department  
809 Center Street, Room 9  
Santa Cruz, CA 95060

(Space above for Recorder's use only)

This instrument is being recorded for the benefit of the City of Santa Cruz.  
No recording fee is required pursuant to Government Code § 27383.

### NOTICE OF COMPLETION

#### PURSUANT TO CALIFORNIA CIVIL CODE SECTIONS 8102 AND 9204, NOTICE IS HEREBY GIVEN THAT:

The undersigned is an authorized representative of the owner of the interest or estate stated below.

1. The Owner's Name and Address. The Project owner is the City of Santa Cruz, a municipal corporation (the "City"). The City's mailing address is 809 Center Street, Santa Cruz, California 95060. The City of Santa Cruz has the following interest in the subject Property described below: City Right-Of-Way
2. Title of Project. The full name of the work of improvement/public works project (the "Project") which is the subject of this Notice of Completion is: Ocean/Water Intersection Improvement Project – NW Corner
3. Project Number: c401410
4. The Property site location description or address (the "Property") on which the Project was constructed is located in the City of Santa Cruz, County of Santa Cruz, State of California at: 805 Ocean Street.
5. Date of Completion. The Project on the Property was completed on: February 1, 2021
6. Name of Contractor. The name of the Contractor on the Project is: Earthworks Paving Contractors, Inc.
7. Address of Contractor. The address of the Contractor on the Project is: 310A Kennedy Drive, Capitola, CA.
8. Nature of Work Performed on the Property or Materials Furnished for the City. The Project consisted of work described as: intersection improvement, paving, striping.,
9. Construction Lender. The name and address of the construction lender, if any, is: n/a
10. The filing of this Notice of Completion was authorized by the Santa Cruz City Council Minute Order on Tuesday, April 27, 2021

DATED: \_\_\_\_\_

\_\_\_\_\_  
Mark Dettle  
Director of Public Works,  
City of Santa Cruz

### VERIFICATION FOR THE CITY OF SANTA CRUZ

The undersigned, being duly sworn, says:

That I am the City Manager (or his/her official designee) of the City of Santa Cruz, a municipal corporation in the State of California. I have read the attached Notice of Completion and know and understand its contents. I declare under penalty of perjury that the facts stated in the Notice of Completion are true and correct, to the best of my knowledge.

Executed on 4/27/2021, at Santa Cruz, California.

---

Mark Dettle  
Director of Public Works  
City of Santa Cruz

**PROOF OF SERVICE DECLARATION**  
(California Civil Code § 8118)

I, [Name.](#), declare that I served copies of the above NOTICE OF COMPLETION on the interested parties, in the manner and at the date and place set forth below (Check One):

Direct Contractor: [Name of Direct Contractor](#)  
[Address Line 1 of contractor.](#)  
[Address Line 2 of Direct Contractor.](#)

Claimant(s) Who [Name and address of Claimant.](#)  
Has/Have Provided [Click here to enter text.](#)  
Preliminary Notice(s): [Click here to enter text.](#)

- ☐ REGISTERED, CERTIFIED, OR EXPRESS MAIL: by placing the Notice in a sealed envelope with postage fully prepaid and depositing the envelope in the United States mail by registered, certified, or express mail. Documentation of such service is attached herein.
- ☐ OVERNIGHT DELIVERY: by causing the Notice to be picked up for overnight delivery by an express service carrier. Documentation of such service is attached herein.
- ☐ PERSONAL DELIVERY: by causing the Notice to be personally delivered to each of the addresses above stated on the date below.
- ☐ CODE OF CIV. PROC. § 415.20: by leaving the Notice and mailing a copy of the Notice in the manner provided under California Code of Civil Procedure § 415.20 for service of a summons and complaint in a civil action.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on [Click here to enter a date.](#), at [City.](#), California.

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[Name of Person Making Service.](#)

## **EXHIBIT A**

### **Legal Description of Property**



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Water

**SUBJECT:** Resolution Amending the City of Santa Cruz Personnel Complement and Classification and Compensation Plans and Resolution Amending the FY 2021 Budget for the Water Department to Implement Stage 1 Water Shortage Warning – Budget Adjustment (WT & HR)

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### **RECOMMENDATION:**

- 1) Resolution amending the Classification and Compensation Plans and the FY 2021 Budget Personnel Complement by adding one Limited Term Management Analyst position in the Water Department.
  - 2) Resolution increasing appropriations by \$166,837 from the Water Enterprise Fund for FY 2021 to fund Stage 1 Water Shortage Warning implementation costs.
- 

**BACKGROUND:** Every year during the winter season, the Water Department monitors local rainfall, runoff, and reservoir storage levels and prepares near-term water supply assessments that describe current water conditions and discuss the water supply outlook for the year ahead. Towards the end of winter, an analysis is conducted to forecast water supplies, compare supplies with expected demands, and project how much water would be available in Loch Lomond Reservoir at the end of the dry season given anticipated fish flow releases, demand, and available supply. The reason for performing this exercise is to determine whether any restrictions on water use are needed in the current year to help preserve reservoir storage in case of a subsequent dry year.

The 2021 Water Year is turning out to be critically dry using all of the standard hydrologic metrics. The 2020 Water Year (October 1st through September 30th) was classified as a dry year marking 2021 the second dry year in a row. To preserve water supply in the case of a third dry year, the Water Department recommended that the City Council issue a Stage 1 Water Shortage Warning which calls for an average 10% reduction in water usage from customers.

**DISCUSSION:** At their April 13, 2021 meeting, the City Council adopted a resolution declaring a Stage 1 Water Shortage Warning. A successful implementation of a Stage 1 Water Shortage Warning involves customer outreach and education. The Stage 1 Water Shortage Warning begins on May 1, 2021 and continues through October 31, 2021.

In anticipation of implementing the Water Shortage Contingency Plan, the Water Department recommends the addition of a full-time Limited Term Management Analyst position to be able to oversee and manage this plan and personnel in the Conservation division. The Limited Term position duration is one year and may be extended to two years. The limited-term position is requested given the anticipated temporary duration of the assignment.

Three temporary help staff, two Water Conservation Representative Is and one Utility Service Representative, will augment the existing staff and will be dedicated to assisting customers meet their allotment targets. Water Department staff have developed a robust communication and outreach plan that includes: bill inserts, mailers to account holders and residences, social media and well as advertisements in various newspapers in the community. This approach will ensure that property owners, tenants and visitors will receive information regarding the Stage 1 Water Shortage Warning. There are additional costs related to the production of communication materials and outreach activities, printing and postage, computer programming as well as translation services. These costs are for the six months of the Stage 1 Water Shortage Warning, two months in FY 2021 and four months of costs for FY 2022. Water Department staff will return to the City Council in August for approval of a FY 2022 budget augmentation in the amount of \$229,393 to support Stage 1 Water Shortage Warning activities.

**FISCAL IMPACT:** There is no General Fund impact resulting from these actions., Due to COVID-19 impacts, it is difficult to assess water usage and the impact on water rate revenues in the next year as the economy returns to normal. Any unanticipated revenue loss could be covered from reserves in the Rate Stabilization Fund (Fund 713). The costs associated with implementing the Stage 1 Water Shortage Warning is \$166,837 for FY 2021. A budget amendment for \$229,393 will be presented in FY 2022.

**Prepared By:**  
Nicole Dennis  
Principal Management  
Analyst

Cathy Bonino  
Principal HR Analyst

**Submitted By:**  
Rosemary Menard  
Water Director

Lisa Murphy  
Human Resources Director

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**

1. RESOLUTION.DOCX
2. BUDGET ADJUSTMENT.PDF
3. 2021 DROUGHT BUDGET SPREADSHEET.PDF



RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ  
AMENDING THE CLASSIFICATION AND COMPENSATION PLANS – WATER DEPARTMENT

WHEREAS, staff has recommended certain modifications to the Classification and Compensation Plans.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz, as follows:

That, effective April 27, 2021 the City of Santa Cruz Classification and Compensation Plans be modified to:

|                                 | <u>Class No.</u> | <u>Activity</u> | <u>Classification Title</u>                | <u>Salary</u>            |
|---------------------------------|------------------|-----------------|--|--------------------------|
| <u>Water</u><br>Add 1 Position: | 702-xxx          | xxxx            | Management Analyst<br>1.0 FTE Limited Term | \$6, 056/mo - \$8,196/mo |

PASSED AND ADOPTED this 27th day of April 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Mayor

ATTEST: \_\_\_\_\_  
City Clerk Administrator

☒ Council Approval  
☐ Administrative Approval

**City of Santa Cruz  
BUDGET ADJUSTMENT REQUEST**

**Clear Form**

Fiscal Year: 2021  
Date: 04/15/2021

CM/FN Use Only:  
Reso #:  
JE Post#:

Purpose: Add funds for the Implementation of the Stage 1 Water Shortage Warning effective May 1, 2021 - October 31, 2021.

| ACCOUNT              | PROJECT | REVENUE EDEN ACCOUNT TITLE | AMOUNT   |
|----------------------|---------|----------------------------|----------|
|                      |         |                            |          |
|                      |         |                            |          |
|                      |         |                            |          |
|                      |         |                            |          |
|                      |         |                            |          |
| <b>TOTAL REVENUE</b> |         |                            | <b>0</b> |

| ACCOUNT                  | PROJECT | EXPENDITURE EDEN ACCOUNT TITLE | AMOUNT   |
|--------------------------|---------|--------------------------------|----------|
|                          |         | See attached spreadsheet       |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
|                          |         |                                |          |
| <b>TOTAL EXPENDITURE</b> |         |                                | <b>0</b> |

**NET: \$ 0**

| REQUESTED BY  | DEPARTMENT HEAD APPROVAL  | BUDGET/ACCOUNTING* APPROVAL   | FINANCE DIRECTOR APPROVAL   | CITY MANAGER APPROVAL |
|---|---|---|---|-----------------------|
| Katy Fitzgerald<br><small>Digitally signed by Katy Fitzgerald<br/>DN: cn=Katy Fitzgerald, o=City of Santa Cruz, ou=Water Department,<br/>email=k Fitzgerald@cityofsantacruz.com, c=US<br/>Date: 2021.04.19 13:36:09 -0700</small> | Heidi Luckenbach<br><small>Digitally signed by Heidi Luckenbach<br/>DN: cn=Heidi Luckenbach, o=City of Santa Cruz, ou=City of Santa Cruz,<br/>email=hluckenbach@cityofsantacruz.com, c=US<br/>Date: 2021.04.19 14:45:10 -0700</small> | Tracy Cole<br><small>Digitally signed by Tracy Cole<br/>DN: cn=Tracy Cole, o=City of Santa Cruz, ou=Finance Department,<br/>email=tracycole@cityofsantacruz.com, c=US<br/>Date: 2021.04.19 16:54:03 -0700</small> | Kim Krause<br><small>Digitally signed by Kim Krause<br/>DN: cn=Kim Krause, o=City of Santa Cruz, ou=Finance Department,<br/>email=kkrause@cityofsantacruz.com, c=US<br/>Date: 2021.04.20 16:42:59 -0700</small> |                       |

| Fund | Dept. | Division | Drought Activity | Object | Description             | Section Name   | FY 2021 Budget Adjustment | FY 2022 Budget Adjustment |
|------|-------|----------|------------------|--------|-------------------------|----------------|---------------------------|---------------------------|
| 711  | 70    | 90       | 7199             | 52199  | Prof. & Tech Services   | Administration | \$ 12,500.00              | \$ 12,500.00              |
| 711  | 70    | 90       | 7199             | 52960  | Advertising             | Administration | \$ 3,500.00               | \$ 3,500.00               |
| 711  | 70    | 90       | 7199             | 52972  | Printing Outside        | Administration | \$ 6,500.00               | \$ 6,500.00               |
| 711  | 70    | 90       | 7199             | 53101  | Postage                 | Administration | \$ 7,500.00               | \$ 7,500.00               |
|      |       |          |                  |        |                         |                |                           |                           |
| 711  | 70    | 92       | 7199             | 51122  | Temporary               | Customer Svc   | \$ 8,661.00               | \$ 17,322.00              |
| 711  | 70    | 92       | 7199             | 52199  | Prof. & Tech Services   | Customer Svc   | \$ 10,000.00              | \$ 10,000.00              |
| 711  | 70    | 92       | 7199             | 52972  | Printing Outside        | Customer Svc   | \$ 22,200.00              | \$ 22,200.00              |
| 711  | 70    | 92       | 7199             | 53101  | Postage                 | Customer Svc   | \$ 20,000.00              | \$ 20,000.00              |
| 711  | 70    | 92       | 7199             | 54203  | Computer - non capital  | Customer Svc   | \$ 2,030.00               |                           |
|      |       |          |                  |        |                         |                |                           |                           |
| 711  | 70    | 93       | 7199             | 51100  | Regular Fulltime        | Conservation   | \$ 16,392.00              | \$ 32,784.00              |
| 711  | 70    | 93       | 7199             | 51122  | Temporary               | Conservation   | \$ 36,790.00              | \$ 73,580.00              |
| 711  | 70    | 93       | 7199             | 51201  | PERS                    | Conservation   | \$ 3,277.18               | \$ 6,554.36               |
| 711  | 70    | 93       | 7199             | 51210  | Health                  | Conservation   | \$ 4,047.86               | \$ 8,095.72               |
| 711  | 70    | 93       | 7199             | 51215  | EAP                     | Conservation   | \$ 6.76                   | \$ 13.52                  |
| 711  | 70    | 93       | 7199             | 51220  | Life                    | Conservation   | \$ 3.14                   | \$ 6.29                   |
| 711  | 70    | 93       | 7199             | 51221  | Long Term Disability    | Conservation   | \$ 78.61                  | \$ 157.21                 |
| 711  | 70    | 93       | 7199             | 51212  | Dental                  | Conservation   | \$ 274.50                 | \$ 549.00                 |
| 711  | 70    | 93       | 7199             | 51213  | Vision                  | Conservation   | \$ 40.60                  | \$ 81.20                  |
| 711  | 70    | 93       | 7199             | 51214  | Medicare                | Conservation   | \$ 204.65                 | \$ 409.29                 |
| 711  | 70    | 93       | 7199             | 51222  | SDI                     | Conservation   | \$ -                      | \$ -                      |
| 711  | 70    | 93       | 7199             | 51230  | Unemployment Insurance  | Conservation   | \$ 81.19                  | \$ 162.39                 |
| 711  | 70    | 93       | 7199             | 51240  | Worker's Compensation   | Conservation   | \$ 209.26                 | \$ 418.51                 |
| 711  | 70    | 93       | 7199             | 52227  | Fuel Charges            | Conservation   | \$ 400.00                 | \$ 800.00                 |
| 711  | 70    | 93       | 7199             | 52268  | Vehicle Lease - Outside | Conservation   | \$ 2,840.00               | \$ 4,260.00               |
| 711  | 70    | 93       | 7199             | 52972  | Printing Outside        | Conservation   | \$ 6,000.00               | \$ 2,000.00               |
| 711  | 70    | 93       | 7199             | 54203  | Computer - non capital  | Conservation   | \$ 3,300.00               | \$ -                      |
|      |       |          |                  |        |                         |                |                           |                           |
|      |       |          |                  |        |                         | Grand Total    | \$ 166,836.75             | \$ 229,393.49             |

ORDINANCE NO. 2021-06

AN ORDINANCE OF THE CITY OF SANTA CRUZ AMENDING SECTION 10.52.310 OF THE SANTA CRUZ MUNICIPAL CODE RELATING TO BEACH AREA PARKING METER RATES

BE IT ORDAINED by the City Council of the City of Santa Cruz as follows:

Section 10.52.310 pertaining to Beach Area Parking Meter Rates<sup>1</sup> is amended to read as follows:

**10.52.310 PARKING METER RATE 1 – BEACH AREA –TWO DOLLARS AND TWENTY FIVE CENTS PER HOUR, TWO HOUR VARIABLE RATE**

|                         | First Hour | Second Hour | Third Hour | Fourth Hour | Each Additional Hour |
|-------------------------|------------|-------------|------------|-------------|----------------------|
| Beach Area-<br>Two Hour | \$2.25     | \$2.25      | \$4.50     | \$4.50      | \$9.00               |

A Variable rate is established on the following streets and portions of streets:

- (1) All the meters in the parking area within the area bounded by the prolongation of a southerly line of Beach Street, the easterly line of the Municipal Wharf and the Dream Inn Hotel, commonly known as the Annex.
- (2) Beach Street, north side from West Cliff Drive to Raymond Street
- (3) Cliff Street West Side, from Beach Street to First Street
- (4) Front Street, east side, from Pacific Avenue to Second Street

PASSED FOR PUBLICATION this 13<sup>th</sup> day of April, 2021 by the following vote:

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder;  
Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

This is to certify that the above and foregoing document is the original of Ordinance No. 2021-06 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

\_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

ORDINANCE NO. 2021-07

AN ORDINANCE OF THE CITY OF SANTA CRUZ AMENDING SECTION 10.52.315 OF THE SANTA CRUZ MUNICIPAL CODE RELATING TO BEACH AREA PARKING METER RATES

BE IT ORDAINED by the City Council of the City of Santa Cruz as follows:

Section 10.52.315 pertaining to Beach Area Parking Meter Rates<sup>1</sup> is amended to read as follows:

**10.52.315 PARKING METER RATE 2 – BEACH AREA – TWO DOLLARS AND TWENTY FIVE CENTS PER HOUR, TWELVE-HOUR RATE.**

|                        | First Hour | Second Hour | Third Hour | Fourth Hour | Each Additional Hour |
|------------------------|------------|-------------|------------|-------------|----------------------|
| Beach Area-Twelve Hour | \$2.25     | \$2.25      | \$2.25     | \$2.25      | \$2.25               |

A rate of one dollar and eighty cents per hour is established on the following streets and portions of streets:

- (1) Bay Street, both sides, from West Cliff Drive to Lighthouse Avenue.
- (2) Beach Street, both sides, from West Cliff Drive to Third Street.
- (3) Cliff Street, both sides, from Beach Street to Second Street.
- (4) First Street, both sides, from Main Street to Cliff Street.
- (5) Front Street, both sides, from Pacific Avenue to Second Street.
- (6) Front Street, east side only, from Second Street to Third Street.
- (7) Front Street, west side only, from Third Street to Pacific Avenue.
- (8) Leibrandt Avenue, both sides, from Kaye Street to Beach Street.
- (9) Main Street, both sides, from Beach Street to Second Street.
- (10) Pacific Avenue, both sides, from Beach Street to West Cliff Drive.
- (11) Park Place, both sides, from Kaye Street to Beach Street.

- (12) Raymond Street, both sides, from Leibrandt Avenue to Beach Street.
- (13) Riverside Avenue, both sides, from Beach Street to Third Street.
- (14) Third Street Parking Lot No. 21.
- (15) Second Street, both sides, from Pacific Avenue to Riverside Avenue.
- (16) Third Street, both sides, from Beach Street to Kaye Street.
- (17) Westbrook Street, both sides, from Beach Street to Second Street.
- (18) Beach Street Parking Lot No. 18.
- (19) West Cliff Drive, north side, from Beach Street to Cowell Street.

PASSED FOR PUBLICATION this 13<sup>th</sup> day of April, 2021 by the following vote:

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder;  
Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

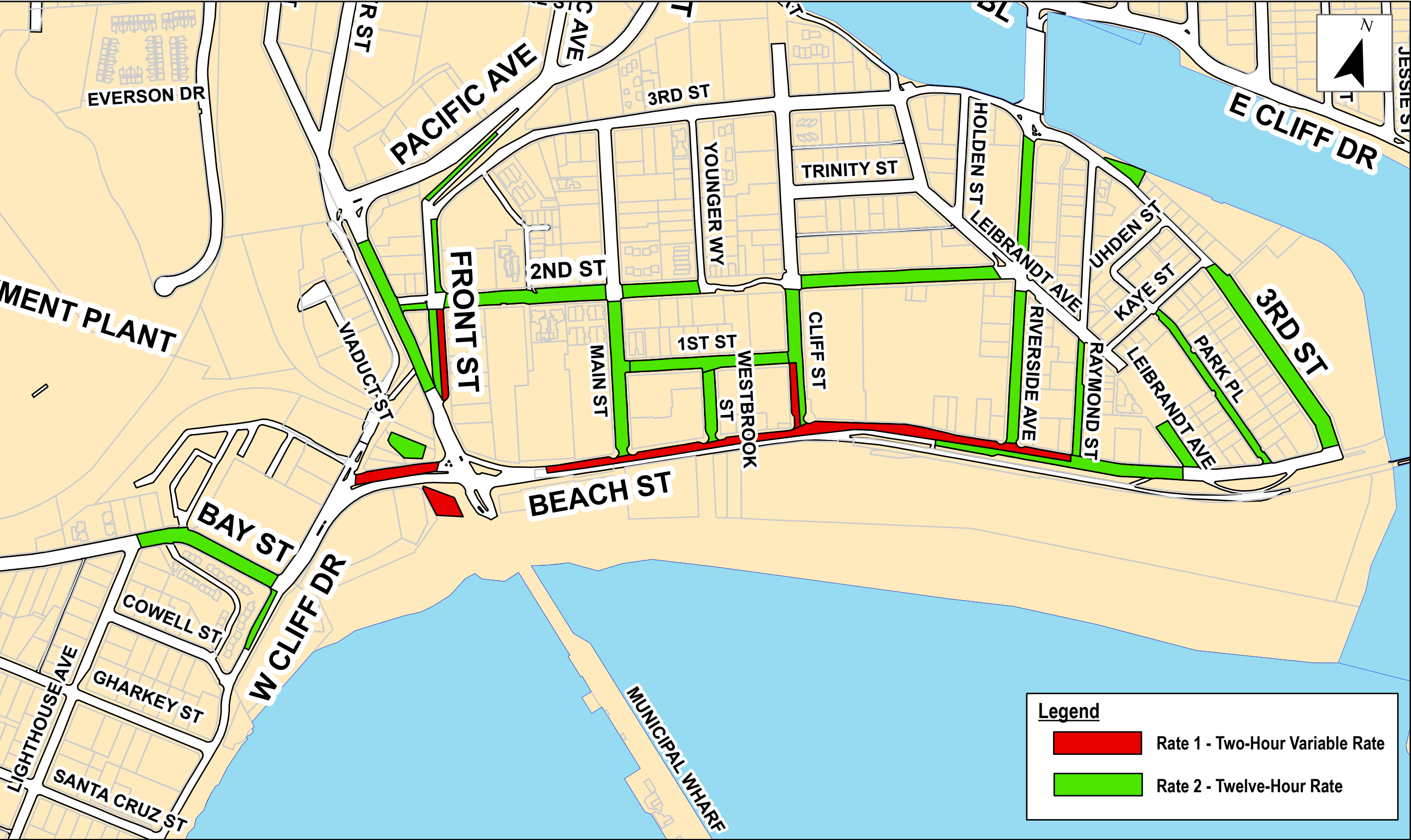
APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

This is to certify that the above and foregoing document is the original of Ordinance No. 2021-07 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

\_\_\_\_\_  
Bonnie Bush, City Clerk Administrator





PARKING METER RATES - BEACH AREA

**Proof of Publication  
(2015 C.C.P.)**


I, the undersigned, declare:

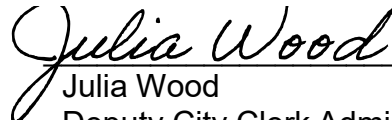
That I caused the attached legal notice/advertisement to be published in the Santa Cruz *Good Times*, a weekly newspaper published and circulated in the County of Santa Cruz, and adjudged a newspaper of general circulation by the Superior Court of California in and for the County of Santa Cruz, under Proceeding No. 68833; and that the legal notice/advertisement was published in the above-named newspaper on the following date(s), to wit:

\_\_\_\_\_  
April 21, 2021

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

This 21<sup>st</sup> day of April, 2021, Santa Cruz, California

|   |   |
|---|---|
| <p><b>NOTICE OF<br/>PUBLICATION<br/>OF ORDINANCE<br/>BY POSTING<br/>(ORDINANCE NO. 2021-06)</b></p> <p>The City Council of the City of Santa Cruz having authorized the City Clerk Administrator, that the ordinance hereafter entitled and described, be published by posting copies thereof in three (3) prominent places in the City, to wit:</p> <p>The City of Santa Cruz website<br/>www.cityofsantacruz.com<br/>City Hall – 809 Center Street:<br/>Bulletin Board, Room 9/10<br/>Bulletin Board outside Council Chambers</p> <p>NOTICES HEREBY GIVEN that copies of said ordinance were posted according to said order. (Original on file with city clerk). Said ordinance was introduced on the April 13th, 2021, and is entitled and described as follows:</p> <p><b>ORDINANCE NO. 2021-06<br/>AN ORDINANCE OF THE CITY OF SANTA CRUZ AMENDING SECTION 10.52.310 OF THE SANTA CRUZ MUNICIPAL CODE RELATING TO BEACH AREA PARKING METER RATES</b></p> <p>This ordinance amends Section 10.52.310 of the Municipal Code related to the Parking Meter Rate 1-Beach Area. PASSED FOR PUBLICATION on this 13th day of April, 2021, by the following vote: AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. NOES: None. ABSENT: None. DISQUALIFIED: None. APPROVED: ss/Mayor Meyers. ATTEST: ss/Bonnie Bush, City Clerk Administrator. This Ordinance is scheduled for further consideration and final adoption at the Council meeting of April 27th, 2021.</p> |  |
|---|---|

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

DECLARATION OF POSTING

STATE OF CALIFORNIA       )  
  )     SS.  
COUNTY OF SANTA CRUZ    )

On the 19<sup>th</sup> day of April, 2021, I posted conspicuously in three public places within the City of Santa Cruz, Ordinance No. 2021-06, to wit:

1. City Hall: 809 Center Street: Bulletin Board outside Room 9/10
2. City Hall: Bulletin Board outside Council Chambers
3. The City of Santa Cruz website

The document, posted in its entirety, consists of pages 1—2.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 19<sup>th</sup> day of April, 2021, in Santa Cruz, California.



---

Julia Wood  
Deputy City Clerk Administrator

**Proof of Publication  
(2015 C.C.P.)**

I, the undersigned, declare:


That I caused the attached legal notice/advertisement to be published in the Santa Cruz *Good Times*, a weekly newspaper published and circulated in the County of Santa Cruz, and adjudged a newspaper of general circulation by the Superior Court of California in and for the County of Santa Cruz, under Proceeding No. 68833; and that the legal notice/advertisement was published in the above-named newspaper on the following date(s), to wit:

\_\_\_\_\_  
April 21, 2021

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

This 21<sup>st</sup> day of April, 2021, Santa Cruz, California

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

|   |  |
|---|--|
| <p><b>NOTICE OF<br/>PUBLICATION<br/>OF ORDINANCE<br/>BY POSTING<br/>(ORDINANCE NO. 2021-07)</b></p> <p>The City Council of the City of Santa Cruz having authorized the City Clerk Administrator, that the ordinance hereafter entitled and described, be published by posting copies thereof in three (3) prominent places in the City, to wit:</p> <p>The City of Santa Cruz website<br/>www.cityofsantacruz.com<br/>City Hall – 809 Center Street:<br/>Bulletin Board, Room 9/10<br/>Bulletin Board outside Council Chambers</p> <p>NOTICES HEREBY GIVEN that copies of said ordinance were posted according to said order. (Original on file with city clerk). Said ordinance was introduced on the April 13th, 2021, and is entitled and described as follows:</p> <p style="text-align: center;"><b>ORDINANCE NO. 2021-07<br/>AN ORDINANCE OF THE CITY OF SANTA<br/>CRUZ AMENDING SECTION 10.52.315<br/>OF THE SANTA CRUZ MUNICIPAL CODE<br/>RELATING TO BEACH AREA PARKING<br/>METER RATES</b></p> <p>This ordinance amends Section 10.52.315 of the Municipal Code regarding the setting of Parking Meter Rate 2-Beach Area. PASSED FOR PUBLICATION on this 13th day of April, 2021, by the following vote:<br/>AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. NOES: None. ABSENT: None. DISQUALIFIED: None. APPROVED: ss/Mayor Meyers.<br/>ATTEST: ss/Bonnie Bush, City Clerk Administrator. This Ordinance is scheduled for further consideration and final adoption at the Council meeting of April 27th, 2021.</p> |  |
|---|--|

DECLARATION OF POSTING

STATE OF CALIFORNIA       )  
  )     SS.  
COUNTY OF SANTA CRUZ    )

On the 19<sup>th</sup> day of April, 2021, I posted conspicuously in three public places within the City of Santa Cruz, Ordinance No. 2021-07, to wit:

1. City Hall: 809 Center Street: Bulletin Board outside Room 9/10
2. City Hall: Bulletin Board outside Council Chambers
3. The City of Santa Cruz website

The document, posted in its entirety, consists of pages 1—3.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 19<sup>th</sup> day of April, 2021, in Santa Cruz, California.

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

ORDINANCE NO. 2021-09

AN ORDINANCE OF THE CITY OF SANTA CRUZ REPEALING CHAPTER 16.01 OF THE  
SANTA CRUZ MUNICIPAL CODE AND ADOPTING A NEW CHAPTER 16.01  
IMPLEMENTING THE CITY'S UPDATED FEBRUARY 2021 INTERIM WATER  
SHORTAGE CONTINGENCY PLAN

THE CITY COUNCIL OF THE CITY OF SANTA CRUZ DOES ORDAIN AS  
FOLLOWS:

Section 1. Chapter 16.01 of the Santa Cruz Municipal Code is hereby repealed.

Section 2. A new Chapter 16.01 is hereby added to the Santa Cruz municipal Code to read as  
follows:

**“Chapter 16.01  
Updated Water Shortage Contingency Plan Implementation**

**16.01.010 FINDINGS**

WHEREAS, the city of Santa Cruz water system draws almost exclusively on local surface water sources, whose yield varies from year to year depending on the amount of rainfall received and runoff generated during the winter season; and

WHEREAS, the city water system has limited storage for dry season use making it susceptible to water shortages in dry and critically dry years or in periods of prolonged regional drought when water conditions characterized by low surface flows in the north coast streams and San Lorenzo River sources, depleted storage in Newell Creek Reservoir, or both, reduce the available supply to a level that cannot support seasonal water demand; and

WHEREAS, the city council of the city of Santa Cruz has adopted an Updated Interim Water Shortage Contingency Plan (WSCP) that describes how the city will respond to future water shortages and lists the various actions the city would take to reduce water demand under different water shortage scenarios ranging from ten percent up to and including a greater than fifty percent seasonal water supply deficiency; and

WHEREAS, California Water Code Sections 350 et seq. authorize water suppliers, after holding a properly noticed public hearing and after making certain findings, to declare a water shortage (emergency) and to adopt such regulations and restrictions to conserve the water supply for the greatest public benefit with particular regard for domestic use, sanitation, and fire protection; and

WHEREAS, this WSCP is based on a system of usage allotments for all customer classes. The method of water restriction set forth herein provides an effective and immediately available means of curtailing water use, which is essential during periods of water shortage to ensure a

reliable and sustainable minimum supply of water for the public health, safety, and welfare and to preserve valuable limited reservoir storage, avoid depleting water storage to an unacceptably low level, and thereby lessen the possibility of experiencing more critical shortages if dry conditions continue or worsen; and

WHEREAS, the usage allotments hereinafter established will equitably spread the burden of restricted and prohibited usage in a manner prescribed by the city's water shortage contingency plan over all city water department customers and other consumers of city water; and

WHEREAS, the purposes of this chapter are to conserve the water supply of the city of Santa Cruz for the greatest public benefit, to mitigate the effects of a water supply shortage on public health and safety and economic activity, and to budget water use so that a reliable and sustainable minimum supply of water will be available for the most essential purposes for the entire duration of the water shortage.

#### **16.01.020 DECLARATION OF WATER SHORTAGE**

The provisions of this chapter shall take effect whenever the director, upon analysis of city water supplies, finds and determines that a water shortage exists or is imminent within the city of Santa Cruz water service area and a declaration of a water shortage is made by a resolution of the city council, and they shall remain in effect for the duration of the peak season through October 31st, unless rescinded earlier or extended by City Council.

Whenever this chapter references the director's issuance or declaration of an alert, warning, emergency, or regulation, said alert, warning, emergency or regulation shall be put into effect by the placement of a legal advertisement in a newspaper of general circulation, by a posting on the city's Internet website and by a posting in the following public places: Santa Cruz City Hall, 809 Center Street, Santa Cruz; Santa Cruz Water Department Office, 212 Locust Street, Santa Cruz; Capitola City Hall, 420 Capitola Avenue, Capitola; and the Santa Cruz County Governmental Center, 701 Ocean Street, Santa Cruz. Any such alert, warning, emergency or regulation shall take effect upon the date of its publication in the Santa Cruz Sentinel.

With the exception of a newspaper legal advertisement, the same procedures shall apply when the alert, warning, emergency or regulation period has been terminated.

#### **16.01.030 APPLICATION OF REGULATIONS**

The provisions of this chapter shall apply to all persons using or consuming water within the Santa Cruz Water Department's water service area, and regardless of whether any person using water shall have an account for water service with the city.

#### **16.01.040 PRECEDENCE OF REGULATIONS**

Where other provisions of the municipal code, whether enacted prior or subsequent to this chapter, are inconsistent with the provisions of this chapter, the provisions of this chapter shall supersede and control for the duration of the water shortage set forth in the resolution of the city council.

### **16.01.050 DEFINITIONS**

- (a) “Director” refers to the director of the city of Santa Cruz water department.
- (b) “Water” refers to water produced and served by the city of Santa Cruz Water Department.
- (c) “City” refers to the city of Santa Cruz.
- (d) “Water department” refers to the city of Santa Cruz water department.
- (e) “Seasonal water demand” refers to the demand, measured in gallons, placed by customers on the city water supply between May 1st and October 31st each calendar year.
- (f) “Water service area” – the area within which the Santa Cruz Water department is the designated water provider, as it may change over time.
- (g) “Water Shortage Contingency Plan” – the plan developed by the Water Department and approved by the city council, as updated from time to time, and that complies with the requirements of California Water Code (CWC) Section 10632 requiring that every urban water supplier prepare and adopt a WSCP as part of its Urban Water Management Plan, and that has been adopted in a manner that complies with (cite adoption provision of CWC or other regulation).
- (h) “Customer” shall refer to any person or entity holding an account for water service with the city of Santa Cruz water department as well as to any consumer or user of city water who may not be a city of Santa Cruz water department account holder.
- (i) “Independent hearing officer” refers to a person appointed by the city to preside at administrative hearings pursuant to Title 4 of this code.

### **16.01.055 WATER DEPARTMENT CUSTOMER CLASSIFICATIONS**

For determining a water department customer’s water allocation during a declared water shortage under this chapter and for all other purposes under this title, the following customer classification definitions shall apply based on the customer’s ownership or occupation of the following types of property served by the water department:

- (a) 1. Single-Family Residential. Individually metered residential dwelling units (regardless of housing type) including attached or multiple residential buildings in which each unit is separately metered by a City owned meter. This classification shall apply whether or not the residential dwelling unit is being put to a use other than, or in addition to, residential use, and whether or not the residential use is permanent or transient in nature including use as a vacation rental unit. A residential dwelling unit is considered an occupant’s permanent residence when, on average, the occupant resides in the unit for at least twenty-one days within each monthly water service period.



2. Multiple-Family Residential. Any residential account with more than one residential dwelling unit served by one water meter. This classification shall apply whether or not the residential dwelling units are being put to a use other than, or in addition to, residential use and whether or not the residential use is permanent or transient in nature including use as a vacation rental unit. A residential dwelling unit is considered an occupant's permanent residence when, on average, the occupant resides in the unit for at least twenty-one days within each monthly water service period.
  3. Business/Industry. Commercial establishments including restaurants, hotel/motel, retail, medical, schools, offices, churches and mixed-use buildings as defined by an established Water department administrative policy order. This category also includes industrial customers including manufacturing and biotechnology. This category also includes county and state government accounts.
  4. UCSC. This category is comprised of one primary customer, the University of California, Santa Cruz.
  5. Municipal. This category is comprised of city-owned and operated facilities such as city offices, parks, police and fire stations, water and wastewater treatment plants, street medians, and parking lots.
  6. Irrigation. Dedicated water services for landscape irrigation associated with large multiple residential complexes and homeowners associations, or with commercial, industrial, and institutional sites, including schools, churches, and parks.
  7. Golf Irrigation. Accounts serving the two golf courses in the water service area.
  8. Coast Irrigation. Agricultural accounts receiving untreated water on the north coast.
  9. Miscellaneous. Other uses such as temporary construction accounts, hydrant meters, and bulk water sales.
- (b) Residency. For the purpose of determining residential water rationing allotments under all stages of shortage, allotments shall be set based on the number of a household's permanent residents, with a minimum allocation based on 3 people per household. A permanent resident is an occupant who resides in the subject residential dwelling unit, on average, for at least twenty-one days within each monthly water service period.

#### **16.01.060 WATER WASTE PROHIBITIONS**

It shall be unlawful during any water shortage stage for any person, firm, partnership, association, corporation, political entity (including the city) or any other water department customer to use water for any of the following:

- (a) Fire Hydrants. Use of water from any fire hydrant unless specifically authorized by permit from the city, except by regularly constituted fire protection agencies for fire suppression purposes, or for other authorized uses, including distribution system flushing, fire flow testing, and filling of approved vehicles for sewer system flushing, storm drain maintenance, and street sweeping purposes.
- (b) Watering/Irrigation. The watering of grass, lawn, groundcover, shrubbery, open ground, crops and trees, including agricultural irrigation, in a manner or to an extent that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, gutter or ditch.
- (c) Plumbing Leaks. The escape of water through leaks, breaks, or other malfunctions within the water user's household plumbing or irrigation system for any period of time after such break or leak should have reasonably been discovered and corrected. It shall be presumed that a period of twenty-four hours after the water user discovers such break, leak or malfunction, or receives notice from the city of such condition, whichever occurs first, is a reasonable time within which initiate the process of repairing the leak.
- (d) Washing of Exterior Surfaces. The washing of sidewalks, walkways, driveways, parking lots, patios, or other exterior surfaces unless the hose is equipped with an automatic shutoff nozzle. Power washing of sidewalks or other outdoor surfaces for health and safety reasons is not considered a violation of this provision.
- (e) Cleaning of Structures and Vehicles. The cleaning of building exteriors, mobile homes, cars, boats, and recreational vehicles unless the hose is equipped with an automatic shutoff nozzle.
- (f) Fountains and Decorative Water Features. The operation of a water fountain or other decorative water feature that does not use re-circulated water.
- (g) Commercial Car Washes. The washing of vehicles at a commercial car wash unless the facility utilizes water recycling equipment, or operates on a timer for a limited time period and shuts off automatically at the expiration of the time period.
- (h) Construction. The use of potable water for dust control or soil compaction purposes in construction activities where there is a reasonably available source of reclaimed water appropriate for such use.
- (i) The indiscriminate running of water or washing with water, not otherwise prohibited in this section which is wasteful and without reasonable purpose.

#### **16.01.070 WATER SHORTAGE CONTINGENCY PLAN (WSCP)**

The council adopted WSCP is the guide for the Water Department's actions during water shortage conditions. The plan provides the detailed descriptions of the actions and procedures to be used to address varying degrees of water shortages. In addition to the actions to be taken and the procedures to be followed in responding to a water shortage emergency, the WSCP describes the

methodology used to develop the allocation system for each customer class. The WSCP referenced in this code, as it is formally amended from time to time, presents the necessary details about the allocations to be implemented at each stage of the plan.

Certain elements of the WSCP are required by the CWC, including response actions that align with six standard water shortage levels based on water supply conditions. The shortage levels range in magnitude from a 10 percent shortage to 50 percent shortage and a final stage of greater than 50 percent shortage.

The selected approach used for demand reduction at each stage of shortage is decreasing customer allocations (rationing). At Stage 1, the allocations will be advisory, meaning that allocations are set for each customer but excess use penalties will not apply for usage over allocation. However, at all other Stages beginning with Stage 2, excess use penalties will apply to customer bills for usage over allotment.

#### **16.01.080 PUBLIC NOTIFICATION OF WSCP IMPLEMENTATION**

Ample notification to customers to make them aware of their unique customer account allocation will occur once a shortage stage has been declared by City Council. Notification may take the form of press releases, bill inserts, web page announcements or a combination of these methods.

Once a shortage stage has been declared and notice provided to customers, customer resource in the form of web pages and other non-online resources will be available to provide additional detail to customers about how the allocation system works and how best to conserve water to stay within ones allocation.

#### **16.01.090 EXCEPTIONS**

- (a) The director, upon application made in writing by a customer on a form promulgated by the water department and accompanied by supporting documentation, shall be authorized to issue an exception from the strict application of any restriction, regulation or prohibition enforced pursuant to this chapter, upon the customer's production of substantial evidence demonstrating the existence of one or more of the following circumstances that are particular to that customer and which are not generally shared by other water department customers:

1. Exceptions Applicable to All Water Department Customers:

- A. Failure to approve the requested exception would cause a condition having an adverse effect on the health, sanitation, fire protection, or safety of the customer or members of the public served by the customer;
- B. Circumstances concerning the customer's property or business have changed since the implementation of the subject restriction warranting a change in the customer's water usage allocation.

2. Exceptions Applicable Only to Water Department Nonresidential Customers. For purposes of this subsection a residential dwelling unit which is used as a vacation rental shall not be classified as a business.
  - A. A hospital or other health care facility will be automatically be exempted from the water allocation system. Health care facilities are defined as any facilities that fall under the North American Industry Classification System (NAICS) sector 62.

#### **16.01.100 WATER SHORTAGE APPEALS**

- (a) A water shortage appeal procedure is hereby established which shall apply upon the director's issuance of any water shortage declaration and the implementation of water shortage restrictions pursuant any stage in the WSCP. Thereafter during the declared water shortage, independent hearing officers shall be appointed to hear and rule upon water shortage appeals filed in accordance with this section.
- (b) Any customer who considers an action taken by the director or an enforcement official under the provisions of this chapter, including actions on exception applications and the assessment of administrative penalties, to have been erroneously taken or issued may appeal that action or penalty in the following manner:
  1. The appeal shall be made in writing, shall state the nature of the appeal specifying the action or penalty that is being appealed and the basis upon which the action or penalty is alleged to be in error. Penalty appeals shall include a copy of the notice of violation;
  2. An appeal, to be effective, must be received by the director not later than ten business days following the date of the notice of violation or the date that the director took the action which is the subject of the appeal;
    - A. A water service-customer who is not an account holder may notify the water department of his or her intention to file a petition to force the account holder to appeal an excess water use penalty within ten business days following the penalty;
    - B. If the water department has been given a notice of intention to file a petition per subsection (b)(2)(A) by a water service area- customer who is not an account holder, the appeal from the account holder must be received within fifteen business days after the account -holder has been petitioned by the customer;
  3. The director shall schedule the appeal for consideration by an independent hearing officer. The independent hearing officer shall hear the appeal within ninety days of the date of the appeal and issue its decision within thirty days of the date of the hearing;
  4. The decision of the independent hearing officer shall be final. In ruling on appeals, the independent hearing officer shall strictly apply the provisions of this chapter, and shall not impose or grant terms and conditions not authorized by this chapter.

**16.01.110 ADMINISTRATIVE ENFORCEMENT**

- (a) Any person, firm, partnership, association, corporation, political entity or other water department customer violating any provision of this chapter may be assessed an administrative penalty.
- (b) Each and every day a violation of this chapter exists constitutes a separate and distinct offense for which an administrative penalty may be assessed.
- (c) Penalties. The purpose of the administrative penalties assessed pursuant to this section is to assure future chapter compliance by the cited customer through the imposition of increasingly significant penalties so as to create a meaningful disincentive to commit future chapter violations. In acknowledgment of the fact that the city's water is a scarce and irreplaceable commodity and that this chapter is intended to equitably distribute that commodity among water department customers and to assure that, to the extent feasible, city water is conserved and used only for purposes deemed necessary for public health and safety, the penalty schedule herein prescribed is not to be construed as creating a "water pricing" structure pursuant to which customers may elect to pay for additional water at significantly higher rates. To this end, a customer's repeated violation of this chapter shall result in either the installation of a flow restriction device or disconnection of the customer's property from the city's water service system at the customer's cost.
- (d) Administrative penalties for failure to comply with water waste prohibition requirements in Section 16.01.060 are as follows:
  - 1. First Offense. Written notice of violation and opportunity to correct violation.
  - 2. Second Offense. A second violation within the preceding twelve calendar months is punishable by a fine not to exceed one hundred dollars.
  - 3. Third Offense. A third violation within the preceding twelve calendar months is punishable by a fine not to exceed two hundred fifty dollars.
  - 4. Fourth Offense. A fourth violation within the preceding twelve calendar months is punishable by a fine not to exceed five hundred dollars. In addition to any fines, the director may order a water flow restrictor device be installed.
  - 5. Large Customers. Administrative penalties for customers that use an average of one thousand three hundred thirty-seven billing units (one million gallons) or more per calendar year shall be triple the amounts listed above.
  - 6. Discontinuing Service. In addition to any fines and the installation of a water flow restrictor, the director may disconnect a customer's water service for willful violations of mandatory restrictions and regulations in this chapter. Upon disconnection of water service, a written notice shall be served upon the customer which shall state the time,

place, and general description of the prohibited or restricted activity and the method by which reconnection can be made.

- (e) Excessive Water Use Penalties. An excessive use penalty shall be assessed where the customer, during any given billing cycle, uses more than the customer's water allotment per the director's water rationing regulations issued pursuant to this chapter commencing with Stage 2 in the WSCP. Excess use penalties shall be in addition to ordinary water consumption charges, as follows:
  - 1. One percent to ten percent over customer rationing allotment: not to exceed twenty-five dollars/CCF.
  - 2. More than ten percent over customer rationing allotment: not to exceed fifty dollars/CCF.
  - 3. In addition to any excess use penalties, the director may order a water flow restrictor device be installed and/or may disconnect a customer's water service for willful violations of the water rationing regulations in this chapter. Upon disconnection of water service, a written notice shall be served upon the customer which shall state the time, place, and general description of the prohibited or restricted activity and the method by which reconnection can be made.
  - 4. The director is authorized to develop administrative policies and procedures for the waiver of excessive water use penalties.
- (f) Cost of Flow Restrictor and Disconnecting Service. A person or entity that violates this chapter is responsible for payment of charges for installing and/or removing any flow-restricting device and for disconnecting and/or reconnecting service in accordance with the city's miscellaneous water service fee resolution then in effect. The charge for installing and/or removing any flow restricting device must be paid before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.
- (g) Notice and Hearing. The director will issue a notice of violation by mail or personal delivery at least ten business days before taking any enforcement action described in subsection (d). Such notice must describe the violation and the date by which corrective action must be taken. A customer may appeal the notice of violation by filing a written notice of appeal with the city no later than the close of the business day before the date scheduled for enforcement action, accompanied by a twenty-five-dollar appeal fee. Any notice of violation not timely appealed will be final. Upon receipt of a timely appeal, a hearing on the appeal will be scheduled, and the city will mail written notice of the hearing date to the customer at least ten days before the date of the hearing. Pending receipt of a written appeal or pending a hearing pursuant to an appeal, the director may take appropriate steps to prevent the unauthorized use of water as appropriate to the nature and extent of the violation and the current declared water shortage condition.

**16.01.110 ADDITIONAL ENFORCEMENT AUTHORITY.**

In addition to the remedies referenced above, the director is empowered to pursue any additional remedies necessary, including criminal, civil and administrative remedies listed in Title 4 of the Santa Cruz Municipal Code, to correct a violation of this chapter.

**16.01.180 SEVERABILITY**

If any portion of this chapter is held to be unconstitutional, it is the intent of the city council that such portion of the chapter be severable from the remainder and that the remainder be given full force and effect.”

Section 3. Severability. If any section, subsection, sentence, clause, phrase or word of this chapter is for any reason held to be invalid and/or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this chapter.

Section 4. This ordinance shall take effect and be in force thirty (30) days after final adoption.

PASSED FOR PUBLICATION this 13<sup>th</sup> day of April, 2021 by the following vote:

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder;  
Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

This is to certify that the above and foregoing document is the original of Ordinance No. 2021-09 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

\_\_\_\_\_  
Bonnie Bush, City Clerk Administrator



**Proof of Publication  
(2015 C.C.P.)**

I, the undersigned, declare:


That I caused the attached legal notice/advertisement to be published in the Santa Cruz *Good Times*, a weekly newspaper published and circulated in the County of Santa Cruz, and adjudged a newspaper of general circulation by the Superior Court of California in and for the County of Santa Cruz, under Proceeding No. 68833; and that the legal notice/advertisement was published in the above-named newspaper on the following date(s), to wit:

\_\_\_\_\_  
April 21, 2021

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

This 21<sup>st</sup> day of April, 2021, Santa Cruz, California

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

|  |  |
|--|--|
| <p><b>NOTICE OF<br/>PUBLICATION<br/>OF ORDINANCE<br/>BY POSTING<br/>(ORDINANCE NO. 2021-09)</b></p> <p>The City Council of the City of Santa Cruz having authorized the City Clerk Administrator, that the ordinance hereafter entitled and described, be published by posting copies thereof in three (3) prominent places in the City, to wit:</p> <p>The City of Santa Cruz website<br/>www.cityofsantacruz.com<br/>City Hall – 809 Center Street:<br/>Bulletin Board, Room 9/10<br/>Bulletin Board outside Council Chambers</p> <p>NOTICES HEREBY GIVEN that copies of said ordinance were posted according to said order. (Original on file with city clerk). Said ordinance was introduced on the April 13th, 2021, and is entitled and described as follows:</p> <p><b>ORDINANCE NO. 2021-09<br/>AN ORDINANCE OF THE CITY OF SANTA CRUZ REPEALING CHAPTER 16.01 OF THE SANTA CRUZ MUNICIPAL CODE AND ADOPTING A NEW CHAPTER 16.01 IMPLEMENTING THE CITY'S UPDATED FEBRUARY 2021 INTERIM WATER SHORTAGE CONTINGENCY PLAN</b></p> <p>This ordinance revises chapter 16.01 of the Municipal Code to align it with the 2021 Interim Water Shortage Contingency Plan. PASSED FOR PUBLICATION on this 13th day of April, 2021, by the following vote:<br/>AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. NOES: None. ABSENT: None. DISQUALIFIED: None. APPROVED: ss/Mayor Meyers.<br/>ATTEST: ss/Bonnie Bush, City Clerk Administrator. This Ordinance is scheduled for further consideration and final adoption at the Council meeting of April 27th, 2021.</p> |  |
|--|--|

DECLARATION OF POSTING

STATE OF CALIFORNIA       )  
  )     SS.  
COUNTY OF SANTA CRUZ    )

On the 19<sup>th</sup> day of April, 2021, I posted conspicuously in three public places within the City of Santa Cruz, Ordinance No. 2021-09, to wit:

1. City Hall: 809 Center Street: Bulletin Board outside Room 9/10
2. City Hall: Bulletin Board outside Council Chambers
3. The City of Santa Cruz website

The document, posted in its entirety, consists of pages 1—11.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 19<sup>th</sup> day of April, 2021, in Santa Cruz, California.

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

## Rosemary Balsley

---

**From:** A Webb <aw.info.sub@gmail.com>  
**Sent:** Saturday, April 24, 2021 6:25 PM  
**To:** City Council  
**Subject:** 4.27.21 Agenda Item #32 - Water Shortage Contingency Plan

The notifications to customers is stated as:

"16.01.080 PUBLIC NOTIFICATION OF WSCP IMPLEMENTATION

Ample notification to customers to make them aware of their unique customer account allocation will occur once a shortage stage has been declared by City Council. Notification may take the form of **press releases, bill inserts, web page announcements** or a combination of these methods."

Most, if not all, **multi-family accounts** - where the building owner is the account holder - **do not share bill insert information with tenants, and the tenant never sees the account holder bill either.** Single residence rentals may have this issue also. **This is a flaw** that will become a bigger issue as the high density projects come online. Tenants are not likely to seek out this information when they are not paying for their individual water use - it is factored into their rent. Old habits of use will continue. But penalties will be passed down to tenants and catch them by surprise. It is not fair to force all tenants to pay even when they are not contributing to violations. They also will be put at a disadvantage to appeal such penalties to the City when timelines have passed by the time they get rebilled the charges.

It is important to include that such multi-family account holders **MUST notify tenants of their "unique customer account allocation" and how that will be monitored when each unit does not have a meter or submeter. And how any violations will be handled by the owner. If the account holder/owner receives a violation notice, that should automatically be shared with the tenants.**

For mobile home parks that have master meters, and the park owner bills each homeowner based on submeter readings along with the other fixed fees on the account holder's bill, **it should be clarified how allocations are to be measured, and any penalties that might apply to the account holder would be handled.**

There should also be some kind of information included in tenant notifications about educational and conservation resources.

This lack of communication by property managers/owners was a problem the last time rationing penalties were applied, as residents of multi-family projects didn't have submeters (apartments, condos) - yet were charged with penalty pass throughs by the landlord/account holder.

I assume that all new buildings will come with low flow water features, but what about making retrofitting with water saving devices on faucets and showers and low flow toilets mandatory on existing older buildings -whether housing, restaurants, retail, hotels, or any other business. I was surprised to see old high water use toilets remaining in businesses during our last rationing experience when rebates were available for

replacement - that shouldn't continue to be allowed or better communications be made to older building occupants/owners on taking this action.

There will continue to be regular water shortages in the future, more so than ever, so taking these actions now is important.

Please add these communication requirements to tenants, and for retrofitting/replacement with water saving devices and features.

Sincerely,  
Anita Webb



Virus-free. [www.avast.com](http://www.avast.com)



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Clerk

**SUBJECT:** 2nd Reading and Final Adoption of Ordinance No. 2021-10 Childcare Impact Fee, and Resolution Setting the Childcare Impact Fee (PL)

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### **RECOMMENDATION:**

- 1) Adopt Ordinance No. 2021-10 amending Chapter 18.48 of the Santa Cruz Municipal Code related to Childcare Impact Fees.
  - 2) Resolution setting the Childcare Impact Fee charges for residential and nonresidential development.
- 

**BACKGROUND:** On April 13, 2021 Council unanimously adopted the revision of the Childcare Impact Fee ordinance and directed staff to bring back adoption of the implementing resolution on April 27, 2021.

**DISCUSSION:** The rates for the proposed fees are shown in Attachment 1A, and includes an administrative fee of 2% is on all charges to cover updates and management of the fee program. It is recommended to implement the fee over a three-year period to reduce the initial financial burden of multiple fees on the development community. A gradual increase is consistent with other cost recovery strategies the City has implemented with fees for services.

**FISCAL IMPACT:** Depending on development activity, the fee could generate anywhere from up to approximately \$150,000 to \$250,000 per fiscal year to be used to meet childcare demands for new growth.

**Prepared By:**  
Sara De Leon  
Principal Management  
Analyst

**Submitted By:**  
Lee Butler  
Director of Planning and  
Community Development

**Approved By:**  
Martín Bernal  
City Manager

### **ATTACHMENTS:**

1. ORDINANCE
2. RESOLUTION.DOCX
3. EXHIBIT A COST BY TYPE\_CHILDLCARE.PDF

ORDINANCE NO. 2021-10

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ ADDING  
CHAPTER 18.48 TO THE SANTA CRUZ MUNICIPAL CODE TO ESTABLISH  
CHILDCARE IMPACT FEES NECESSARY TO MAINTAIN ACCEPTABLE LEVELS OF  
CHILDCARE FACILITIES WITHIN THE CITY

BE IT ORDAINED By the City of Santa Cruz as follows:

Section 1. Chapter 18.48 is hereby added to the Santa Cruz Municipal Code to read as follows:

“Chapter 18.48  
CHILDCARE IMPACT FEES

Sections:

|           |                      |
|-----------|----------------------|
| 18.48.010 | Authority            |
| 18.48.020 | Intent and Purpose   |
| 18.48.030 | Definitions          |
| 18.48.040 | Childcare Impact Fee |
| 18.48.050 | Exemptions           |
| 18.48.060 | Use of Fee           |
| 18.48.070 | Fee Adjustments      |
| 18.48.080 | Refund of Fee        |
| 18.48.090 | Statutory Exemption  |
| 18.48.100 | Severability         |

18.48.010 AUTHORITY.

This chapter is enacted pursuant to the Mitigation Fee Act, California Government Code section 66000 et seq. and to the Charter City authority provided by the Constitution of the State of California.

18.48.020 INTENT AND PURPOSE.

(a) The City Council of the City of Santa Cruz declares that:

- 1) A childcare impact fee is needed to support funding for childcare facilities;
- 2) The City General Plan includes objectives and policies to encourage an adequate and diverse supply of childcare facilities and services citywide and to implement a childcare impact fee on new development due to its impacts on childcare needs;

- 3) The establishment of a childcare system which will adequately provide for childcare needs is an essential public service prerequisite to any increase in either residential or nonresidential development;
  - 4) A developer voluntarily choosing to create new development will place new, additional, and cumulatively overwhelming burdens on the childcare system. As a condition of project approval, new development must mitigate its adverse impact of increased demand for childcare generated by the development;
  - 5) Childcare fees are necessary in order to establish a childcare funding mechanism to improve and augment the childcare system so as to enable developers of new development to pay a fair share of the costs of the system through assessment of fees or exactions reasonably related to the increased use of the childcare system generated by new development;
  - 6) There is a reasonable relationship between the use of the fee and the type of development project upon which the fee is imposed; and between the need for the childcare facility and the type of development project upon which the fee is imposed;
  - 7) The fee shall be imposed upon residential and nonresidential development projects which can reasonably be anticipated to create new or additional need for a quality childcare system due to the greater number of residential or employment opportunities which result from that type of development;
  - 8) The childcare impact fee established by this chapter is consistent with the City General Plan and Government Code Sections 65913 through 65913.8 and 66000 through 66008, including those provisions thereof which involve the housing needs described in the City General Plan.
- (b) The purpose of this chapter, therefore, is to provide for the financing of a childcare system with development fees and other exactions consistent with state law, in order to implement the childcare policies of the City General Plan. The intent of this chapter is not to raise general revenues. Instead, the intent is to provide for the capital improvements and augmentation to the childcare system to help satisfy the childcare needs generated by growth from new development, in a balanced and efficient manner which will mitigate the adverse impacts on the childcare system and promote the public health, safety, and general welfare.

#### 18.48.030 DEFINITIONS

As used in this chapter, all words, phrases, and terms shall be interpreted in accordance with the definitions set forth in the Mitigation Fee Act, unless otherwise defined herein. For the purposes of this chapter, the following definitions shall apply:

- (a) "Childcare facility" means existing or proposed childcare facility, including the site, buildings, modifications to buildings, and accessory structures adequate for licensed

programs and personnel to provide childcare services, including but not limited to shelter, food, education and play opportunities.

- (b) “Childcare system” means the overall system of childcare located within the boundaries of the City of Santa Cruz, including (without limitation) childcare facilities, programs, and services.
- (c) “City” shall mean the City of Santa Cruz.
- (d) “Development Project” shall mean a proposal for the development or use of land, requiring the granting of an entitlement, whether residential, nonresidential or both, within the land use jurisdiction of the City of Santa Cruz. A development project means any project undertaken for the purpose of development and involves the issuance of a permit for construction or reconstruction, but not a permit to operate. A development project includes, but is not limited to, a general plan amendment, zoning or rezoning a property, a use permit, a design permit, a coastal development permit, a variance, a planned development permit, subdivision map, parcel map, building permit, or another permit for construction, reconstruction, or development.
- (e) “Fees, exactions or impact mitigation measures” means measures taken by a developer to mitigate the impact of the proposed project on the need for childcare. Measures include development fees, land dedication, participation in the construction or establishment of a childcare facility, provision of childcare services, operation of a childcare program, or alternate participation by a developer approved by the City Council. No such measure shall raise general revenues or otherwise be imposed as a tax.

#### 18.48.040 APPLICATION AND PAYMENT OF FEE

- (a) Unless otherwise exempted, a childcare impact fee shall be assessed as a condition of approval, in connection with any development project within the City limits as an impact mitigation measure (including, without limitation, payment of a fee, dedication of land, participation in the construction or establishment of a childcare facility, provision of a childcare service, operation of a childcare program, or arrangement of an approximately equivalent exaction) which is reasonably attributable to the development project, as determined by resolution of the City Council. In accordance with the General Plan, the fee shall support new or expanded uses of childcare facilities, a key community facility and service as identified in the Civic and Community Facilities Element of the City’s General Plan.
- (b) The specific amount of monetary fees for childcare shall be established by resolution of the City Council and made a part of the City’s Unified Master Fee Schedule, and be updated by the Construction Cost Index (CCI) automatically on an annual basis in January. The adjustment will be based on the year-over-year percentage change in the 20-City CCI reported in the Engineering News Record (ENR) for the 12-month period ending October the prior year.



- (c) The City Council shall complete annual and five-year reporting, including all findings, as required in the Mitigation Fee Act, Government Code section 66006 or successor statute.
- (d) The childcare impact fee shall be paid or exaction shall be made prior to the earlier of:
  - 1. The issuance of a building permit;
  - 2. The issuance of a certificate of occupancy;
  - 3. The date of final inspection;
  - 4. If no final inspection is required, prior to occupancy of the use; or
  - 5. Such other time as permitted under Government Code section 66007 or successor statute, or other applicable law.
- (e) Amount of Land or Premises Dedication. Upon requirement or approval by the City Council, land or premises shall be dedicated to the City or to a nonprofit organization for childcare purposes, based on a certified appraisal approved by the City Public Works or Economic Development Department. The market value of land or premises dedicated pursuant to this chapter shall be reasonably related to the monetary value of the fees or exactions which would be otherwise required pursuant to this section.

#### 18.48.050 EXEMPTIONS

A. The following exemptions from the requirements for fees and exactions are imposed:

- (a) Any type of project determined by the City Council to have a reduced or insignificant childcare impact as per section 18.48.070.
- (b) Childcare or School Facility. Childcare facilities and any school or day care facility for children including preschools and kindergarten through grade 12.
- (c) Senior Housing Project. Senior housing projects, except for congregate care or nursing home care projects for which the fee or exaction shall be based upon the number of employment opportunities resulting from such a type of project.
- (d) Affordable Housing Projects. For purposes of this exemption, Affordable Housing Projects are projects where 100% of the units, excluding managers units, within the development are dedicated to lower income households. The affordable units within the development are subject to a recorded affordability restriction for a minimum of fifty-five (55) years or per local inclusionary requirements, whichever is greater.
- (e) Accessory Dwelling Units and Junior Accessory Dwelling Units.
- (f) Repairs or Replacement. The repair, remodel, modification, reconstruction or replacement of a residential or nonresidential building substantially equivalent to the preexisting building. Existing square footage beyond the pre-existing amount is not

exempt. This includes residential and nonresidential square footage being replaced due to natural disaster.

- (g) Nonresidential Change of Use. Any change of use of an existing legally established nonresidential use, unless the change in use is determined by the City Council to be so significant as to require a childcare impact fee.
- (h) Public Project. Projects undertaken by a public agency, except projects undertaken by a private developer on public property, and except property not used exclusively for a governmental purpose.
- (i) Project with Complete Application on Effective Date of Ordinance. Project for which an application for permit was complete prior to the effective date of the ordinance codified in this section, except for any project which is required to comply with these measures pursuant to the provisions of a development agreement.

B. Change of use is entitled to an offset or a credit:

- (a) If a project is changing its use, a credit in the amount offsetting the impact of its prior use shall be applied. For example, a development project converting existing hotel square footage into residential multi-family will have the fee for the proposed (including any addition) multi-family calculated and the fee for the existing hotel space calculated, and the existing hotel space will be credited against the new multi-family fee use. In the event that the credit exceeds the new fee, the fee shall be zero and no refunds are applicable.

C. No credits or exemptions will be given to properties that have been vacant for more than three (3) years by the time of applying for building permit.

#### 18.48.060 USE OF FEE

- A. Upon receipt, childcare impact fees shall be deposited, invested, accounted for, and expended as required per the Mitigation Fee Act, Government Code section 66001 or successor statute. Revenues, along with any interest earnings on the account, shall be used to:
  - (i) Pay for offsetting the reasonably projected costs to the childcare system in the City due to the increased childcare needs generated by new development, which includes, but is not limited to, financing the construction or purchase of public childcare facilities, or improvements otherwise consistent with law.

#### 18.48.070 FEE ADJUSTMENTS

- A. A developer of any project subject to the childcare impact fee may apply to the city council for a reduction or adjustment to that fee, or a waiver of that fee, based upon the absence of any reasonable relationship or nexus between the impacts of that development and either the

amount of the fee charged or the type of facilities to be financed. The application must meet all of the following requirements:

- (1) Applicant must pay the required fee first in full, or provide satisfactory evidence of arrangements to pay the fee when due, or ensure performance of the conditions necessary to meet the imposition of the fee imposed;
  - (2) File a written statement with the city clerk that: (i) the fee has been tendered or will be tendered when due, or that any conditions which have been imposed are provided for or satisfied, but under protest; (ii) states in detail the factual basis of the claim of waiver, reduction or adjustment; (iii) and pay appeal fee.
  - (3) The applicant shall bear the burden of proof in presenting substantial evidence to support the application.
- B. The city council shall consider the application at the public hearing on the permit application or at a separate hearing held within sixty days after the filing of the fee adjustment application, whichever is later. The city council shall uphold the fee and deny the application if it finds that there is a reasonable relationship between the impacts of the development and the amount of the fee charged and the type of facilities to be financed. The city council shall consider (1) the land use category determination; (2) the substance and nature of the evidence, including the fee calculation method and supporting technical documentation; (3) for a residential project, the type and level of occupancy; and (4) for a nonresidential project, the number of employment opportunities reasonably resulting from the type of nonresidential project involved. In lieu of waiving a fee pursuant to a fee waiver application, the council may adjust the fee upon concluding that the evidence offered at the hearing justifies an adjustment rather than a waiver. The decision of the city council shall be final. If a reduction, adjustment, or waiver is granted, any change in use within the project shall invalidate the waiver, adjustment or reduction of the fee. The decision of the city council may be appealed within one hundred eighty days of the service of the notice of the decision in accordance with Government Code Section 66020, or successor statute.
- C. A fee protest filed pursuant to subsection (A) must be filed the earlier of:
- (1) No later than ten days prior to the public hearing on the developer's permit application for the development project;
  - (2) Within ten days of the approval of the project, at which time the developer shall receive a written statement of the amount of the fee; or
  - (3) If the development project does not involve a public hearing or if the written statement of the fee amount is not provided at least twenty-one calendar days in advance of a required public hearing, the protest request must be filed with the city clerk no more than ninety calendar days following the developer's receipt of the written statement of the fee, which shall include notification that the ninety-day period in which the applicant may protest the fee has begun.

- D. Where the imposition of the childcare impact fee is determined by the city at a public hearing to be valid and is required for reasons related to the public health, safety, and welfare, and is a condition of approval of the proposed development project, then in the event a protest is lodged pursuant to subsection (A), that approval of the development project shall be suspended pending withdrawal of the protest, the expiration of the limitation period of subsection (C) without the filing of an action, or resolution of any action filed.

18.48.080 REFUND OF FEE.

- (a) If a development permit expires, is cancelled, or is voided and any fees paid pursuant to this chapter have not been expended, no construction has taken place on either the development project or the public facility, and the use has never occupied the site, the Director of Planning & Community Development or their designee shall, upon the written request of the applicant and the findings of these factors, order return of the fee and the interest accrued thereon, less administrative costs.
- (b) If the City Council fails to make the annual and five-year findings as described in the Mitigation Fee Act, the City shall refund the fee as set forth in Government Code section 66001(e) or successor statute.

18.48.090 STATUTORY EXEMPTION

The City Council hereby finds and determines that pursuant to Public Resources Code section 21080(b)(8) the enactment of this chapter constitutes a project which is statutorily exempt from the requirements of the California Environmental Quality Act. Specifically, this chapter establishes and approves childcare impact fees that will generate funds for capital projects which are necessary to maintain acceptable levels of childcare service within the City. This chapter does not, nor is it intended to, approve or pre-determine any development project which may be proposed in the future for which a childcare impact fee may be exacted in accordance with the chapter. As such, it merely provides the City with the procedural authority to impose childcare impact fees if and when any such development project might be proposed or applied for.

18.48.100 SEVERABILITY

The provisions of this chapter shall not apply to any person, association, and corporation or to any property as to whom or which it is beyond the power of the City of Santa Cruz to impose the fee herein provided. If any section or portion of this chapter is found to be invalid by a court of competent jurisdiction or otherwise, such finding shall not affect the validity of the remainder of the chapter, which shall continue in full force and effect.

ORDINANCE NO. 2021-10

Section 2. This ordinance shall take effect and be in force sixty (60) days after final adoption.

PASSED FOR PUBLICATION this 13<sup>th</sup> day of April, 2021 by the following vote:

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder;  
Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

This is to certify that the above and foregoing document is the original of Ordinance No. 2021-10 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

\_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

RESOLUTION NO. NS-XX,XXX

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ IMPLEMENTING  
THE CHILDCARE IMPACT FEE CHARGES FOR NEW RESIDENTIAL AND  
NONRESIDENTIAL DEVELOPMENT

WHEREAS, Children are part of the social infrastructure for community development and an investment in our collective future; and

WHEREAS, while the education of children has been acknowledged as a public responsibility, the pre-school and after-school care of children traditionally has been seen as the private problem of families, especially women, and not of public concern; and

WHEREAS, consideration for the needs of children is a critical part of community planning; and

WHEREAS, childcare is more than a family matter; it is part of an integrated system that supports human development, labor force participation, and job opportunities; and

WHEREAS, the benefits of early childhood development and care in the community speak to the labor market, business recruitment, and retention; improved school readiness and success; and reduced public cost for remediation, prison, and welfare; and

WHEREAS, the City General Plan calls for accessible, high-quality childcare facilities and services and includes objectives and policies to encourage an adequate and diverse supply of childcare facilities and services citywide and to implement a Childcare Impact Fee on new residential and nonresidential development due to its impacts on childcare needs; and

WHEREAS, the establishment of a childcare system which will adequately provide for childcare needs is an essential public service prerequisite to any increase in either residential or nonresidential development; and

WHEREAS, a developer voluntarily choosing to create new development will place new, additional, and cumulatively overwhelming burdens on the childcare system. As a condition of project approval, new development must mitigate its adverse impact of increased demand for childcare generated by the development;

WHEREAS, Childcare Impact Fees are necessary in order to establish a childcare funding mechanism to improve and augment the childcare system so as to enable developers of new development to pay a fair share of the costs of the system through assessment of fees or exactions reasonably related to the increased use of the childcare system generated by new development; and

WHEREAS, there is a reasonable relationship between the use of the fee and the type of development project upon which the fee is imposed; and between the need for the childcare facility and the type of development project upon which the fee is imposed;

RESOLUTION NO. NS-XX,XXX

WHEREAS, the fee shall be imposed upon residential and nonresidential development projects which can reasonably be anticipated to create new or additional need for a quality childcare system due to the greater number of residential or employment opportunities which result from that type of development; and

WHEREAS, the Childcare Impact Fee implemented by this resolution is authorized in the City of Santa Cruz Municipal Code 18.48; and

WHEREAS, to allow developers to plan appropriately for the Childcare Impact Fee, the City finds it reasonable to implement the fee over a three-year graduated period as shown in Exhibit A.

WHEREAS, the Childcare Impact Fee schedule will be adjusted annually to account for cost inflation. It will be automatically adjusted effective January 1 of each year beginning on January 1, 2022. The adjustment will be based on the year-over-year percentage change in the 20-City Construction Cost Index (CCI) as reported in the Engineering News Record (ENR) for the 12-month period ending October the prior year.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz as follows:

In approving this implementing resolution, the City Council is implementing Childcare Impact Fee charges for new nonresidential and residential development to be paid at issuance of building permit as written in Exhibit A and incorporating said fees in the City's Unified Master Fee Schedule.

The Childcare Impact Fee shall be effective sixty (60) days after passing of this resolution.

PASSED AND ADOPTED this ~~27<sup>th</sup>~~ ~~13<sup>th</sup>~~ day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

CITY OF SANTA CRUZ CHILDCARE DEVELOPMENT IMPACT FEE (CCDF)  
THREE-YEAR GRADUATED INCREASE PROPOSAL  
Based on City Demographic Data  
EXHIBIT A

**CITY OF SANTA CRUZ CHILDCARE IMPACT FEE<sup>[1]</sup>**

|                             | <b>FY20/21</b>   | <b>FY21/22</b>   | <b>FY22/23</b>   |
|-----------------------------|------------------|------------------|------------------|
| <b>RESIDENTIAL USE</b>      | Cost Per Sq. Ft. | Cost Per Sq. Ft. | Cost Per Sq. Ft. |
| Single-Family               | \$ 0.28          | \$ 0.42          | \$ 0.56          |
| Multi Family <sup>[2]</sup> | \$ 0.21          | \$ 0.32          | \$ 0.42          |
|                             | Cost Per Sq. Ft. | Cost Per Sq. Ft. | Cost Per Sq. Ft. |
| Retail                      | \$ 0.77          | \$ 1.15          | \$ 1.53          |
| Office                      | \$ 0.89          | \$ 1.34          | \$ 1.78          |
| Industrial                  | \$ 0.36          | \$ 0.53          | \$ 0.71          |
| Hotel                       | \$ 0.27          | \$ 0.41          | \$ 0.54          |

[1] Charges include 2% administrative fee.

[2] The multi-family residential charge was set at a rate of 75% of the maximum justified residential fee to encourage multi-family and affordable housing units.

This table outlines recommended three-year graduated increase in CCDF. KMA's analysis supports a maximum child care development fee amount. In order to minimize the impact of the rise in fees, a three-year graduated increase is proposed. Fiscal year 20/21 would increase the fees by 50% of the total recommended fee, fiscal year 21/22 would increase fees by 75% and FY 22/23 would bring the fees to the full recommended amount.



**Proof of Publication  
(2015 C.C.P.)**

I, the undersigned, declare:

That I caused the attached legal notice/advertisement to be published in the Santa Cruz *Good Times*, a weekly newspaper published and circulated in the County of Santa Cruz, and adjudged a newspaper of general circulation by the Superior Court of California in and for the County of Santa Cruz, under Proceeding No. 68833; and that the legal notice/advertisement was published in the above-named newspaper on the following date(s), to wit:

\_\_\_\_\_  
April 21, 2021

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

This 21<sup>st</sup> day of April, 2021, Santa Cruz, California



\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

**NOTICE OF  
PUBLICATION  
OF ORDINANCE  
BY POSTING  
(ORDINANCE NO. 2021-10)**



The City Council of the City of Santa Cruz having authorized the City Clerk Administrator, that the ordinance hereafter entitled and described, be published by posting copies thereof in three (3) prominent places in the City, to wit:

The City of Santa Cruz website  
[www.cityofsantacruz.com](http://www.cityofsantacruz.com)  
City Hall – 809 Center Street:  
Bulletin Board, Room 9/10  
Bulletin Board outside Council Chambers

NOTICES HEREBY GIVEN that copies of said ordinance were posted according to said order. (Original on file with city clerk). Said ordinance was introduced on the April 13th, 2021, and is entitled and described as follows:

**ORDINANCE NO. 2021-10  
AN ORDINANCE OF THE CITY COUNCIL  
OF THE CITY OF SANTA CRUZ ADDING  
CHAPTER 18.48 TO THE SANTA CRUZ  
MUNICIPAL CODE TO ESTABLISH  
CHILDCARE IMPACT FEES NECESSARY  
TO MAINTAIN ACCEPTABLE LEVELS OF  
CHILDCARE FACILITIES WITHIN THE CITY**

This ordinance amends Chapter 18.48 of the Municipal Code related to Childcare Impact Fees. PASSED FOR PUBLICATION on this 13th day of April, 2021, by the following vote: AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. NOES: None. ABSENT: None. DISQUALIFIED: None. APPROVED: ss/Mayor Meyers. ATTEST: ss/Bonnie Bush, City Clerk Administrator. This Ordinance is scheduled for further consideration and final adoption at the Council meeting of April 27th, 2021.

DECLARATION OF POSTING

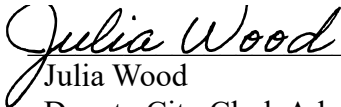
STATE OF CALIFORNIA       )  
  )     SS.  
COUNTY OF SANTA CRUZ    )

On the 19<sup>th</sup> day of April, 2021, I posted conspicuously in three public places within the City of Santa Cruz, Ordinance No. 2021-10, to wit:

1. City Hall: 809 Center Street: Bulletin Board outside Room 9/10
2. City Hall: Bulletin Board outside Council Chambers
3. The City of Santa Cruz website

The document, posted in its entirety, consists of pages 1—8.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 19<sup>th</sup> day of April, 2021, in Santa Cruz, California.

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

## Rosemary Balsley

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**From:** Garrett <garrettphilipp@aol.com>  
**Sent:** Thursday, April 22, 2021 10:57 PM  
**To:** City Council  
**Subject:** 4.27.21 Agenda Item # 33 Developer Childcare Impact Fee

4.27.21 Agenda Item # 33 Developer Childcare Impact Fee

Dear Council,

What we have here is a disconnect of logic and reason, or principals and government responsibility.

Clearly the developer fees are to charge developers for city services they are receiving, but are not paying for otherwise because construction sites don't yet pay property taxes, and are not occupied with people paying utilities or sales taxes, i.e. paying their way like everyone else.

You tell me. Exactly WHAT childcare services are these developers receiving that they are not paying for?

I can tell you. Absolutely none.

You are just reaching into their pockets with the justification that "you can", but no other.

It is the Bill Clinton defense. Shen asked why he had sex with Monica Lewinski in the Oval Office he replied "because I could". That is your justification "because I could" using the monopoly power of project approval like the mob might.

This, and many other developer fees are quite questionable as to their monetary justifications.

You're looking for pockets to pick.

Yes, it's really, really day there are parents who have defenseless children they can't afford to take care of. Who is at fault there? I'm thinking not the developer.

Maybe you need to find another pocket to pick *that is not so obviously wrong.*

Sincerely, Garrett Philipp

## Rosemary Balsley

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**From:** Garrett <garrettphilipp@aol.com>  
**Sent:** Friday, April 23, 2021 10:29 PM  
**To:** City Council  
**Subject:** 4.27.21 Agenda Item # 33 Developer Childcare Impact Fee

Sorry about the typos in my earlier email

4.27.21 Agenda Item # 33 Developer Childcare Impact Fee

Dear Council,

What we have here is a disconnect of logic and reason, or principals and government responsibility.

Clearly the developer fees are to charge developers for city services they are receiving, but are not paying for otherwise because construction sites don't yet pay property taxes, and are not occupied with people paying utilities or sales taxes, i.e. paying their way like everyone else.

You tell me. Exactly WHAT childcare services are these developers receiving that they are not paying for?

I can tell you. Absolutely none.

You are just reaching into their pockets with the justification that "you can", but no other.

It is the Bill Clinton defense. When asked why he had sex with Monica Lewinski in the Oval Office he replied "because I could". That is your justification "because I could" using the monopoly power of project approval like the mob might.

This, and many other developer fees are quite questionable as to their monetary justifications. This one has zero justification.

You're looking for pockets to pick.

Yes, it's really, really sad there are parents who have defenseless children they can't afford to take care of. Who is at fault there? I'm thinking not the developer.

Maybe you need to find another pocket to pick that is not so obviously wrong.

As to the police and fire charges, I suppose it is possible a construction site might need police for trespass, theft, medical emergency or arson, but I would wager un-occupied buildings, especially during early construction don't generate a lot of police/fire response.

As to the amounts charged, it seems like as I said before it's the full amount charged per capita for every citizen of Santa Cruz. I'll bet unoccupied buildings don't get a lot of domestic disturbance calls.

As to sewer charges, I admit I don't know a lot about what services exactly the city provides, but it seems to me the developer is probably doing ALL the labor and expense of connecting to the sewer and this business of dividing the net value of the sewer system to determine some incremental charge is absurd. Water and Sewer are paid for by providing water and sewer monthly charges. The lifetime of the infrastructure is enormous, and replacement costs are routinely put on current customers in bonds or rates. Perhaps a nominal inspection fee that is part of the building permit is all I can see. Again, possibly another money grab.

Even the water permit charges are suspect. The developer does not OWN the water meter or pipe that connects it. You do. It is the vehicle that you use to charge for probably the NEXT 50 YEARS for

water. Imagine a company that charged it's customers for the pleasure of charging them to buy their product for the next 50 years.

The only companies that can do that are monopolies , and ones that abuse that monopoly. Water rates and the labor to install the meters is all you should be charging for. Again, seems like a money grab.

Shameless, isn't it.

Sincerely, Garrett Philipp



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Planning

**SUBJECT:** 2nd Reading and Final Adoption of Ordinance No. 2021-11, Public Safety Impact Fee, and Implementing Resolution Setting the New Public Safety Impact Fee (PL)

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### **RECOMMENDATION:**

1) Adopt Ordinance No. 2021-11 establishing a new Public Safety Impact Fee within Chapter 18.49 of the Santa Cruz Municipal Code

2) Resolution setting the Public Safety Impact Fee charges for residential and nonresidential development.

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**BACKGROUND:** On April 13, 2021 Council unanimously adopted the revision of the Public Safety Impact Fee ordinance and directed staff to bring back adoption of the implementing resolution on April 27, 2021.

**DISCUSSION:** The Public Safety Impact Fee is made of two program components or charges – a charge for fire and a charge for police. The proposed fees are categorized by development type for the Public Safety Impact Fee based on the Nexus Study provided to Council on April 13, 2021 and recommends implementing the full fee amount over a graduated three-year period to reduce the initial financial burden of multiple fees on the development community. Rates are shown in Attachment 1A. A gradual increase is consistent with other cost recovery strategies the City has implemented with fees for services.

**FISCAL IMPACT:** Impact fee revenue requires special fund accounting separate from the General Fund. Additionally, impact fees may not be used to address existing deficiencies in public facilities. However, impact fees may be used to refurbish existing facilities to maintain the existing level of service or achieve an adopted level of service that is consistent with the City's General Plan. With that said, impact fee funding will support the General Fund by providing developments' fair share of future costs for specified, eligible fire and police expenses. Depending on development activity, the fee could generate \$130,000 to \$260,000 per fiscal year.

**Prepared By:**  
Sara De Leon  
Principal Management  
Analyst

**Submitted By:**  
Lee Butler  
Director of Planning and  
Community Development

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**

1. ORDINANCE
2. IMPLEMENTING RESOLUTION.DOCX
3. EXHIBIT A PUBLIC SAFETY.PDF

ORDINANCE NO. 2021-11

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ ADDING CHAPTER 18.49 TO THE SANTA CRUZ MUNICIPAL CODE TO ESTABLISH PUBLIC SAFETY IMPACT FEES NECESSARY TO MAINTAIN ACCEPTABLE LEVELS OF PUBLIC SAFETY FACILITIES, APPARATUSES, VEHICLES, AND EQUIPMENT WITHIN THE CITY

BE IT ORDAINED By the City of Santa Cruz as follows:

Section 1. Chapter 18.49 is hereby added to the Santa Cruz Municipal Code to read as follows:

“Chapter 18.49  
PUBLIC SAFETY IMPACT FEE

Sections:

|           |                          |
|-----------|--------------------------|
| 18.49.010 | Authority                |
| 18.49.020 | Intent and Purpose       |
| 18.49.030 | Definitions              |
| 18.49.040 | Public Safety Impact Fee |
| 18.49.050 | Exemptions               |
| 18.49.060 | Use of Fee               |
| 18.49.070 | Fee Adjustments          |
| 18.49.080 | Refund of Fee            |
| 18.49.090 | Statutory Exemption      |
| 18.49.100 | Severability             |

18.49.010     AUTHORITY.

This chapter is enacted pursuant to the Mitigation Fee Act, California Government Code section 66000 et seq. and to the Charter City authority provided by the Constitution of the State of California.

18.49.020     INTENT AND PURPOSE.

(a)    The City Council of the City of Santa Cruz declares that:

- 1) Public Safety services that adequately provides for public safety needs is an essential public service prerequisite to any increase in either residential or nonresidential development;
- 2) The City General Plan includes objectives and policies to ensure adequate fire and police training and resources, and to maintain rapid and timely response to all emergencies and services;



- 3) Both fire and police run a network of integrated services that will serve existing and planned residential and nonresidential development.
  - 4) New development in the City will increase the service population and, therefore, the need for new fire and police facilities, apparatuses, vehicles, and equipment to adequately serve the new residents and employees.
  - 5) A Public Safety Impact Fee is needed to support existing and planned public safety facilities, apparatuses, vehicles, and equipment to serve increased population from new residential and nonresidential development in the City;
  - 6) A developer voluntarily choosing to create new development will place new, additional, and cumulatively overwhelming burdens on public safety services. As a condition of project approval, new development must mitigate its adverse impact of increased demand for public safety generated by the development;
  - 7) A Public Safety Impact Fee is necessary in order to establish a public safety funding mechanism to pay new development's fair share of the costs of fire and police facilities, apparatuses, vehicle and equipment and shall be imposed upon residential and nonresidential development projects which can reasonably be anticipated to create new or additional need for responsive, quality public safety services due to the greater number of residential or employment opportunities which result from that type of development.
  - 8) There is a reasonable relationship between the use of the fee and the type of development project upon which the fee is imposed; and between the need for the Public Safety facilities, apparatuses, vehicles, and equipment and the type of development project upon which the fee is imposed;
  - 9) The Public Safety impact fee established by this chapter is consistent with the City General Plan and Government Code Sections 66000 through 66008.
- (b) The purpose of this chapter, therefore, is to provide for the planned and incremental expansion of Public Safety facilities, apparatuses, vehicles, and equipment with development fees. The intent of this chapter is not to raise general revenues. Instead, the intent is for new residential and nonresidential development to pay its fair share of public safety facilities, apparatuses, vehicles, and equipment generated by growth from new development, in a balanced and efficient manner which will mitigate the adverse impacts on Public Safety services and promote the public health, safety, and general welfare.

#### 18.49.030 DEFINITIONS

As used in this chapter, all words, phrases, and terms shall be interpreted in accordance with the definitions set forth in the Mitigation Fee Act, unless otherwise defined herein. For the purposes of this chapter, the following definitions shall apply:

- (a) “Public Safety facility” or “Critical Facilities” means existing or proposed fire and police facilities, including the site, buildings, modifications to buildings, and accessory structures necessary to store equipment or train staff; emergency operation centers, fire and police stations, emergency shelters, and other facilities related and necessary for emergency preparedness; and equipment such as vehicles, apparatuses, and other capital equipment necessary to maintain adequate fire and police response times necessary for community safety and emergency preparedness throughout the City of Santa Cruz.
- (b) “Public Safety Services” means the overall system of public safety provided by fire and police located within the boundaries of the City of Santa Cruz, including (without limitation) Public Safety facilities, programs, and services.
- (c) “City” shall mean the City of Santa Cruz.
- (d) “Development Project” shall mean a proposal for the development or use of land, requiring the granting of an entitlement, whether residential, nonresidential or both, within the land use jurisdiction of the City of Santa Cruz. A development project means any project undertaken for the purpose of development and involves the issuance of a permit for construction or reconstruction, but not a permit to operate. A development project includes, but is not limited to, a general plan amendment, zoning or rezoning a property, a use permit, a design permit, a coastal development permit, a variance, a planned development permit, subdivision map, parcel map, building permit, or another permit for construction, reconstruction, or development.
- (e) “Fees, exactions or impact mitigation measures” means measures taken by a developer to mitigate the impact of the proposed project on the need for Public Safety. Measures include development fees, land dedication, participation in the construction or establishment of a Public Safety facility, provision of Public Safety services, operation of a Public Safety program, or alternate participation by a developer approved by the City Council. No such measure shall raise general revenues or otherwise be imposed as a tax.

18.49.040 APPLICATION AND PAYMENT OF FEE

- (a) Unless otherwise exempted, a Public Safety Impact Fee shall be assessed as a condition of approval, in connection with any development project within the City limits as an impact mitigation measure (including, without limitation, payment of a fee, dedication of land, participation in the construction or establishment of a Public Safety facility, provision of a Public Safety service, operation of a Public Safety program, or arrangement of an approximately equivalent exaction) which is reasonably attributable to the development project, as determined by resolution of the City Council.
- (b) The fee shall support new or expanded uses of police and fire facilities, apparatuses, vehicles and equipment, because fire and police provide a critical community service as identified in the Hazards, Safety, and Noise Element of the City’s General Plan.

- (c) The specific amount of monetary fees for Public Safety shall be established by resolution of the City Council, be made a part of the City's Unified Master Fee Schedule, and be updated by Construction Cost Index (CCI) automatically on an annual basis in January. The adjustment will be based on the year-over-year percentage change in the 20-City CCI reported in the Engineering News Record (ENR) for the 12-month period ending October the prior year.
- (d) The City Council shall complete annual and five-year reporting, including all findings, as required in the Mitigation Fee Act, Government Code section 66006 or successor statute.
- (e) The Public Safety Impact Fee shall be paid prior to the earlier of:
  - 1. The issuance of building permit;
  - 2. The issuance of a certificate of occupancy;
  - 3. The date of final inspection;
  - 4. If no final inspection is required, prior to occupancy of the use; or
  - 5. Such other time as permitted under Government Code section 66007 or successor statute, or other applicable law.
- (f) Amount of Land or Premises Dedication. Upon requirement or approval by the City Council, land or premises shall be dedicated to the City or to a nonprofit organization for Public Safety purposes, based on a certified appraisal approved by the City Public Works or Economic Development Department. The market value of land or premises dedicated pursuant to this chapter shall be reasonably related to the monetary value of the fees or exactions which would be otherwise required pursuant to this section.

#### 18.49.050 EXEMPTIONS

- A. The following exemptions from the requirements for fees and exactions are imposed:
  - 1) Any type of project determined by the City Council to have a reduced or insignificant Public Safety impact as per section 18.49.070.
  - 2) Repairs or Replacement. The repair, remodel, modification, reconstruction or replacement of a residential or nonresidential building substantially equivalent to the preexisting building. Additional square footage beyond the pre-existing amount is not exempt. Includes residential and nonresidential units being replaced due to a natural disaster.
  - 3) Accessory Dwelling Units and Junior Accessory Dwelling Units.
  - 4) Public Project. Projects undertaken by a public agency, except projects undertaken by a private developer on public property, and except property not used exclusively for a governmental purpose.

- 5) Project with Complete Application on Effective Date of Ordinance. Project for which an application for permit was complete prior to the effective date of the ordinance codified in this section, except for any project which is required to comply with these measures pursuant to the provisions of a development agreement.
- 6) Affordable Housing Projects. For purposes of this exemption, Affordable Housing Projects are projects where 100% of the units, excluding managers units, within the development are dedicated to lower income households. The affordable units within the development are subject to a recorded affordability restriction for a minimum of fifty-five (55) years or per local inclusionary requirements, whichever is greater.

B. Change of use is entitled to an offset or a credit:

- 1) If a project is changing its use, a credit in the amount offsetting the impact of its prior use shall be applied. For example, a development project converting existing hotel square footage into residential multi-family will have the fee for the proposed (including any addition) multi-family calculated and the fee for the existing hotel space calculated, and the existing hotel space will be credited against the new multi-family fee use. In the event that the credit exceeds the new fee, the fee shall be zero and no refunds are applicable.

C. No credits or exemptions will be given to properties that have been vacant for more than three years (3) by the time of applying for building permit.

18.48.060 USE OF FEE

A. Upon receipt, Public Safety Impact Fee shall be deposited, invested, accounted for, and expended as required per the Mitigation Fee Act, Government Code section 66001 or successor statute. Revenues, along with any interest earnings on the account, shall be used to:

- (i) Pay for offsetting the reasonably projected costs to Public Safety services in the City due to the increased Public Safety needs generated by new development, which includes, but is not limited to, financing the construction or purchase of Public Safety facilities, or improvements otherwise consistent with law.

18.49.070 FEE ADJUSTMENTS

A. A developer of any project subject to the childcare impact fee may apply to the city council for a reduction or adjustment to that fee, or a waiver of that fee, based upon the absence of any reasonable relationship or nexus between the impacts of that development and either the amount of the fee charged or the type of facilities to be financed. The application must meet all of the following requirements:

- (1) Applicant must pay the required fee first in full, or provide satisfactory evidence of arrangements to pay the fee when due, or ensure performance of the conditions necessary to meet the imposition of the fee imposed;
  - (2) File a written statement with the city clerk that: (i) the fee has been tendered or will be tendered when due, or that any conditions which have been imposed are provided for or satisfied, but under protest; (ii) states in detail the factual basis of the claim of waiver, reduction or adjustment; (iii) and pay appeal fee.
  - (3) The applicant shall bear the burden of proof in presenting substantial evidence to support the application.
- B. The city council shall consider the application at the public hearing on the permit application or at a separate hearing held within sixty days after the filing of the fee adjustment application, whichever is later. The city council shall uphold the fee and deny the application if it finds that there is a reasonable relationship between the impacts of the development and the amount of the fee charged and the type of facilities to be financed. The city council shall consider (1) the land use category determination; (2) the substance and nature of the evidence, including the fee calculation method and supporting technical documentation; (3) for a residential project, the type and level of occupancy; and (4) for a nonresidential project, the number of employment opportunities reasonably resulting from the type of nonresidential project involved. In lieu of waiving a fee pursuant to a fee waiver application, the council may adjust the fee upon concluding that the evidence offered at the hearing justifies an adjustment rather than a waiver. The decision of the city council shall be final. If a reduction, adjustment, or waiver is granted, any change in use within the project shall invalidate the waiver, adjustment or reduction of the fee. The decision of the city council may be appealed within one hundred eighty days of the service of the notice of the decision in accordance with Government Code Section 66020, or successor statute.
- C. A fee protest filed pursuant to subsection (A) must be filed the earlier of:
- (1) No later than ten days prior to the public hearing on the developer's permit application for the development project;
  - (2) Within ten days of the approval of the project, at which time the developer shall receive a written statement of the amount of the fee; or
  - (3) If the development project does not involve a public hearing or if the written statement of the fee amount is not provided at least twenty-one calendar days in advance of a required public hearing, the protest request must be filed with the city clerk no more than ninety calendar days following the developer's receipt of the written statement of the fee, which shall include notification that the ninety-day period in which the applicant may protest the fee has begun.
- D. Where the imposition of the childcare impact fee is determined by the city at a public hearing to be valid and is required for reasons related to the public health, safety, and

welfare, and is a condition of approval of the proposed development project, then in the event a protest is lodged pursuant to subsection (A), that approval of the development project shall be suspended pending withdrawal of the protest, the expiration of the limitation period of subsection (C) without the filing of an action, or resolution of any action filed.

18.48.080 REFUND OF FEE.

- (a) If a development permit expires, is cancelled, or is voided and any fees paid pursuant to this chapter have not been expended, no construction has taken place on either the development project or the public facility, and the use has never occupied the site, the Director of Planning & Community Development or their designee shall, upon the written request of the applicant and the findings of these factors, order return of the fee and the interest accrued thereon, less administrative costs.
- (b) If the City Council fails to make the annual and five-year findings as described in the Mitigation Fee Act, the City shall refund the fee as set forth in Government Code section 66001(e) or successor statute.

18.49.090 STATUTORY EXEMPTION

The City Council hereby finds and determines that pursuant to Public Resources Code section 21080(b)(8) the enactment of this chapter constitutes a project which is statutorily exempt from the requirements of the California Environmental Quality Act. Specifically, this chapter establishes and approves Public Safety impact fees that will generate funds for capital projects which are necessary to maintain acceptable levels of Public Safety service within the City. This chapter does not, nor is it intended to, approve or pre-determine any development project which may be proposed in the future for which a Public Safety impact fee may be exacted in accordance with the chapter. As such, it merely provides the City with the procedural authority to impose Public Safety impact fees if and when any such development project might be proposed or applied for.

18.49.100 SEVERABILITY

The provisions of this chapter shall not apply to any person, association, and corporation or to any property as to whom or which it is beyond the power of the City of Santa Cruz to impose the fee herein provided. If any section or portion of this chapter is found to be invalid by a court of competent jurisdiction or otherwise, such finding shall not affect the validity of the remainder of the chapter, which shall continue in full force and effect.

Section 2. This ordinance shall take effect and be in force sixty (60) days after final adoption.

ORDINANCE NO. 2021-11

PASSED FOR PUBLICATION this 13<sup>th</sup> day of April, 2021 by the following vote:

AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder;  
Vice Mayor Brunner; Mayor Meyers.

NOES: None.

ABSENT: None.

DISQUALIFIED: None.

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

PASSED FOR FINAL ADOPTION this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

This is to certify that the above  
and foregoing document is the  
original of Ordinance No. 2021-11  
and that it has been published or  
posted in accordance with the  
Charter of the City of Santa Cruz.

\_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

RESOLUTION NO. NS-XX,XXX

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ IMPLEMENTING  
THE PUBLIC SAFETY IMPACT FEE CHARGES FOR NEW RESIDENTIAL AND  
NONRESIDENTIAL DEVELOPMENT

WHEREAS, Public Safety services that adequately provides for public safety needs is an essential public service prerequisite to any increase in either residential or nonresidential development;

WHEREAS, the City General Plan includes objectives and policies to ensure adequate fire and police training and resources, and to maintain rapid and timely response to all emergencies and services;

WHEREAS, both fire and police run a network of integrated services that will serve existing and planned residential and nonresidential development;

WHEREAS, new development in the City will increase the service population and, therefore, the need for new fire and police facilities, apparatuses, vehicles, and equipment to adequately serve the new residents and employees;

WHEREAS, a Public Safety Impact Fee is needed to support existing and planned public safety facilities, apparatuses, vehicles, and equipment to serve increased population from new residential and nonresidential development in the City;

WHEREAS, a developer voluntarily choosing to create new development will place new, additional, and cumulatively overwhelming burdens on public safety services. As a condition of project approval, new development must mitigate its adverse impact of increased demand for public safety generated by the development;

WHEREAS, a Public Safety Impact Fee is necessary in order to establish a public safety funding mechanism to pay new development's fair share of the costs of fire and police facilities, apparatuses, vehicle and equipment and shall be imposed upon residential and nonresidential development projects which can reasonably be anticipated to create new or additional need for responsive, quality public safety services due to the greater number of residential or employment opportunities which result from that type of development.

WHEREAS, there is a reasonable relationship between the use of the fee and the type of development project upon which the fee is imposed; and between the need for the Public Safety facilities, apparatuses, vehicles, and equipment and the type of development project upon which the fee is imposed;

WHEREAS, the Public Safety impact fee established by this chapter is consistent with the City General Plan and Government Code Sections 66000 through 66008.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Santa Cruz as follows:



RESOLUTION NO. NS-XX,XXX

In approving this resolution, the City Council is implementing a Public Safety Impact Fee with program charges for fire and police services for new nonresidential and residential development to be paid at building permit issuance as written in Exhibit A and incorporating said fees in the City's Unified Master Fee Schedule.

This resolution shall take effect and be in force sixty (60) days after final adoption.

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021 by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

CITY OF SANTA CRUZ PUBLIC SAFETY IMPACT FEE (PSIF)  
THREE-YEAR GRADUATED INCREASE PROPOSAL  
EXHIBIT A

**CITY OF SANTA CRUZ PUBLIC SAFETY IMPACT FEE**

| <b>FIRE PROGRAM FEES</b>  |                           |                  |                           |                  |                           |                  |
|---|---------------------------|------------------|---------------------------|------------------|---------------------------|------------------|
|   | <b>FY20/21</b>            |                  | <b>FY21/22</b>            |                  | <b>FY22/23</b>            |                  |
|   | Maximum Per Dwelling Unit | Cost Per Sq. Ft. | Maximum Per Dwelling Unit | Cost Per Sq. Ft. | Maximum Per Dwelling Unit | Cost Per Sq. Ft. |
|   |                           |                  |                           |                  |                           |                  |
| <b>RESIDENTIAL USE</b>  |                           |                  |                           |                  |                           |                  |
| Single-Family   | \$ 420                    | \$ 0.27          | \$ 630                    | \$ 0.40          | \$ 841                    | \$ 0.53          |
| Multi Family  | \$ 313                    | \$ 0.45          | \$ 470                    | \$ 0.68          | \$ 627                    | \$ 0.90          |
| Note: If the Per Sq. Ft. cost is higher than what charges would be per unit, the per unit charge shall be used. |                           |                  |                           |                  |                           |                  |
|   | <b>FY20/21</b>            |                  | <b>FY21/22</b>            |                  | <b>FY22/23</b>            |                  |
|   | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. |
|   |                           |                  |                           |                  |                           |                  |
| <b>NONRESIDENTIAL USE</b>   |                           |                  |                           |                  |                           |                  |
| Retail  | \$ 254                    | \$ 0.254         | \$ 382                    | \$ 0.382         | \$ 509                    | \$ 0.509         |
| Office  | \$ 297                    | \$ 0.297         | \$ 445                    | \$ 0.445         | \$ 594                    | \$ 0.594         |
| Industrial  | \$ 119                    | \$ 0.119         | \$ 178                    | \$ 0.178         | \$ 237                    | \$ 0.237         |
| Hotel   | \$ 89                     | \$ 0.089         | \$ 134                    | \$ 0.134         | \$ 178                    | \$ 0.178         |
| <b>POLICE PROGRAM FEES</b>  |                           |                  |                           |                  |                           |                  |
|   | <b>FY20/21</b>            |                  | <b>FY21/22</b>            |                  | <b>FY22/23</b>            |                  |
|   | Maximum Per Dwelling Unit | Cost Per Sq. Ft. | Maximum Per Dwelling Unit | Cost Per Sq. Ft. | Maximum Per Dwelling Unit | Cost Per Sq. Ft. |
|   |                           |                  |                           |                  |                           |                  |
| <b>RESIDENTIAL USE</b>  |                           |                  |                           |                  |                           |                  |
| Single-Family   | \$ 426                    | \$ 0.27          | \$ 639                    | \$ 0.40          | \$ 852                    | \$ 0.53          |
| Multi-Family  | \$ 318                    | \$ 0.46          | \$ 476                    | \$ 0.69          | \$ 635                    | \$ 0.91          |
| Note: If the Per Sq. Ft. cost is higher than what charges would be per unit, the per unit charge shall be used. |                           |                  |                           |                  |                           |                  |
|   | <b>FY20/21</b>            |                  | <b>FY21/22</b>            |                  | <b>FY22/23</b>            |                  |
|   | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. | Cost Per 1,000 Sq. Ft.    | Cost Per Sq. Ft. |
|   |                           |                  |                           |                  |                           |                  |
| <b>NONRESIDENTIAL USE</b>   |                           |                  |                           |                  |                           |                  |
| Retail  | \$ 258                    | \$ 0.258         | \$ 387                    | \$ 0.387         | \$ 516                    | \$ 0.516         |
| Office  | \$ 301                    | \$ 0.301         | \$ 451                    | \$ 0.451         | \$ 601                    | \$ 0.601         |
| Industrial  | \$ 120                    | \$ 0.120         | \$ 180                    | \$ 0.180         | \$ 241                    | \$ 0.241         |
| Hotel   | \$ 90                     | \$ 0.090         | \$ 135                    | \$ 0.135         | \$ 180                    | \$ 0.180         |

This table outlines recommended three-year graduated increase in PSIF. In order to minimize the impact of the rise in fees, a three-year graduated increase is proposed. FY21 includes 50% of the total recommended fee, FY22 is 75% of the full fee amount, and FY23 would bring the fees to the full recommended amount.

**Proof of Publication  
(2015 C.C.P.)**

I, the undersigned, declare:

That I caused the attached legal notice/advertisement to be published in the Santa Cruz *Good Times*, a weekly newspaper published and circulated in the County of Santa Cruz, and adjudged a newspaper of general circulation by the Superior Court of California in and for the County of Santa Cruz, under Proceeding No. 68833; and that the legal notice/advertisement was published in the above-named newspaper on the following date(s), to wit:


\_\_\_\_\_  
April 21, 2021

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

This 21<sup>st</sup> day of April, 2021, Santa Cruz, California



\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator

|  |
|--|
| <div><p><b>NOTICE OF<br/>PUBLICATION<br/>OF ORDINANCE<br/>BY POSTING<br/>(ORDINANCE NO. 2021-11)</b></p><p>The City Council of the City of Santa Cruz having authorized the City Clerk Administrator, that the ordinance hereafter entitled and described, be published by posting copies thereof in three (3) prominent places in the City, to wit:</p><p>The City of Santa Cruz website<br/>www.cityofsantacruz.com<br/>City Hall – 809 Center Street:<br/>Bulletin Board, Room 9/10<br/>Bulletin Board outside Council Chambers</p><p>NOTICES HEREBY GIVEN that copies of said ordinance were posted according to said order. (Original on file with city clerk). Said ordinance was introduced on the April 13th, 2021, and is entitled and described as follows:</p><p><b>ORDINANCE NO. 2021-11<br/>AN ORDINANCE OF THE CITY COUNCIL<br/>OF THE CITY OF SANTA CRUZ ADDING<br/>CHAPTER 18.49 TO THE SANTA CRUZ<br/>MUNICIPAL CODE TO ESTABLISH PUBLIC<br/>SAFETY IMPACT FEES NECESSARY<br/>TO MAINTAIN ACCEPTABLE LEVELS<br/>OF PUBLIC SAFETY FACILITIES,<br/>APPARATUSES, VEHICLES, AND<br/>EQUIPMENT WITHIN THE CITY</b></p><p>This ordinance adds chapter 18.49 to the Municipal Code to establish a new Public Safety Impact Fee. PASSED FOR PUBLICATION on this 13th day of April, 2021, by the following vote: AYES: Councilmembers Watkins, Kalantari-Johnson, Brown, Cummings, Golder; Vice Mayor Brunner; Mayor Meyers. NOES: None. ABSENT: None. DISQUALIFIED: None. APPROVED: ss/Mayor Meyers. ATTEST: ss/Bonnie Bush, City Clerk Administrator. This Ordinance is scheduled for further consideration and final adoption at the Council meeting of April 27th, 2021.</p></div> <div></div> |
|--|

DECLARATION OF POSTING

STATE OF CALIFORNIA       )  
  )     SS.  
COUNTY OF SANTA CRUZ    )

On the 19<sup>th</sup> day of April, 2021, I posted conspicuously in three public places within the City of Santa Cruz, Ordinance No. 2021-11, to wit:

1. City Hall: 809 Center Street: Bulletin Board outside Room 9/10
2. City Hall: Bulletin Board outside Council Chambers
3. The City of Santa Cruz website

The document, posted in its entirety, consists of pages 1—8.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 19<sup>th</sup> day of April, 2021, in Santa Cruz, California.

  
\_\_\_\_\_  
Julia Wood  
Deputy City Clerk Administrator



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Economic Development

**SUBJECT:** 2021-2022 HUD Action Plan (ED)

---

**RECOMMENDATION:** Resolution adopting the 2021-2022 Annual Action Plan (AAP for the City's Housing and Community Development Program, and authorize the City Manager to sign an application for federal funding assistance for the 2021-2022 program year, authorizing appropriating funds for the FY 2022 Budget solution, and authorizing the City Manager to execute program/project contracts, loan agreements and related loan documents with Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) sub-recipients and contractors in connection with Consolidated Plan activities proposed in the 2021-2022 Action Plan and any subsequent revisions to the 2021-2022 Action Plan.

---

**BACKGROUND:** The City receives Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) entitlement funding annually from the U.S. Department of Housing and Urban Development (HUD). In order to obtain these funds, the City must develop and adopt a five-year Consolidated Plan which identifies and analyzes strategies for addressing specific community needs. The Five-Year Consolidated Plan provides strategic direction for housing and community development activities carried out in the City of Santa Cruz.

The City's current Consolidated Plan is effective for Program Years 2020-2025. The Plan was prepared and submitted for approval to HUD's Office of Community and Planning Development (CPD).

### CONSOLIDATED PLAN PROCESS

The Consolidated Plan is divided into six sections.

1. Executive Summary
2. The Process
3. Needs Assessment
4. Market Analysis
5. Strategic Plan
6. First-Year Action Plan

An Annual Action Plan (AAP) is approved for each year covered by the Consolidated Plan as the vehicle to implement Consolidated Plan strategies. AAPs set the annual budget- allocating funds from that year's CDBG or HOME funding plus any unused/uncommitted funds from prior years or any program income received during the preceding year. The City must annually approve an

AAP which specifies activities that will be undertaken during that Program Year (PY). A core component of the AAP is the budget which determines CDBG and HOME Program funding. A draft of the 2021-2022 Action Plan budget is provided as an attachment to this report. Final funding numbers from HUD have been provided, so the draft budget has been updated to reflect the amount that will be available. As of the drafting of this report, no additional CDBG-CV or other HUD administered CARES Act funding for the City of Santa Cruz has been announced.

At the February 25, 2021 Community Programs Committee (CPC) the members reviewed application requests and made funding recommendations. At the March 23, 2021 meeting, City Council voted to adopt the CPC recommended budget and directed staff to draft the AAP. This plan will be adopted and finalized at the second Public Hearing at the City Council meeting on April 27, 2021. Staff will update the AAP based on the outcome of the April Public Hearing and the AAP will be available for review and public comment for another 15 days before it is submitted to HUD. This year's AAP will be the second under the 2020-2025 Consolidated Plan.

The AAP is normally due to HUD by mid-May. In recent AAP cycles, government delays in appropriating HUD funds pushed the submission deadline to mid-June. As of this date, HUD has not yet modified the AAP submission date. In order to meet the established HUD deadlines, the dates of the upcoming Public Hearings and final awards cannot be pushed beyond the April 27, 2021 second Public Hearing.

## CDBG PROGRAM OVERVIEW

CDBG funds are used for a wide range of community development activities directed toward neighborhood revitalization, economic development, and improved community facilities and services. Activities that can be funded with CDBG dollars include, but are not limited to: acquisition of real property, acquisition and construction of public works and facilities, reconstruction and rehabilitation of residential and nonresidential properties, homeownership assistance, micro-enterprise assistance, and the provision of public services such as employment, food banks, crime prevention, childcare, health, drug abuse, education, and fair housing counseling. The primary beneficiaries of CDBG funded projects or programs must be very-low, low and moderate-income person(s) and household(s). Other beneficiaries of CDBG funded projects can include: seniors, homeless persons and disabled adults.

HUD regulations limit how CDBG funds are used. The City's CDBG funded programs or projects must either benefit low income areas (Area Benefit) or low income individuals (Limited Clientele). Programs receiving funding under Limited Clientele requirements must document that at least 51% of their clientele are low income. To qualify under Area Benefit, an activity must be located in and serve a low income neighborhood. The City's primary low income neighborhoods in the Beach Flats and Lower Ocean make up the City's HUD Neighborhood Revitalization Strategy Area (NRSA). This area is a priority for CDBG funding. HUD approves NRSA designations with the expectation that there will be increased CDBG funding utilized in these areas, therefore ensuring that these areas are improving. Community Based Development Organizations (CBDOs) must be located within the NRSA and must maintain a governing board of directors comprised of a mix of at least 51%: low-income residents, executive level entrepreneurs in the neighborhood and governing members of neighborhood groups. CBDOs located within a HUD approved NRSA can receive funding for Public Services over the usual 15% cap on this category of funding. The City currently has one qualified CBDO - Nueva Vista.

## HOME PROGRAM OVERVIEW

HOME Program funds are exclusively used to help provide housing for low income households. This can be done in two ways. Funding assistance can be provided to: (1) help develop or rehabilitate income restricted housing units or (2) support programs that provide financial assistance directly to low income renters or home buyers enabling them to then access or retain housing. To oversee programs and projects using HOME Program funding, HUD sets the administration levels at ten percent (10%) of the combined grant allocation plus program income (PI).

Additionally, the City must set aside 15% of each grant to be used only by a Community Housing Development Organization (CHDO). The City currently has two qualified CHDOs – Habitat for Humanity Santa Cruz County and Mid-Peninsula the Farm, Inc. Though, the City is anticipating an application from First Community Housing (FCH), a non-profit affordable housing developer with CHDO status in San Jose. FCH will be working on the Metro Pacific Station North Project and an affordable housing project at Barrios Unidos. The application from FCH is expected at a later date after the AAP is submitted, so allocation of funds would be brought to Council either as a Substantial Amendment or in the next HUD funding cycle.

## **DISCUSSION: CDBG PROGRAM BUDGET RECOMMENDATIONS**

The 2021-2022 HUD funding levels have been provided to the City of Santa Cruz. For the 2021-2022 PY the City will receive \$618,240 in CDBG funds from HUD. Combined with program income estimated at \$35,000 and unspent funds from prior years of \$70,000, the total CDBG budget will be \$723,240 with \$130,648 of this budgeted for Program Administration costs. Administration funding is set by HUD formula to 20% of the HUD grant plus estimated Program Income. Because CDBG grant funding for the 2021-2022 PY was estimated at \$600,000, there is \$14,592 additional available for allocation above the amount used for the CPC recommendations.

Administrative funding levels are set by HUD formula and the City is required to maintain existing Rehabilitation programs. Staff and the CPC recommend that the City fund CDBG Public Services at the requested levels for: the Teen Center, Nueva Vista and CRLA. An application was received from Second Harvest Food Bank to fund additional food pantry services within the City for \$25,000 and staff and the CPC are also recommending to fund this at the full ask.

The recommendations above would fund Public Services at the 15% cap set by HUD, although it appears that we are exceeding the HUD mandated Public Service cap by ~\$100,000. The \$100,000 awarded to Nueva Vista for Public Services can be excluded from this category while they maintain their status as a CBDO as described in the background section above, which is why we can fund this category for a total of \$190,000.

Staff and the CPC recommended funding all three Capital Improvement Project applications, which was approved at the first Public Hearing on March 23, 2021. There are two Parks and Recreation projects which have requested funding, both benefitting seniors in the community. The recommendation is to fully fund the Loudon Nelson project which will cover the costs to add a foundation and install a modular unit at Loudon Nelson to be used for a senior studio at the requested \$50,000. The full funding amount is needed for the project to be completed. There was an additional \$14,592 available for allocation with the actual HUD funding numbers being

slightly higher than the estimate used at the time the CPC met on February 25th. Since the two remaining projects were the only applications funded below the requested amounts, staff recommended to use the additional funds to close this gap at the March 23, 2021 Public Hearing. Council voted in support of the recommendation to split the remaining CDBG funding between the Market St. Senior Center renovations with \$110,000 and the Homeless Infrastructure Projects with \$236,092.

This year the City received no Capital Improvement Projects, so all three of these projects, being City owned properties will support the Interim Recovery Plan (IRP) in its goal to improve and maintain infrastructure. The external Public Service programs also help in the goal to invest in downtown and other local businesses (with some being located downtown and the Beach Flats area). Funding for the Public Service activities is consistent with the Health in All Policies (HiAP) framework, especially the pillars of equity, and sustainability. At the upcoming Public Hearing, as requested by the CPC, staff will share some intermediate outcomes collected from CDBG recipients that demonstrate how the organizations have effectively used the prior year's CDBG funding to promote community well-being. Another principal of the IRP being fulfilled in the AAP, is accessing State and Federal resources- with all of the HUD funding included in this Action Plan being Federal funds. In some recent years, CDBG funding has been oversubscribed, necessitating not funding some applications. Keeping frameworks such as the IRP and HiAP in mind at such times will be helpful in having to prioritize equally HUD eligible projects in the future.

#### HOME PROGRAM BUDGET RECOMMENDATIONS

Proposed HOME Program funding recommendations will be divided into three categories: Program Administration (calculated by formula), Ongoing City Programs, and HOME Projects. There will be \$396,141 available for allocation under the 2021-2022 HOME grant, and an additional estimated \$30,000 of Program Income. Staff has not received any HOME applications for 2021-2021 HOME funding other than for the City of Santa Cruz and Santa Cruz Housing Authority Security Deposit Program.

Recommendations are as follows:

1. Program Administration (restricted to 10% of total HOME Entitlement)
2. Security Deposit Assistance Program \$100,000
3. CHDO set aside (restricted to 15% of total HOME Entitlement)
4. HOME Program Housing Projects (All Remaining HOME Entitlement)

**FISCAL IMPACT:** Under the approved budget, approximately \$723,240 in CDBG and \$426,141 in HOME Program funds will be allocated as part of the 2021-2022 AAP. No General Funds are included in the proposed draft budget.

**Prepared By:**  
Tiffany Lake  
Principal Management  
Analyst

**Submitted By:**  
Bonnie Lipscomb  
Director of Economic  
Development

**Approved By:**  
Martín Bernal  
City Manager

#### ATTACHMENTS:

1. RESOLUTION.DOCX
2. 2021-2022 HUD ACTION PLAN DRAFT BUDGET.PDF



RESOLUTION NO. NS-

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ ADOPTING  
THE CITY'S 2021-2022 HUD ACTION PLAN ALLOCATING CDBG AND HOME  
FUNDING, AUTHORIZING THE CITY MANAGER TO SIGN AN APPLICATION FOR  
FEDERAL FUNDING AND EXECUTE ALL CONTRACTS AND DOCUMENTS FOR THE  
2021-2022 PROGRAM YEAR AND SUBMIT DOCUMENTS TO HUD

WHEREAS, the City of Santa Cruz is a designated U.S. Department of Housing and Urban Development (HUD) entitlement grantee that annually receives federal Community Development Block Grant (CDBG), Community Development Block Grant (CDBG) and the Home Investment Partnerships Program (HOME) grant funds from HUD; and

WHEREAS, HUD requires that any jurisdiction receiving federal Community Development Block Grant (CDBG) and the Home Investment Partnerships Program (HOME) grant funds from HUD prepare an annual Action Plan to allocate grant funds; and

WHEREAS, the U.S. Department of Housing and Urban Development (HUD) requires that any jurisdiction receiving Federal Community Development Block Grant (CDBG) and the Home Investment Partnerships Program (HOME) grant funds from HUD prepare an annual Action Plan to identify the activities that will be undertaken in the coming 2021-2022 Program Year (PY); and

WHEREAS, the City Council, in accordance with its approved Citizen Participation Plan, held public hearings on March 23, 2021 and April 27, 2021, for the purpose of soliciting input from the public on the proposed 2021-2021 Action Plan for the City's Housing and Community Development Program; and

WHEREAS, the City Council directed the preparation of an annual Action Plan Amendment and an application to HUD for funding, following consideration of comments and recommendations following a publicly noticed 30 day public review period.

WHEREAS, the City Council certifies that it has fulfilled the requirements for, decision-making, and action pertaining to development of the Federal funding application for 2021-2022 Program Year.

WHEREAS, the City Council of the City of Santa Cruz adopted a program of activities to be funded under the Federal Consolidated Plan Program for the 2021-2022 Program Year as the 2021-2022 HUD Annual Action Plan (AAP); and

WHEREAS, allocations have been made to various non-profit and public subrecipient organizations, to provide funding for public services, facilities, housing and other projects; and

WHEREAS, the approved sub-grantee organizations are profit, nonprofit or public agencies created and operated for the purpose of providing public services, facilities, housing and other projects.

RESOLUTION NO. NS-

WHEREAS, in accordance with its approved Citizen Participation Plan, the Action Plan must be amended whenever a decision is made to propose a substantial change in the Plan; and

NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Santa Cruz does hereby:

1. Adopt the 2021-2022 Annual Action Plan (AAP) for the City's Housing and Community Development Program, direct staff to submit the AAP to HUD, and authorize the City Manager to sign an application for federal funding assistance for the 2021-2022 program year.
2. Authorize appropriating funds for the FY 2022 budget.
3. Authorize the City Manager to execute program/project contracts, loan agreements and related loan documents with Community Development Block Grant (CDBG) and HOME Investment Partnerships Program (HOME) sub-recipients and contractors in connection with Consolidated Plan activities proposed in the 2021-2022 Action Plan and any subsequent revisions to the 2021-2022 Action Plan.

PASSED AND ADOPTED this 27<sup>th</sup> day of April, 2021, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator

## 2021-2022 PY HCD PROGRAM BUDGET

| 2021-2022 PROGRAM YEAR (PY) BUDGET            |  |
|---|--|
| HOUSING & COMMUNITY DEVELOPMENT (HCD) PROGRAM |  |
| COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)      |  |
| \$618,240                                     | 2021-2022 CDBG Entitlement                           |
| \$35,000                                      | Estimated 2021-2022 Program Income (PI)              |
| <b>\$70,000</b>                               | Prior Years' CDBG Funds Available for Reprogramming  |
| <b>\$723,240</b>                              | <b>Total CDBG Program Budget</b>                     |
| \$130,648                                     | City Program Administration Funding for CDBG         |
| <b>\$592,592</b>                              | <b>CDBG Funding Available for Allocation</b>         |
| HOME INVESTMENT PARTNERSHIPS PROGRAM (HOME)   |  |
| \$396,141                                     | 2021-2022 HOME Program Entitlement Grant Estimate    |
| \$30,000                                      | Estimated 2021-2022 Year Program Income (PI)         |
| <b>\$426,141</b>                              | <b>Total HOME Program Budget</b>                     |
| \$42,614                                      | Total Program Administration Funding                 |
| <b>\$383,527</b>                              | <b>HOME Program Funding Available for Allocation</b> |

## 2021-22 PY CDBG BUDGET

| CDBG PROGRAM BUDGET<br>2021-2022 PROGRAM YEAR   |                           |                           |                            |
|---|---------------------------|---------------------------|----------------------------|
| <b>ADMINISTRATION (FORMULA: 20% of total Entitlement and Program Income)</b>                                |                           |                           |                            |
| Activity: <b>Grant Administration</b><br>Applicant: City of Santa Cruz                                      | \$130,648<br>(By Formula) |                           | \$130,648                  |
| <b>TOTAL ADMINISTRATION FUNDING AVAILABLE</b>   |                           |                           | <b>\$130,648</b>           |
| <b>CITY PROGRAMS</b>  | <b>Requested Funding</b>  | <b>Prior Year Funding</b> | <b>Recommended Funding</b> |
| Activity: <b>Rehabilitation Program Delivery Costs</b><br>Applicant: City of Santa Cruz                     | \$6,500                   | \$8,000                   | \$6,500                    |
| <b>TOTAL ONGOING CITY PROGRAMS</b>  |                           |                           | <b>\$6,500</b>             |
| <b>PUBLIC SERVICES (Subject to 15% CAP)</b>   | <b>Requested Funding</b>  | <b>Prior Year Funding</b> | <b>Recommended Funding</b> |
| Activity: <b>Teen Center</b><br>Applicant: City of Santa Cruz   | \$40,000                  | \$35,000                  | \$40,000                   |
| Activity: <b>Food Banks</b><br>Applicant: Second Harvest Food Banks   | \$25,000                  | \$0                       | \$25,000                   |
| Activity: <b>Legal Services</b><br>Applicant: CRLA  | \$25,000                  | \$20,000                  | \$25,000                   |
| <b>TOTAL PUBLIC SERVICES SUBJECT TO 15% CAP</b>   |                           |                           | <b>\$90,000</b>            |
| Activity: <b>Nueva Vista &amp; Beach Flats Community Centers (CBDO)</b><br>Applicant: Nueva Vista Resources | \$100,000                 | \$100,000                 | \$100,000                  |
| <b>TOTAL PUBLIC SERVICE FUNDING (INCLUDING CBDO)</b>  |                           |                           | <b>\$190,000</b>           |
| <b>CAPITAL IMPROVEMENT PROJECTS</b>   | <b>Requested Funding</b>  | <b>Prior Year Funding</b> | <b>Recommended Funding</b> |
| Activity: <b>Market St. Senior Center Renovation</b><br>Applicant: City of Santa Cruz                       | \$125,000                 | \$100,000                 | \$110,000                  |
| Activity: <b>Senior Art Studio at Loudon Nelson</b><br>Applicant: City of Santa Cruz                        | \$50,000                  | \$0                       | \$50,000                   |
| Activity: <b>Homeless Infrastructure Projects</b><br>Applicant: City of Santa Cruz                          | \$250,000                 | \$456,957                 | \$236,092                  |
| <b>TOTAL PROJECTS FUNDING</b>   |                           |                           | <b>\$396,092</b>           |
| <b>GRAND TOTAL CDBG FUNDING</b>   |                           |                           | <b>\$723,240</b>           |

| HOME PROGRAM BUDGET<br>2021-2021 PROGRAM YEAR                                |   |                  |
|--|---|------------------|
| <b>ADMINISTRATION (Formula: 10% of total Entitlement and Program Income)</b> |   |                  |
| Activity:  | <b>Grant Administration &amp; Planning</b>        | \$42,614         |
| Applicant:   | City of Santa Cruz Economic Development           |                  |
| <b>TOTAL ADMINISTRATION</b>  |   | <b>\$42,614</b>  |
| PROJECTS & PROGRAMS  | Requested Funding                                 | ALL HOME FUNDS   |
| <b>TOTAL FUNDS AVAILABLE FOR PROJECTS</b>                                    |   | <b>\$426,141</b> |
| Activity:  | <b>Security Deposit Program</b>                   | \$100,000        |
| Applicant:   | City of Santa Cruz/Housing Authority of SC County | \$100,000        |
| Activity:  | <b>CHDO Set-Aside</b>                             | \$59,421         |
| Applicant:   | Certified CHDOs in Santa Cruz                     | \$59,421         |
| Activity:  | <b>Future HOME Projects</b>                       | \$224,106        |
| Applicant:   | Affordable Housing Projects                       |                  |
| <b>TOTAL PROJECT/PROGRAM FUNDING</b>   | <b>\$159,421</b>                                  | <b>\$383,527</b> |
| <b>TOTAL HOME FUNDING BUDGETED AMOUNT</b>                                    |   | <b>\$426,141</b> |



## City Council AGENDA REPORT

**DATE:** 04/06/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Parks and Recreation

**SUBJECT:** Street Tree Master Plan (PR)

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**RECOMMENDATION:** Motion to approve the Street Tree Master Plan.

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**BACKGROUND:** On March 1, 2021 the Parks & Recreation Department Commission discussed and reviewed the Street Tree Master Plan and unanimously approved the document. Suggestions made by Parks & Recreation Commissioners, principally clarifying the language and role of the Heritage Tree Ordinance and emphasizing community engagement, have been included in the final version of the plan.

The Street Tree Master Plan is the final deliverable of a project funded by a grant from the California Department of Forestry and Fire Protection's (CAL FIRE) Urban Forestry Program. The mission of CAL FIRE's Urban Forestry Program (Program) is to lead the effort to advance the development of sustainable urban and community forests in California. The Program offers grants that are funded through Propositions 40 and 84 for activities such as tree planting, municipal tree inventories, forestry management plans, urban forest educational efforts, and innovative urban forestry projects. These grants are utilized to assist communities throughout California advance their urban forestry efforts.

On December 7, 2016, the City Council approved a Resolution authorizing the City Manager to apply for, accept, and appropriate funds from the Urban Forest Tree Inventory Grant for Urban Forest Management. State grant funds were awarded to the City of Santa Cruz to plant 500 new canopy trees within a one-year period on city property and to perform a Citywide tree inventory of City owned property excluding open spaces. Matching funds in the amount of \$107,404 were appropriated to support the grant through funding and in-kind staff work. \$366,289 was received in State funds from the California Department of Forestry and Fire Protection.

A Citywide Tree Inventory is critical to accurately identify, quantify, and establish a resource baseline for urban forest management. The inventory data and management software quantify the contributions of trees to storm-water management and climate action goals, help identify objectives for urban tree canopy coverage and enhancements, improve enforcement of existing urban forestry policies and regulations, and lay the foundation for effective long-term planning and management of the City's urban forest.

A Request for Proposals was put out for the inventory component of the grant and the Davey Resource Group (DRG) was awarded the final contract. DRG has successfully completed many tree inventories for government agencies throughout the nation and for local jurisdictions.

The tree planting effort and the inventory process were completed leaving enough remaining funds to prepare a Street Tree Master Plan. As forestry management plans are eligible activities within the approved existing grant funding, and DRG has expertise in this area and has prepared similar plans for other municipalities, the City added preparation of a Street Tree Master Plan to DRG's scope of work. The resulting plan is currently before you for review and approval.

**DISCUSSION:** The Street Tree Master Plan is a critical management tool for the office of Urban Forestry within the Parks & Recreation Department. The management plan effectively quantifies our existing Urban Forest street tree resource, its values and maintenance requirements, provides a vehicle to maintain consistency between City departments, and establishes goals and actions to be used moving forward. The plan includes background information specific to our community and its history, provides an analysis of existing street tree canopy coverage, defines resource benefits, and provides information on the existing forestry program, policies, and current regulations. It establishes a future work plan, includes budget discussion, and outlines necessary resources required to effectively manage the identified street tree resource.

In addition to utilizing the Street Tree Master plan as a guiding document, future forestry goals also include maintaining the completed tree inventory and the TreeKeeper® software used for tracking accurate data, monitoring tree canopy coverage, and increasing tree planting efforts. Future Urban Forestry actions include improving the existing street tree planting list, improving public outreach for proper forestry management, enhancing the existing forestry work plan and establishing appropriate resource levels including budgeting and staffing adequate for a successful urban forestry program.

In recent years the Parks & Recreation Department has managed to bring additional resources to the Urban Forestry office. However, these resources remain inadequate to meet the maintenance needs of the 1,500 City-owned street trees as identified in the work plan portion of the Street Tree Master Plan. The Department will continue to seek additional funding through means such as those identified in the goals section of the plan in order to best steward and grow this vital community resource.

**FISCAL IMPACT:** None.

**Prepared By:**  
Travis Beck  
Superintendent of Parks

Leslie Keedy  
Urban Forester

**Submitted By:**  
Tony Elliot  
Director of Parks &  
Recreation

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**

1. SANTA CRUZ STMP 20210215 SPREADS (DRAFT WATERMARK).PDF



# Santa Cruz

CALIFORNIA

## Street Tree Master Plan 2021





# Santa Cruz

CALIFORNIA

## Street Tree Master Plan 2021



**PREPARED FOR:**

City of Santa Cruz  
Parks & Recreation Department  
323 Church Street  
Santa Cruz, CA 95060



**PREPARED BY:**

Davey Resource Group, Inc.  
1500 N Mantua Street  
P.O. Box 5193  
Kent, OH 44240-5193

Funding for this project has been provided by the California Greenhouse Gas Reduction Fund through the California Department of Forestry and Fire Protection (CAL FIRE), Urban and Community Forestry Program.



**Front Cover:** Morrissey Blvd

**Top Back Cover:** Walnut Avenue

**Bottom Back Cover:** Bioswale on Fieldcrest Lane

**Left:** Southern magnolia on Church Street



# Acknowledgements

**SANTA CRUZ CITY COUNCIL**

Donna Meyers  
Sonja Brunner  
Sandy Brown  
Justin Cummings  
Renee Golder  
Shebreh Kalantari-Johnson  
Martine Watkins

**FORMER SANTA CRUZ CITY COUNCIL**

Cynthia Mathews

**CITY OF SANTA CRUZ PARKS AND RECREATION DEPARTMENT**

Leslie Keedy  
Travis Beck  
Lindsay Bass  
Tremain Hedden-Jones

**CITY OF SANTA CRUZ PUBLIC WORKS DEPARTMENT**

Chris Schneider  
Suzanne Healy

**CITY OF SANTA CRUZ CITY MANAGER’S OFFICE**

Tiffany Wise-West

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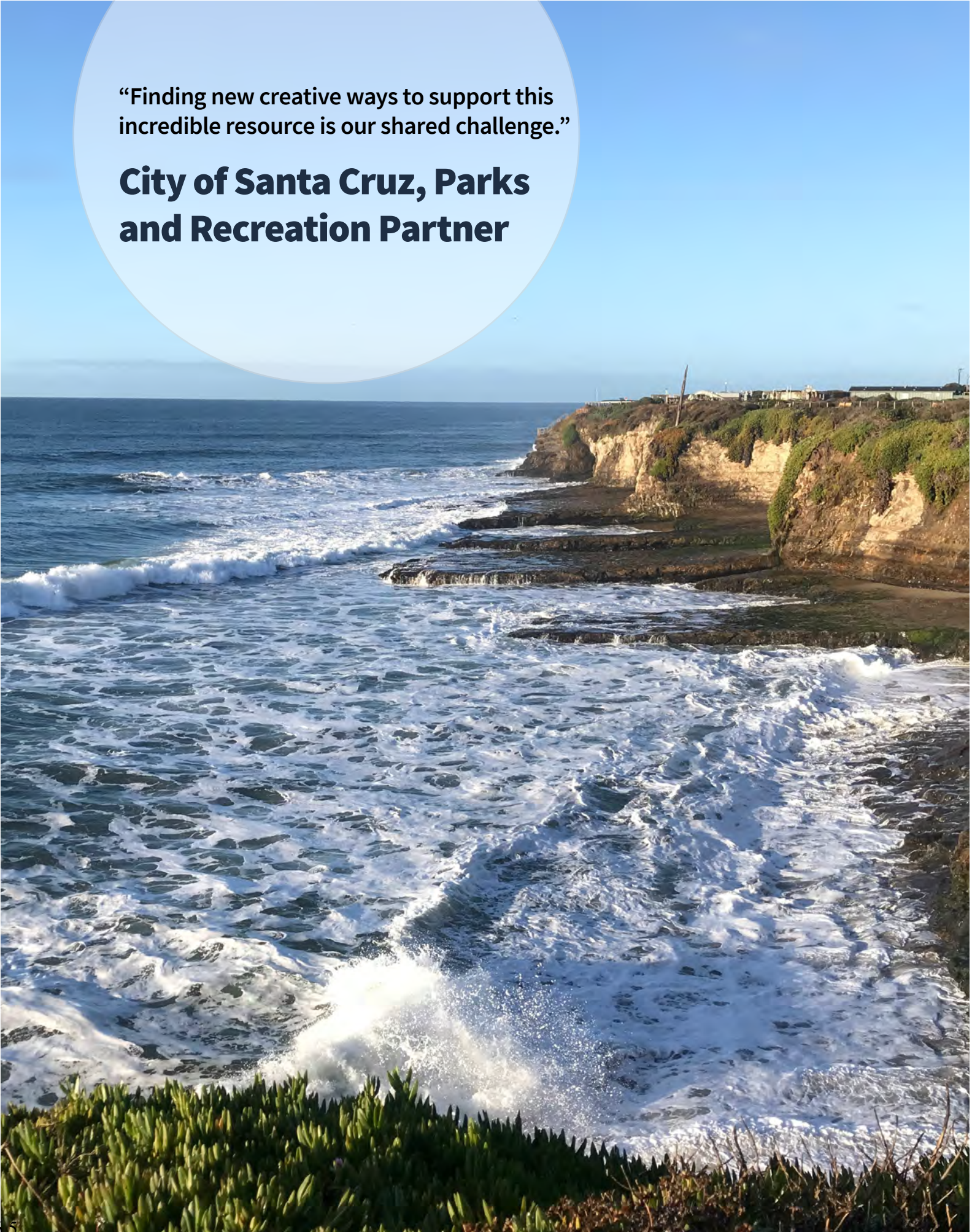
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**PHOTO CREDITS**

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**Right:** Santa Cruz Mudstone on the coast



“Finding new creative ways to support this incredible resource is our shared challenge.”

## City of Santa Cruz, Parks and Recreation Partner





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**Top:** Dormant London plane trees on Chestnut Street

**Bottom Left:** Chilean wine palm

**Bottom Right:** Blue gums on La Fonda Avenue



“You can take for granted that people know more or less what a street, a shop, a beach, a sky, an oak tree look like. Tell them what makes this one different.”

**Neil Gaiman**



## Executive Summary

Santa Cruz is a coastal city situated on the north end of Monterey Bay and almost entirely surrounded by public open space. The community is invested in and proud of their urban forest, which is a complex and varied resource ranging from natural forests to trees grown in small planters in densely developed areas.

An **urban forest** is defined as the collection of privately- and publicly-owned trees and woody shrubs that grow within an urban area. Santa Cruz’s community urban forest (public trees) is the subset of the urban forest in publicly owned lands and rights-of-way including on streets, in city parks, and at city-owned facilities. In Santa Cruz, a relatively large proportion of the community urban forest is composed of native species in open spaces, riparian corridors, and parks.

The Street Tree Master Plan (STMP) specifically addresses the street tree resource, which is a mixture of native and non-native species planted along the streets in Santa Cruz. The street tree resource enhances aesthetics and provides numerous environmental and socioeconomic benefits that contribute to the quality of life and sustainability of the community.

**Left:** Neary Lagoon Wildlife Refuge

**Bottom Right:** Highland breadfruit





In 2019, the City of Santa Cruz contracted with Davey Resource Group, Inc. (DRG) to conduct an inventory of community trees in rights-of-ways including along streets and in parks and city-owned facilities. Trees in open spaces were not inventoried. The inventory mapped the geographic location of trees and vacant planting sites and collected data on tree species, size (DBH<sup>1</sup>), condition, and maintenance needs. The inventory data is managed by the Urban Forestry Office within the Parks and Recreation Department using TreeKeeper® software.

Santa Cruz’s street tree resource includes 9,742 trees and approximately 2,608 vacant planting sites for a total of 12,350 sites and a 78.9% stocking level (Table 1). Santa Cruz Municipal Code, Chapter 13.30 (adopted in 1985) requires property owners to maintain street trees that are adjacent to their property. As a result, 8,231 street trees (84.5%) are cared for by the adjacent property owner. The City is responsible for maintaining street trees that are not located adjacent to private property, including median trees, arterial roads, and some commercial/retail areas. Currently, the City provides maintenance for 1,511 street trees (15.5%). The STMP serves as a manual for the care and management of community street trees, including:

- Work plans for resolving the maintenance needs identified by the inventory
- Suggested maintenance cycles for ongoing maintenance
- Standards of care for community street trees
- Clarifies the responsibilities of adjacent property owners for the care of street trees

- Identifies long-term goals for management of street trees and the overall urban forest, including goals for increasing canopy cover on both public and private property

Annually, Santa Cruz’s street trees provide \$44,177 in environmental benefits to air quality, carbon reduction, and reduced stormwater runoff. To replace the street tree resource with trees of similar species, size, and condition would cost \$38.6 million.

A 2020 land cover assessment, using i-Tree *Canopy* and random point sampling methodology, estimated that tree canopy (public and private) currently covers 38.9% (± 1.09%) of Santa Cruz. A previous assessment, City of Santa Cruz Urban Tree Canopy Report, completed in 2016 found 36.4% cover in 2009 and 38.2% cover in 2016, indicating a growing canopy over the last 11 years.

“Trees are very important in urban design, trees are only second to sidewalk width in designs.”

Planning Department  
Partner, City of Santa  
Cruz

<sup>1</sup> DBH: Diameter at Breast Height. DBH represents the diameter of the tree when measured at 1.4 meters (4.5 feet) above ground (U.S.A. standard).

TABLE 1: CITY OF SANTA CRUZ STREET TREE BENCHMARK TABLE

| Santa Cruz Street Tree & Benchmark Values 2020      |                       |           |
|---|-----------------------|-----------|
| <u>Street Tree Resource</u>                         |                       |           |
| Number of street trees                              | 9,742 trees           |           |
| Street trees maintained by the City                 | 1,511 trees           |           |
| Street trees maintained by adjacent property owners | 8,231 trees           |           |
| Street tree canopy cover                            | 4.3%                  |           |
| Number of available sites                           | 2,608 available sites |           |
| Stocking level                                      | 78.9%                 |           |
| Total number of unique species                      | 227 unique species    |           |
| Prevalence of top ten species                       | 41.8%                 |           |
| Species exceeding recommended 10%                   | 0                     |           |
| <u>Street Tree Benefits<sup>2</sup></u>             |                       |           |
| Carbon stored to date                               | 4,946 tons            | \$843,540 |
| Annual carbon benefits                              | 105.6 tons            | \$18,013  |
| Annual air quality benefits                         | 2.4 tons              | \$20,729  |
| Annual stormwater benefits                          | 605,263 gallons       | \$5,435   |

TABLE 2: CITY OF SANTA CRUZ URBAN FOREST (PUBLIC AND PRIVATE TREES) AND BENCHMARK TABLE

| Santa Cruz & Urban Forest Benchmark Values 2020                |   |                               |
|--|---|-------------------------------|
| Urban Forest Canopy Cover (Public and Private)                 |   |                               |
| Overall canopy cover   | 38.87% ± 1.09%  |                               |
| Impervious surfaces  | 37.67% ± 1.08%  |                               |
| Grass and low-lying vegetation                                 | 19.51% ± 0.89%  |                               |
| Existing canopy cover goal                                     | increase canopy cover (Climate Adaptation Plan, 2018) |                               |
| Urban Forest Canopy Benefits (Public and Private) <sup>2</sup> |   |                               |
| Carbon stored to date  | 107.11 ± 3.00 kilotons                                | \$9.1 million ± \$256,193     |
| Air quality benefits   | 4,367 ± 123 tons                                      | \$1.2 million ± \$33,385      |
| Stormwater benefits  | 3,273 ± 91.80 million gallons                         | more than \$300,815 ± \$8,438 |
| Community Tree Resource (Public)                               |   |                               |
| Number of community trees                                      | 13,917 trees  |                               |
| Number of park trees   | 4,186 trees   |                               |
| Number of facilities trees                                     | 422 trees   |                               |
| Number of street trees   | 9,742 trees   |                               |

<sup>2</sup> These are a subset of the benefits trees provide and do not account for energy savings, benefits to wildlife, property values, and contributions to public health and welfare.



The community recognizes the value of urban trees and vision for Santa Cruz’s future urban forest and tree canopy is communicated in guiding documents, including the 2030 General Plan, the Climate Action Plan (2012), and the Climate Adaptation Plan (2018). Urban trees will be a major focus of the second-generation Climate Action Plan project launching in January 2021. Municipal Code, Chapter 9.56 *Preservation of Heritage Trees and Heritage Shrubs* established requirements for tree preservation and permits for work significantly affecting heritage trees. Chapter 13.30 Trees communicates requirements for street trees, including a requirement for a *City Approved Street Tree List* and requirements for maintenance, planting, and removal. Eight area plans provide more specific requirements for defined areas, including more limited species palettes in some areas.

The Urban Forestry Office is responsible for managing street trees, including providing program administration and contract oversight, permitting (tree removal, planting, pruning), plan review, tree inspection and responding to service requests, and liaison with volunteers and property owners for tree planting and community engagement. A parks maintenance worker is dedicated full-time to the maintenance of street trees and provides tree care for establishing trees and some pruning of small trees. Additionally, parks maintenance workers assist with care of street trees on park property. Most tree pruning and removals are contracted. Part-time staff provide additional support for irrigation and maintenance when available. With current resources and operation challenges, street tree management operations are frequently exceeding capacity.

Multiple stakeholders were engaged in the development of the STMP, including city departments responsible for maintenance and planning, utility

providers, state forestry officials, and city leadership. Key findings include consensus on the following:

- Current funding is inadequate to address all of the needed proactive tree maintenance or for addressing conflicts and damage to hardscape.
- Santa Cruz is built out, sidewalks are mostly narrow, and incorporating street trees into development projects is challenging.
- Climate change is a concern that ongoing planning must address.
- Staff from all departments have long-standing relationships and high rapport. They routinely work together to accomplish goals for the street tree resource.

Data collected by the street tree inventory was analyzed to benchmark the current structure and condition of the resource as well as existing maintenance needs. Nearly 60% of all street trees are in good or better condition. The majority of city-maintained street trees (96.6%) were identified as requiring no maintenance or routine maintenance (Table 3). Fifty-one trees (3.4%) of city-maintained trees require priority maintenance, including 23 trees recommended for removal.

The Street Tree Master Plan addresses opportunities and challenges for the street tree resource and provides a 5-year work plan for addressing priority maintenance needs and ongoing maintenance for street trees. This includes working with residents to resolve the needs for trees maintained by the adjacent property owner (PO). The STMP also includes key goals for the overall urban forest (Table 3).

In addition to the management considerations, the Plan includes 20 goals for the street tree resource and to further support the community’s vision for its urban forest (Table 3).

TABLE 3: SUMMARY OF PRIMARY MAINTENANCE NEEDS

|                          | City Maintained | Adjacent Property Owner-Maintained | All Street Trees Total | All Street Trees (%) |
|--------------------------|-----------------|------------------------------------|------------------------|----------------------|
| Priority Removal         |                 |                                    |                        |                      |
| Priority 1 Removal       | 4               | 42                                 | 46                     | 0.47                 |
| Priority 2 Removal       | 12              | 98                                 | 110                    | 1.13                 |
| Priority 3 Removal       | 7               | 147                                | 154                    | 1.58                 |
| Total                    | 23              | 287                                | 310                    | 3.18                 |
| Priority Pruning         |                 |                                    |                        |                      |
| Priority 1 Prune         | 5               | 113                                | 118                    | 1.21                 |
| Priority 2 Prune         | 23              | 126                                | 149                    | 1.53                 |
| Total                    | 28              | 239                                | 267                    | 2.74                 |
| Routine Pruning          |                 |                                    |                        |                      |
| Large Tree Routine Prune | 145             | 1,299                              | 1,444                  | 14.82                |
| Small Tree Routine Prune | 433             | 2,094                              | 2,527                  | 25.94                |
| Structural Prune         | 1               | 13                                 | 14                     | 0.14                 |
| No Maintenance Specified | 881             | 4,299                              | 5,180                  | 53.17                |
| Total                    | 1,460           | 7,705                              | 9,165                  | 94.08                |
| Total                    | 1,511           | 8,231                              | 9,742                  | 100%                 |

Bottom Left: London plane trees on Mission Street

Bottom Right: Dormant catalpa trees on Catalpa Street







**TABLE 4: SANTA CRUZ’S GOALS AND OBJECTIVES**

| Focus Area<br>Street Tree Management   |
|--|
| GOALS  |
| Goal 1: Manage the street tree resource  |
| Goal 2: Promote street tree health and good structure  |
| Goal 3: Enhance resiliency with a comprehensive tree species palette   |
| Goal 4: Increase street tree planting efforts  |
| Goal 5: Increase the environmental benefits resulting from street trees  |
| Goal 6: Advocate for tree lined streets  |
| Goal 7: Provide predictable and sustainable funding for the street tree resource   |
| Goal 8: Strive for optimal staffing levels   |
| OBJECTIVES   |
| Maintain a tree inventory that can be used to manage the street tree resource  |
| Regularly inspect City-maintained street trees   |
| Elevate the care of street trees maintained by adjacent property owners  |
| Create an updated Master Street Tree List  |
| Set emphasis on the right tree in the right place  |
| Create a City-wide street tree Planting Plan (Municipal Code 13.30, General Plan)  |
| Expand opportunities for street tree planting  |
| Increase street tree carbon sequestration as a carbon neutrality strategy in coordination with Climate Action Plan 2030    |
| Retain large trees whenever possible   |
| Create additional opportunities for the incorporation of large (preferably California native species) into streetscapes    |
| Encourage tree lined streets to enhance the well-being and aesthetics of the community                                     |
| Work with the Downtown Association to resolve conflicts with businesses visibility and signage                             |
| Explore the feasibility to the City taking responsibility for the maintenance of street trees adjacent to private property |
| Secure funding for the care of City-maintained street trees  |
| Optimize the Urban Forestry Office’s ability to manage the current workload  |
| Encourage employees to engage in professional development  |

**Left:** Holly tree at the Civic Auditorium on Church Street



TABLE 4: SANTA CRUZ’S GOALS AND OBJECTIVES (CONTINUED)

| Focus Area<br>Urban Forest Policy and Regulation  |
|---|
| GOALS   |
| Goal 9: Encourage a culture of safety   |
| Goal 10: Enhance risk management and public safety  |
| Goal 11: Promote tree protection  |
| Goal 12: Strive for uniformity between City plans, policies, guiding documents, and Departments   |
| Goal 13: Create conditions that enhance tree establishment  |
| Goal 14: Use trees to enhance the aesthetics and function of the urban landscape  |
| Goal 15: Follow Integrated Pest Management (IPM) protocols and best management practices when addressing pests and diseases               |
| OBJECTIVES  |
| Implement policies and procedures that make that tree work as safe as possible  |
| Establish a risk management policy  |
| Enhance methods for cost recovery in the case of tree damage, traffic incidents, unapproved tree removals, or improper tree maintenance   |
| Continue to implement tree protection during construction   |
| Explore revising and amending Municipal Code to promote the protection of community trees   |
| Continue to communicate and coordinate with other departments   |
| Provide water to trees efficiently and sustainably  |
| Upgrade existing and planned planting sites to encourage root establishment   |
| Emphasize incorporating trees in development and redevelopment projects   |
| Collaborate with Planning and Public Works Departments to find practical solutions to allow for trees in areas with hardscape limitations |
| Develop policies around parking lot shade   |
| Incorporate trees into stormwater management systems to improve stormwater capture  |
| Continue to address pests and diseases using best management practices.   |

Right: Red oak canopy

| Focus Area<br>Urban Forest Vision  |
|--|
| GOALS  |
| Goal 16: Promote species diversity in the urban forest   |
| Goal 17: Expand canopy cover   |
| Goal 18: Celebrate the importance of urban trees   |
| Goal 19: Partner with city departments and other stakeholders to develop a cohesive city-wide Urban Forest Master Plan |
| Goal 20: Promote community engagement and stewardship of the urban forest  |
| Goal 21: Contribute to a fire safe community   |
| Goal 22: Repurpose woody materials whenever possible   |
| OBJECTIVES   |
| Promote species diversity to build a more sustainable urban forest   |
| Increase tree canopy throughout the community  |
| Maintain the Tree City USA designation   |
| Create a city-wide Urban Forest Master Plan  |
| Update the Parks and Recreation Department webpage to include information on tree care                                 |
| Enhance citizen and volunteer engagement in care for street trees  |
| Continue to use multiple methods of accessible and translated outreach to engage a greater proportion of the community |
| Mitigate the risks of wildfire   |
| Identify a wood reutilization policy   |





# Background

The City of Santa Cruz is situated on the coast of central California and framed by the Santa Cruz mountains on the northern edge of Monterey Bay. Encompassing 8,396 acres, Santa Cruz is the largest community in Santa Cruz County and serves as the county seat. Referred to as a place where the mountains meet the ocean, trees, and particularly redwoods, are an integral part of the community’s identity.

Topography in Santa Cruz varies, with parts of the community along the coast and others located in the hills at the base of the Santa Cruz mountains. The Santa Cruz mountains reach heights around 3,000 feet and despite this, Santa Cruz does not typically experience freezing temperatures. The community enjoys a Mediterranean climate with daytime temperatures in the 60s and 70s year-round (U.S. Climate Data, 2020). The rainy season, between November and March, brings an average of 31.4 inches of precipitation each year (U.S. Climate Data, 2020). Summers are typically dry, but the breeze off the ocean has a cooling effect and often brings night and early morning fog (Santa Cruz Chamber of Commerce, n.d.).

## Community

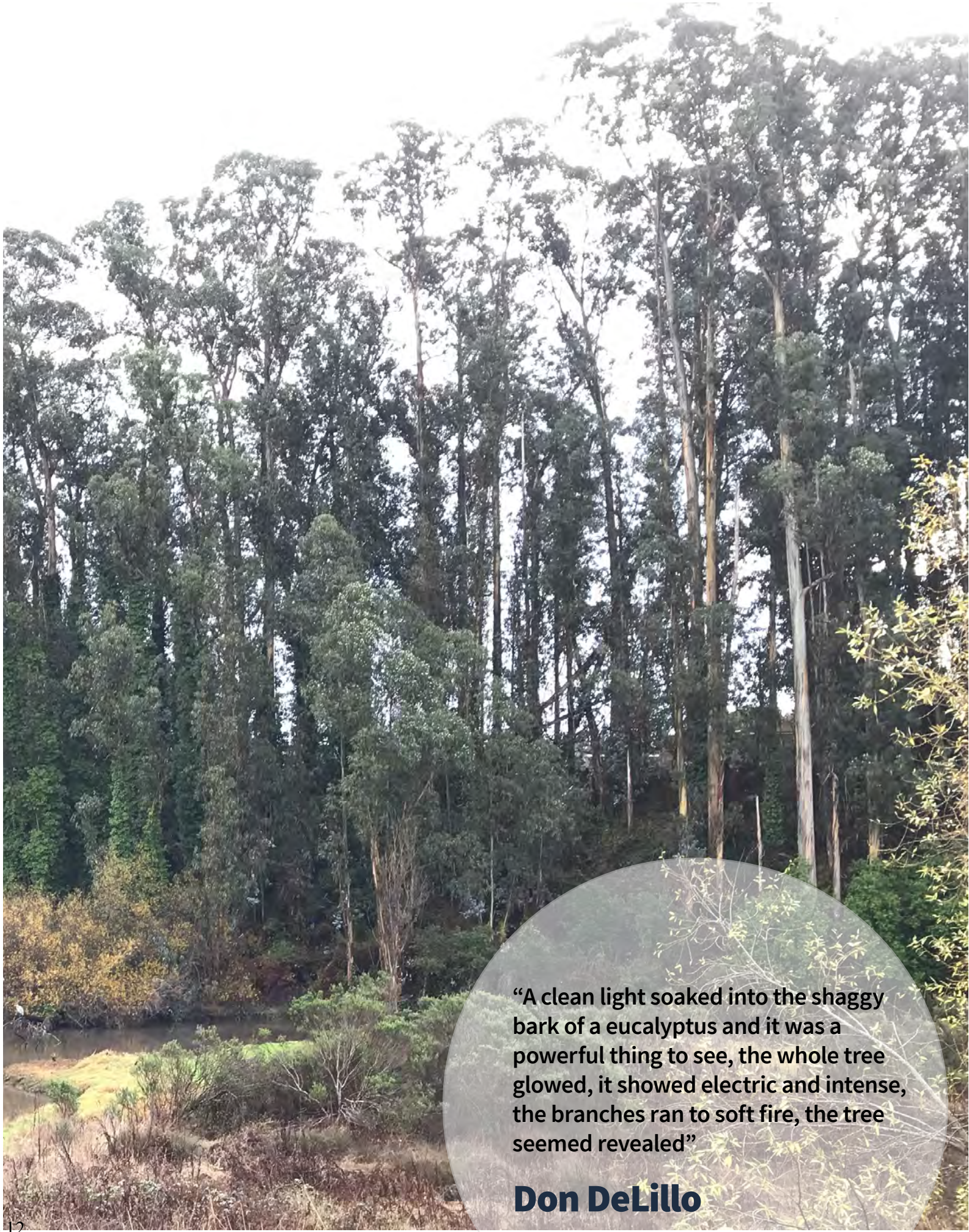
Santa Cruz is a passionate and lively community with abundant access to recreational opportunities such as biking, hiking, fishing, and surfing. Surrounded by 2,000 acres of open space in the Santa Cruz Mountains and the Pacific Ocean, Santa Cruz is also a popular destination for visitors (Vista Santa Cruz County, 2020). The Monterey Bay National Marine

Sanctuary is home to the nation’s largest kelp forest as well as one of the largest underwater canyons (Santa Cruz 2030 General Plan). Each year, the community welcomes migratory whales, birds, and monarch butterflies that overwinter in the local eucalyptus groves (Santa Cruz Chamber of Commerce, n.d.).

Events are hosted year-round, including, festivals, fairs, and tours. There is a strong emphasis on music and art and there are many local museums, studios, and public art displays. Coupled with the many local amenities, a pleasing landscape and festive, creative energy create a destination for an estimated 4 million visitors per year (Choose Santa Cruz, n.d.). The tourism and hospitality industry is a larger sector in Santa Cruz when compared to the rest of the state (City of Santa Cruz Economic Development, 2003) but the largest industry is Educational Services (City of Santa Cruz Economic Development, 2003) followed by Retail Sales and Healthcare. The University of California at Santa Cruz is the largest employer for the estimated 64,600 residents (U.S. Census Bureau, 2019).

Left: Trevethan Avenue

Right: Arana Gulch



“A clean light soaked into the shaggy bark of a eucalyptus and it was a powerful thing to see, the whole tree glowed, it showed electric and intense, the branches ran to soft fire, the tree seemed revealed”

**Don DeLillo**



1700s

The Ohlone were the first people to call the area that is now the Monterey Bay home. The livelihood of their coastal village communities revolved around the abundant wildlife and plant life. Acorns from the native oak trees were a staple food and when acorns were not abundant, buckeye nuts were harvested and processed to draw out toxins (Teixeira, 1991). The Ohlone constructed reed structures on the outskirts of the San Lorenzo river floodplain on what is now “Beach Flats” (San Lorenzo Urban River Plan, 2003). Santa Cruz and the San Lorenzo river were named by the Spanish explorer Don Gaspar de Portola in 1769. The Santa Cruz Mission was established by Father Fermin de Lasuen in 1791 (History of Santa Cruz, n.d.). After the arrival of European settlers, a few Ohlone were assimilated but most were displaced due to secularization and cultural changes or died from the introduction of new disease (Teixeira, 1991).



1800s

Following the Mexican-American War, the European settler Elihu Anthony purchased land that is now Santa Cruz in 1848. He subdivided the land and sold it to incoming settlers. First incorporated as a town in 1886, European structures became more abundant as industries such as logging, lime processing, agriculture, and commercial fishing prospered (City of Santa Cruz, n.d.a). During this time, one of California’s first boat building yards was constructed along the San Lorenzo River (San Lorenzo Urban River Plan, 2003).

Frederick Hihn, a general store owner and businessman, was integral in bringing railroads to Santa Cruz to transport timber and limestone from the Santa Cruz mountains. The Southern Pacific Railroad decided to bypass Santa Cruz in 1870 by building the rail line inland. Hihn prompted local investors to build the Santa Cruz Railroad and connect Santa Cruz to the station in Watsonville. Subsequently, the Southern Pacific Coast line was built and this passenger train, in addition to Highway 1, connected Santa Cruz to neighboring cities (Domhoff, 2020).

By the turn of the century, due to the rate of industry growth and development, resources were diminishing and the community began to rely more on tourism (Domhoff, 2020). Certain areas along the coast became known for surfing which was first introduced to the mainland US in Santa Cruz during the summer of 1885 by three Hawaiian princes (City of Santa Cruz, 2020). The San Lorenzo River attracted tourists for its steelhead fishery and numerous public docks (San Lorenzo Urban River Plan, 2003).

**Left:** Guadalupe palms planted at regular spacing along the wall and the right edge of Rincon Park, early 1900s

1900s

José Vicente DeLaveaga was an early resident of Santa Cruz that valued nature and had a particular interest in trees (Pumphrey, 2014). DeLaveaga planted fruit and nut trees, as well as notable trees from around the world such as walnut, hickory, and Cedar of Lebanon. Part of his family estate was donated to the City of Santa Cruz in 1900. In the 1930s, hundreds of commemorative redwood trees were planted in what is known as “George Washington Grove” in DeLaveaga Park. These redwoods signify importance to the community, as these trees were integral to the early economy of Santa Cruz (Santa Cruz Sentinel, 1971).

The Beach Boardwalk, the oldest amusement park in California, was built next to the ocean in 1907 to expand the tourism industry (Santa Cruz Beach Boardwalk, 2020) and the wharf in 1914 for ship access (City of Santa Cruz, n.d.b). Trains and automobiles made this resort town accessible to those escaping the heat from the Central Valley. As tourism increased, so did the population of Santa Cruz. After World War II, many families settled in Santa Cruz and growth continued to expand with the opening of the University of California Santa Cruz in 1965. Santa Cruz had a strong place in, and in many ways was shaped by the environmental movement. Several community groups became active, the University College for Conservation was established, and many residents were and continue to be united through shared community values and events that prioritized the environment.

The epicenter of the 1989 earthquake was just 10 miles east of the downtown area where it took several lives and destroyed many historical buildings (City of Santa Cruz, n.d.c). Shortly after, redevelopment and revitalization activities began, including the reconstruction and landscaping of the current downtown.

2000s

Today, Santa Cruz is a popular destination that provides residents and tourists many natural and built attractions. The community is active and passionate about the environment and residents value the unique landscape and the character found in the different areas of Santa Cruz. Many community members strongly identify with preserving and maintaining the urban forest and support the incorporation of native tree species. Although natural disasters are not new challenges in Santa Cruz, recent and unprecedented challenges such as the 2017 storms that resulted in saturated soils and wind-thrown trees and the 2020 CZU Lightning Complex fires continue to shape the community as well as the native and urban forest.

**“Continue to keep the Urban Forester position to provide program management and assist the public and private sector in addressing problematic trees and common sense solutions.”**

**Public Works  
Department Partner,  
City of Santa Cruz**

**FIGURE 1: HISTORIC INVENTORY OF STREET TREES IN THE SEABRIGHT AREA**

## History of Urban Forestry in Santa Cruz

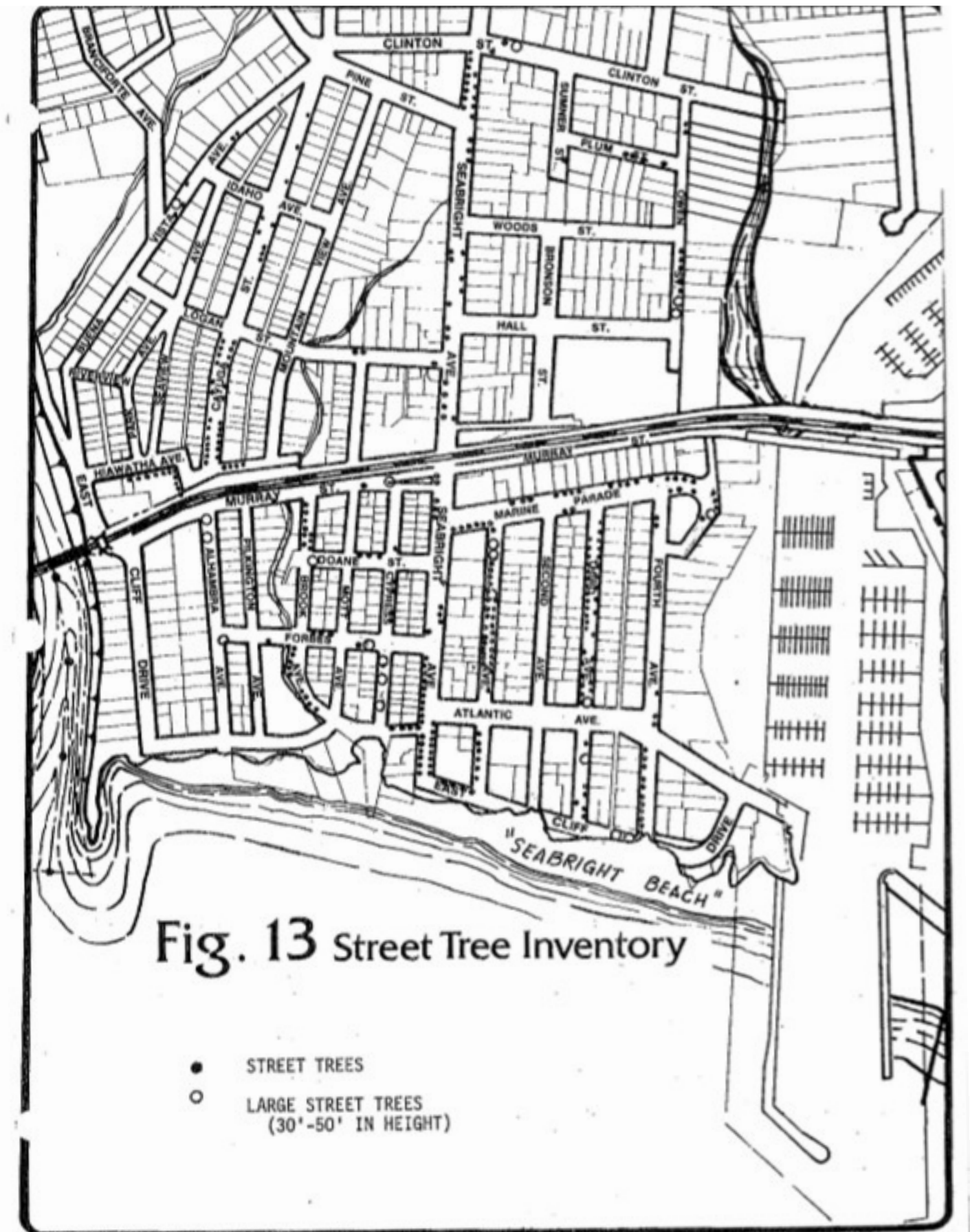
Santa Cruz's urban forest is unique and varied and includes oak woodlands, riparian corridors, and redwood and pine forests (Ingersoll, 1893). There is a rich history of human interaction with trees in the Santa Cruz area that predates Spanish colonization and the subsequent establishment of the City. These factors, along with ongoing development, logging, wildfire, earthquakes, and urban forestry management activities, have all shaped the urban forest (Nowak 1993).

In 1958, the Parks and Recreation Department was expanded to promote tree planting and beautification of the downtown area. Notably, Santa Cruz was an early adopter (1963) of a street tree ordinance that established rules and regulations for the care of street trees throughout the community (History of Santa Cruz Parks and Recreation Department, 1968). In 1976, Santa Cruz adopted the Heritage Tree Ordinance (last revised in 2013) that outlines requirements for tree protection on public and private property. By the late 1980s, approximately half of the cities in California had a tree ordinance in place (Swiecki and Bernhardt 1991). The early adoption of tree ordinances is an example of Santa Cruz's forethought and commitment to urban forestry stewardship and interest in the long-term success of the urban forestry program.

By 1981, the City of Santa Cruz was responsible for the care of 6,000 community street trees. Street trees in the Seabright Area were recorded in an inventory and emphasis was placed on large, mature trees for their contribution to a sense of place (Figure 1). Currently, the street tree inventory includes 9,742 trees.

Up until 1985, and the adoption of Ordinance Chapter 13.30 *Trees*, the City of Santa Cruz provided care for all street trees. Chapter 13.30 conveyed the responsibility for street tree maintenance onto the adjacent property owner, where it currently lies. This change was a direct result of budget cuts that led to an overall reduction in services. In spite of this transition in care, the City has maintained the Urban Forestry Office, which continues to be responsible for management oversight and the preservation of all community trees. Street trees that are not adjacent to private property, including medians, arterial roads, and some retail/commercial areas, continue to be maintained by the City of Santa Cruz. Currently, the City directly maintains 15.5% of the street tree resource. While the adjacent property owner is responsible for maintaining the remainder of street trees (84.5%), the City retains responsibility for the overall management and liability, including:

- Provide policies and regulations for care and preservation of street trees
- Maintain an approved street tree list
- Review and adjudicate requests for permits to plant, remove, and prune/trim street trees
- Communicate maintenance requirements with adjacent property owners, as needed
- Provide policies and oversight to manage risk and promote safety in the street tree resource, including declaring public vegetation nuisances





# REPURPOSING URBAN WOOD



During the 2000s, the City of Santa Cruz had a program to repurpose wood obtained from large urban tree removals. The wood utilization program was a collaborative effort between Public Works sign shop, Parks and Recreation maintenance and construction staff, and the Urban Forester. The wood was milled for lumber and used to enhance public spaces. Key projects included:

- Benches in the courtyard at City Hall
- Bridges and steps along the Bay Street Walkway, south of Nobel Drive, and access to Parks Yard on Harvey West Blvd
- Retaining walls for heritage cypress on Cliff Street and DeLaveaga Park ball fields
- Fences on the perimeter of Louden Nelson and Harvey West Park ball fields
- Picnic tables
- Signs in parks and DeLaveaga Golf Course
- Sign posts in open space areas

This program was one of the first urban wood repurposing programs and was highlighted as an example for other communities. Several International Society of Arboriculture Meetings were held at Harvey West Park and the Civic, where the City was showcased to the green industry in recognition for tree diversity and the wood utilization program. The wood utilization program continued until approximately 2005 when it was disassembled due to lack of funding. The Urban Forester has continued to work with public and private partners to repurpose wood whenever possible.

**“The redwoods, once seen, leave a mark or create a vision that stays with you always.”**

**John Steinbeck**

Top Left: DeLaveaga Park sign  
Top Center: Heiner House redwood tree

Bottom Center and Bottom Right: Laurel Park  
Top Right: Dawn redwood in a downtown parking lot

Memorial trees are common throughout the community and provide commemoration for significant people, events, or projects. The Daughters of the American Revolution dedicated two dawn redwood saplings (*Metasequoia glyptostroboides*) to Santa Cruz citizens integral in establishing the school system, including Mary Amney Case and Louden Nelson (Santa Cruz Rowland, 1955). Interesting or unusual trees have been highlighted by the community

throughout the years, including these Memorial dawn redwood plantings at Harvey West Park (Koch, 1966). Memorial trees may still be planted by Parks & Recreation staff upon request in exchange for a donation. Furthermore, spectacular heritage trees are called out each year for their grandeur in the Downtown Santa Cruz Significant Tree Walk, an event established by community advocates in the 1970s and since the early 2000s, led by the Urban Forester.



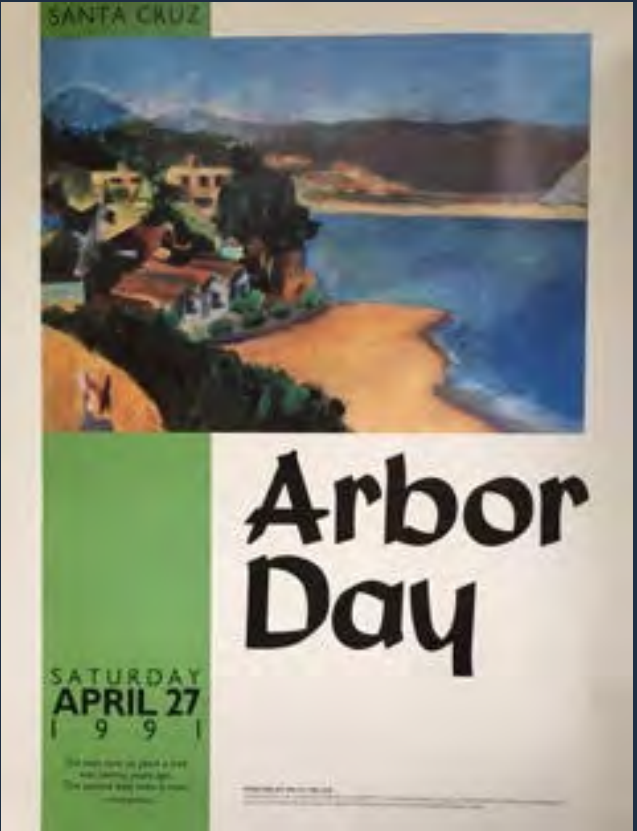


Not only was the City proactive in urban forestry, but several community groups were involved in expanding street tree planting in the downtown area and promoting outreach and education on the urban forest. Downtown Neighbors worked with the City to organize work days and events for sidewalk cutouts and street tree plantings. Between the 1970s and 1990s, this group was responsible for coordinating the planting of over

100 street trees, organizing yearly Arbor Day and Earth Day celebrations, informational brochures, and tree tours. Since then, the City of Santa Cruz has continued to carry on these traditions and encourages others. For example, a flowering cherry tree was planted in the garden outside of City Hall as a gift from Santa Cruz’s sister city, Shingu, Japan. Two Japanese maples were planted in the City Hall courtyard to memorialize the City’s adoption of its first Climate Action Plan in 2012.

**Tree City USA** is an initiative of the Arbor Day Foundation to green urban areas through enhanced tree planting and care (Arbor Day Foundation, 2019). Santa Cruz’s urban forest has been recognized as a Tree City USA for over 25 years. Each year Arbor Day is officially recognized with a mayoral declaration and ceremony.

**Left:** Sister Cities tree plantings: Shingu, Japan and Santa Cruz City Hall  
**Right:** Santa Cruz National Arbor Day posters





# SPATIAL ARRANGEMENT OF COMMUNITY TREES

Maintaining species diversity in a community tree resource is important. Dominance of any single species or genus can have detrimental consequences in the event of storms, drought, disease, pests, or other stressors that can severely affect a community tree resource and the flow of benefits and costs over time. Catastrophic pathogens, such as Dutch elm disease (*Ophiostoma ulmi*) and sudden oak death (*Phytophthora ramorum*) are some examples of unexpected, devastating, and costly pests and pathogens that highlight the importance of diversity and the balanced distribution of species and genera.

Urban Foresters typically follow the widely recognized 10-20-30 rule of thumb, which states that an urban tree population should consist of no more than 10% of any one species, 20% of any one genus, and 30% of any one family (Clark et al. 1997; Santamour, 1990). While this rule does ensure a minimum level of diversity, it may not encourage enough genetic diversity to adequately support resilience. Recent studies recommend even greater diversity (Ball et al. 2007; Kendal et al. 2014) and the spatial arrangement of trees plays a role in resilience. The overall street tree resource in Santa Cruz has high species diversity (the most abundant species represents 6.2% of the overall population), but it is common for a particular species to be abundant within a small area of the community. When many individuals of a single species are concentrated in a small area,

the impact of a stressor can have significant implications.

Prior to the devastating impacts of Dutch elm disease, it was a common trend to design streets with a single species and therefore promote monocultures. Like the majority of communities, Santa Cruz named streets after trees and planted some streets with a continuous lining of one species. This practice is still called for in some of the Area Plans, including the Eastside Business Improvement Plan (1996), the Beach and South of Laurel Plan (1998) and the Downtown Area Plan (2017). The Downtown Area Plan is quite recent, but also calls for consistent lining of London plane trees on the east side of the Boulevard. This design appeals to many people because it is aesthetically pleasing and promotes the character of an area, but current industry standards do not recommend this practice.

Long term management can be achieved through successional planting and removal/ replacement with a wider variety of species. This is already occurring in Santa Cruz. Walnut Avenue and areas around City Hall and the Downtown Library were planted with a near monoculture of sweetgum (*Liquidambar styraciflua*) in the 1970s, a species that has proven to be particularly susceptible to breakage and often responsible for sidewalk upheaval. Removal and replacement of sweetgums began in the early 1990s, and currently most

of these trees have been phased out. Diversity at the street level should be considered during replacement plantings throughout Santa Cruz. Not only does the climate allow a broad species palette to thrive, but urban forest managers are uniquely poised to strive for no species representing more than 5% of the overall diversity.



Top: Walnut Avenue 1972  
Bottom: Walnut Avenue today (photo credit Garrick Ramirez)



Managers can regularly assess, evaluate, and indicate the current performance levels of the urban forest through a Sustainable Urban Forest Assessment Matrix. The current assessment for Santa Cruz’s street tree resource, in context of the overall community forest, can be found in Appendix I. From a management perspective, goals can be set and achieved using criteria from the Sustainable Urban Forest Indicators. This allows managers to benchmark their current conditions and understand how they can be improved to meet industry recommendations and then establish performance measures to improve the effectiveness of their management approach. The criteria sustainable urban forest management proposed by Kenney, et al (2011) were used as a reference standard to assess the current urban forestry practices in the City.

**Left:** Grant-funded coast live oak trees on North Morrissey Blvd  
**Right:** Arana Gulch





### Benefits of Trees & Canopy

Trees in the urban forest work continuously to mitigate the effects of urbanization and development as well as protect and enhance lives within the community. Healthy trees are vigorous, producing more leaf surface and canopy cover area each year. The amount and distribution of leaf surface area are the driving forces behind the urban forest’s ability to produce services for the community (Clark et al. 1997). Some of the main services (i.e., benefits) include:

- Air quality improvements
- Carbon dioxide reductions (i.e., carbon sequestration)
- Water quality improvements
- Energy savings
- Health, aesthetic, and socioeconomic benefits
- Wildlife habitat

**“Show people two streets, one with a great street tree canopy and one without, and ask people which they would rather walk down. The preference is almost always for trees.”**

**Planning Department  
Partner, City of Santa  
Cruz**

### Air Quality

Trees improve air quality in five fundamental ways:

- Lessening particulate matter (e.g., dust and smoke)
- Absorbing gaseous pollutants
- Providing shade and transpiring
- Reducing power plant emissions by decreasing energy demand among buildings
- Increasing oxygen levels through photosynthesis

Trees protect and improve air quality by intercepting particulate matter (PM<sub>10</sub>), including dust, pollen, and smoke. The particulates are filtered and held in the tree canopy until precipitation rinses the particulates harmlessly to the ground. Trees absorb harmful gaseous pollutants like ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>). Shade and transpiration reduce the formation of O<sub>3</sub>, which is created at higher temperatures. Scientists are now finding that some trees may absorb more volatile organic compounds (VOCs) than previously thought (Karl, 2010; McPherson and Simpson, 2010). VOCs are carbon-based particles emitted from automobile exhaust, lawnmowers, and other human activities.

Air quality guides can be used to determine goals for the community in future Climate Action Plans (e.g., AirNow and CalEnviroscreen). The seasonal air quality average for Santa Cruz is considered good. The community experienced five dangerous days per year between 2016 to 2018. These days were attributed to high levels of fine particulate matter resulting from wildfires (IQAir, 2021).

### Carbon Dioxide Reduction

As environmental awareness increases, governments are paying more attention to the effects of greenhouse gas (GHG) emissions and concerns about climate change. As energy from the sun (sunlight) strikes the Earth’s surface, it is reflected into space as infrared radiation (heat). Greenhouse gases absorb some of this infrared radiation and trap this heat in the atmosphere, increasing the temperature of the Earth’s surface. Many chemical compounds in the Earth’s atmosphere act as GHGs, including methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), water vapor, and human-made gases/aerosols. As GHGs increase, the amount of energy radiated back into space is reduced and more heat is trapped in the atmosphere. An increase in the average temperature of the earth can result in changes in weather, sea levels, and land use patterns, as well as localized changes that impact the suitability of some trees and other plant species to a specific region. In the last 150 years, since large-scale industrialization began, the levels of some GHGs, including CO<sub>2</sub>, have increased by 25% (EIA, 2018). Carbon sequestration is a promising carbon reduction strategy in climate action planning and implementation.

Trees and forests reduce atmospheric carbon dioxide (CO<sub>2</sub>) in two ways:

- Directly, by reducing CO<sub>2</sub> in the atmosphere through growth and sequestration of CO<sub>2</sub> in woody and foliar biomass.
- Indirectly, by lowering the demand for energy and reducing CO<sub>2</sub> emissions from the consumption of natural gas and the generation of electric power.

### Stormwater Management and Water Quality

Trees and forests improve and protect the quality of surface waters, such as creeks and rivers, by reducing the impacts of stormwater runoff through:

- Interception
- Increased soil capacity and infiltration rate
- Runoff reduction and detention
- Reduction in soil erosion

Trees intercept rainfall in their canopy, which acts as a mini reservoir (Xiao et al. 1998). During storm events, this interception reduces and slows runoff. In addition to catching stormwater, canopy interception lessens the impact of raindrops on barren soils. Root growth and decomposition increase the capacity and rate of soil infiltration by rainfall and snowmelt (Xiao et al. 1998). Each of these processes reduces the flow and volume of stormwater runoff, avoiding erosion and preventing sediments and other pollutants from entering streams, rivers, and lakes. Urban stormwater runoff is a major source of pollution for surface waters and riparian areas, threatening aquatic and other wildlife as well as human populations. Requirements for stormwater management are becoming more stringent and costly. Reducing runoff and incorporating urban trees in stormwater management planning have the added benefit of reducing the cost of stormwater management, including the expense of constructing new facilities necessary to detain and control stormwater as well as the cost of treatment to remove sediment and other pollutants (McKeand and Vaughn, 2013).



## Energy Savings

Urban trees and forests modify climate and conserve energy in three principal ways:

- Producing shade for dwellings and hardscape reduces the energy needed to cool the building with air conditioning (Akbari et al. 1997)
- Tree canopies engage in evapotranspiration, which leads to the release of water vapor from tree canopies and cools the air (Lyle, 1996)
- Trees in dense arrangements may reduce mean wind speed and solar radiation below the top of the tree canopy by up to ~90% compared to open areas (Heisler and DeWalle, 1988)

An urban heat island is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities. The moderate climate in Santa Cruz helps buffer the community from the heat island effect. As such, the energy conserved by Santa Cruz’s trees may not be as apparent as in other climates, but trees nevertheless provide energy benefits.

Trees reduce energy use in summer by cooling the surrounding areas. Shade from trees reduces the amount of radiant energy absorbed and stored by hardscapes and other impervious surfaces, thereby reducing the heat island effect, a term that describes the increase in urban temperatures in relation to surrounding locations. Transpiration releases water vapor from tree canopies, which cools the surrounding area. Evapotranspiration,

alone or in combination with shading, can help reduce peak summer temperatures (Huang et al. 1990). The energy saving potential of trees and other landscape vegetation can mitigate urban heat islands directly by shading heat-absorbing surfaces, and indirectly through evapotranspiration cooling (McPherson, 1994). Individual trees through transpiration have a cooling effect equivalent to two average household central air-conditioning units per day or 70 kWh for every 200 L of water transpired (Ellison et al. 2017). Studies on the heat island effect show that temperature differences of more than 9°F (5°C) have been observed between city centers without adequate canopy cover and more vegetated suburban areas (Akbari et al. 1997).

Trees also reduce energy use in winter by mitigating heat loss, where they can reduce wind speeds by up to 50% and influence the movement of warm air and pollutants along streets and out of urban canyons. Urban canyons are streets flanked by dense blocks of buildings, affecting local conditions, such as temperature, wind, and air quality. By reducing air movement into buildings and against conductive surfaces (e.g., glass and metal siding), trees reduce conductive heat loss from buildings, translating into potential annual heating savings of 25% (Heisler, 1986).

Three trees properly placed around the home can save \$100–\$250 annually in energy costs. Shade from trees significantly mitigates the urban heat island effect - tree canopies provide surface temperature reductions on wall and roof surfaces of buildings ranging from 20-45°F and temperatures inside parked cars can be

reduced by 45°F. Reducing energy use has the added bonus of reducing carbon dioxide (CO<sub>2</sub>) emissions from fossil fuel power plants.

## Health Benefits

Exposure to nature, including trees, has a positive impact on human health and wellness through improvements in mental and physical health, reductions in crime, and academic success (University of Washington, 2018; University of Illinois, 2018).

A study of individuals living in 28 identical high-rise apartment units found residents who live near green spaces had a stronger sense of community and improved mental health, coped better with stress and hardship, and managed problems more effectively than those living away from green space (Kuo and Sullivan, 2001). In a greener environment, people report fewer health complaints (including improved mental health) and more often rate themselves as being in good health (Sherer, 2003). Other research has revealed lower incidence of depressive symptoms in neighborhoods with greater access to green space (Jennings and Gaither, 2015).

Trees shade impervious surfaces and prevent the sun’s rays from hitting them, thus reducing heat storage and later release, which contribute to the urban heat island effect. Tall trees that create a large, shaded area are more useful than short vegetation. Trees also contribute to cooler temperatures through transpiration, increasing latent heat storage (the sun’s energy goes to convert water from its liquid to vapor form) rather than increasing air temperature (sensible heat). According to a study conducted by the Nature Conservancy, it is estimated that trees

have the potential to reduce summer maximum air temperatures by 0.9 to 3.6° F. Trees help to address public health concerns for both heat and air quality. Globally, an annual investment of \$100 million in planting and maintenance costs would give an additional 77 million people a 1° C (1.8° F) reduction in maximum temperatures on hot days (McDonald et al. 2016).

Several studies have examined the relationship between urban forests and crime rates. Park-like surroundings increase neighborhood safety by relieving mental fatigue and feelings of violence and aggression that can occur as an outcome of fatigue (Planning the Urban Forest: Ecology, Economy, and Community Development, 2009). Research shows that the greener a building’s surroundings are, the fewer total crimes. This is true for both property crimes and violent crimes. Landscape vegetation around buildings can mitigate irritability, inattentiveness, and decreased control over impulses, all of which are well established psychological precursors to violence.

Residents who live near outdoor greenery tend to be more familiar with nearby neighbors, socialize more with them, and express greater feelings of community and safety than residents lacking nearby green spaces (Planning the Urban Forest: Ecology, Economy, and Community Development, 2003). Public housing residents reported 25% fewer domestic crimes when landscapes and trees were planted near their homes (Kuo, 2001). Two studies (one in New Haven, CT and the other in Baltimore City and County, MD) found a correlation between increased tree coverage and decreased crime rates, even after adjusting for a number of other



variables, such as median household income, level of education, and rented versus owner-occupied housing in the neighborhoods that were studied (Gilstad-Hayden et al. 2015; Troy et al. 2012).

A 2010 study investigated the effects of exposure to green space at school on the academic success of students at 101 public high schools in southern Michigan (Matsuoka, 2010). The study found a positive correlation between exposure to nature and student success measured by standardized testing, graduation rate, percentage of student planning to go to college, and the rate of criminal behavior. This trend persisted after controlling for factors such as socioeconomic status and race or ethnicity. Conversely, views of buildings and landscapes that lacked natural features were negatively associated with student performance.

Wildlife Habitat

Trees provide important habitat for birds, insects (including bees), and other animal species. Their greatest contributions include:

- Preservation and optimization of wildlife habitat
- Natural corridors for increased landscape connectivity and animal movement and dispersal

Trees and forest lands provide critical habitat (to forage, nest, spawn, etc.) for mammals, birds, fish, and other aquatic species. Urban forests contain an array of flowering trees that produce pollen and nectar food sources for pollinators. Foliage, sap, flowers, and fruits all provide essential food sources for a variety of

invertebrate species, mammals, and birds. Plant feeding species are commonly fed upon by other wildlife, so wherever trees are planted, wildlife such as insects, birds, and mammals are soon to follow (Tallamy, 2009).

Research has shown that increasing tree species diversity and richness contributes to greater numbers of bird species among urban bird communities (Pena et al. 2017). In addition to greater tree diversity, understory vegetation and the retention of large trees improves outcomes for both birds and bats by increasing opportunities to find adequate food and habitat (Threlfall et al. 2016). Not all plants provide the same wildlife benefits. Native plants are known to provide greater wildlife benefits and particular species are able to support wildlife to a higher degree (e.g. oaks) (Tallamy, 2009). Shifts in tree composition from native to introduced species results in fewer specialist feeders and more generalist feeders and exotic species (Kroftová and Reif, 2017). Overall, diverse landscaping, with an emphasis on native species, enhances wildlife habitat and promotes endemic species.



Left: Harvey West Park



Right: Dormant coral tree at City Hall

Wooded streets potentially function as movement corridors, allowing certain species—particularly those feeding on the ground and breeding in trees or tree holes—to fare well by supporting an alternative habitat for feeding and nesting (Fernandez-Juricic, 2001). Restoration of urban riparian corridors and their linkages to surrounding natural areas has facilitated the movement of wildlife and dispersal of flora (Dwyer et al. 1992). Usually, habitat creation and enhancement increase biodiversity and complement other beneficial functions of the urban forest. These findings indicate an urgent need for conservation and restoration measures to improve landscape connectivity, which will reduce extinction rates and help maintain ecosystem services (Haddad et al. 2015).

Calculating Tree Benefits

Communities can calculate the benefits of their urban forest by using a complete inventory or sample data in conjunction with the USDA Forest Service i-Tree software tools (itreertools.org). This open-source, state-of-the-art, peer-reviewed software suite considers regional environmental data and costs to quantify the ecosystem services unique to a given urban forest resource. Individuals can calculate the benefits of trees to their property by using i-Tree *Design* (www.itreertools.org/design).





Urban Forest Resource

Santa Cruz’s urban forest consists of all privately-owned and publicly-owned trees and woody shrubs that grow within the city. Santa Cruz’s street tree resource is a subset of the urban forest comprised of the public-owned trees on streets. A summary of the composition and value of the overall urban forest and the street tree resource follows.

Tree Canopy

Tree canopy is the layer of leaves, branches, and stems of trees and other woody plants that cover the ground when viewed from above. Understanding the location and extent of tree canopy is critical to developing and implementing sound management strategies that will promote the smart growth and resiliency of Santa Cruz’s urban forest (public and private trees) and the invaluable services it provides.

EXISTING LAND COVER

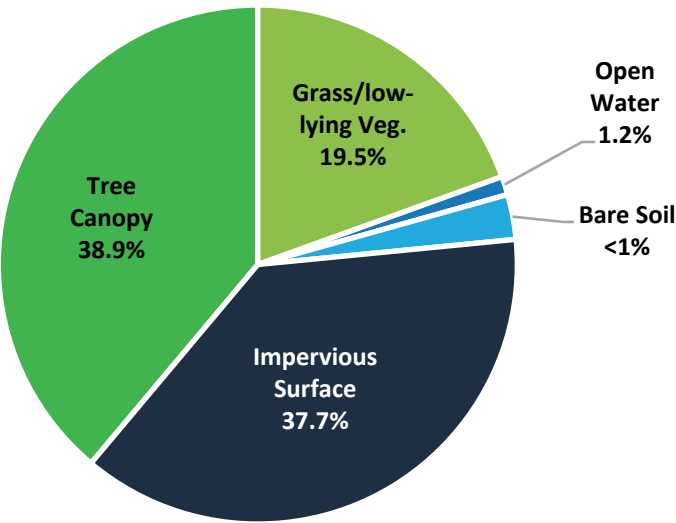
Santa Cruz’s 2020 canopy cover and the resulting benefits were approximated using i-Tree Canopy<sup>3</sup>. This web browser application can be used to determine the amount of coverage by tree canopy and other user-defined surfaces. The application automatically generates random plot points within the boundaries of a study area. Each point is reviewed and assigned a land cover category (bare soil, open water, grass/low-lying vegetation, impervious surface, and tree canopy). Land cover and tree benefit estimates are then generated statistically.

In contrast to a GIS land cover assessment, based on aerial imagery, which can provide a bird’s-eye-view of the entire urban forest and map the distribution of canopy and other land cover, i-Tree Canopy lacks the ability to show the distribution of tree canopy across a community.

Based on the i-Tree Canopy assessment, Santa Cruz is covered by approximately 38.9% (± 1.09%) tree canopy on public and private land. Other land cover was estimated as follows:

- 37.67% ± 1.08% impervious surface
- 2.80% ± 0.37% bare soil
- 19.51% ± 0.89% grass/low-lying vegetation
- 1.15% ± 0.24% open water

FIGURE 2: LAND COVER CLASSIFICATION IN SANTA CRUZ



<sup>3</sup> i-Tree Canopy(v7.0) <https://canopy.itreetools.org/> using 2020 Landsat / Copernicus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency and 2,000 points of reference.

The City of Santa Cruz Urban Tree Canopy report (2016) estimated canopy and provides a baseline canopy cover of 38.2%, indicating that overall canopy cover has not changed significantly over the past four years.

Santa Cruz’s tree canopy (public and private trees) are providing \$1.5 million ± \$41,823 in annual benefits (i-Tree Canopy, 2020), including the removal of 107.0 ± 3.0 tons of air pollutants (826,552 ± 23,184), reducing carbon by 4,260 ± 120 tons (363,695 ± 20,201), and reducing 3,306.5 ± 91.8 million gallons of stormwater runoff (\$300,815 ± \$8,438) (Table 5).

TABLE 5: ANNUAL ENVIRONMENTAL BENEFITS FROM SANTA CRUZ’S URBAN FOREST

| Environmental Benefits from Santa Cruz’s Urban Forest |                 |                                      |            |                         |
|---|-----------------|--------------------------------------|------------|-------------------------|
| Air Quality Benefit                                   |                 |                                      |            |                         |
|   | Tons            | Standard Deviation (Tons)            | Value (\$) | Standard Deviation (\$) |
| CO  | 2.2             | 0.06                                 | 2,927      | 82                      |
| NO <sub>2</sub>                                       | 3.39            | 0.1                                  | 1,622      | 45                      |
| ozone   | 73.82           | 2.07                                 | 320,752    | 8,997                   |
| PM <sub>2.5</sub>                                     | 2.29            | 0.06                                 | 355,587    | 9,974                   |
| PM <sub>2.5-10</sub>                                  | 23.19           | 0.65                                 | 145,345    | 4,077                   |
| SO <sub>2</sub>                                       | 2.11            | 0.06                                 | 319        | 9                       |
| Total   | 107.00          | 3.00                                 | 826,552    | 23,184                  |
| Carbon Benefit  |                 |                                      |            |                         |
|   | Tons            | Standard Deviation (Tons)            | Value (\$) | Standard Deviation (\$) |
| CO <sub>2</sub> sequestered                           | 4,260           | 120                                  | 363,695    | 10,201                  |
| Stormwater Benefit                                    |                 |                                      |            |                         |
|   | Million Gallons | Standard Deviation (Million Gallons) | Value (\$) | Standard Deviation (\$) |
| Reduced runoff  | 33.66           | .                                    | 300,815    | 8,438                   |
| Evaporated  | 176.08          | 4.94                                 | .          | .                       |
| Intercepted   | 177             | 4.96                                 | .          | .                       |
| Transpired  | 293.99          | 8.25                                 | .          | .                       |
| Potential evaporation                                 | 1,414.17        | 39.67                                | .          | .                       |
| Potential transpiration                               | 1,211.58        | 33.98                                | .          | .                       |
| Total   | 3,306.48        | 91.80                                | 300,815    | 8,438                   |

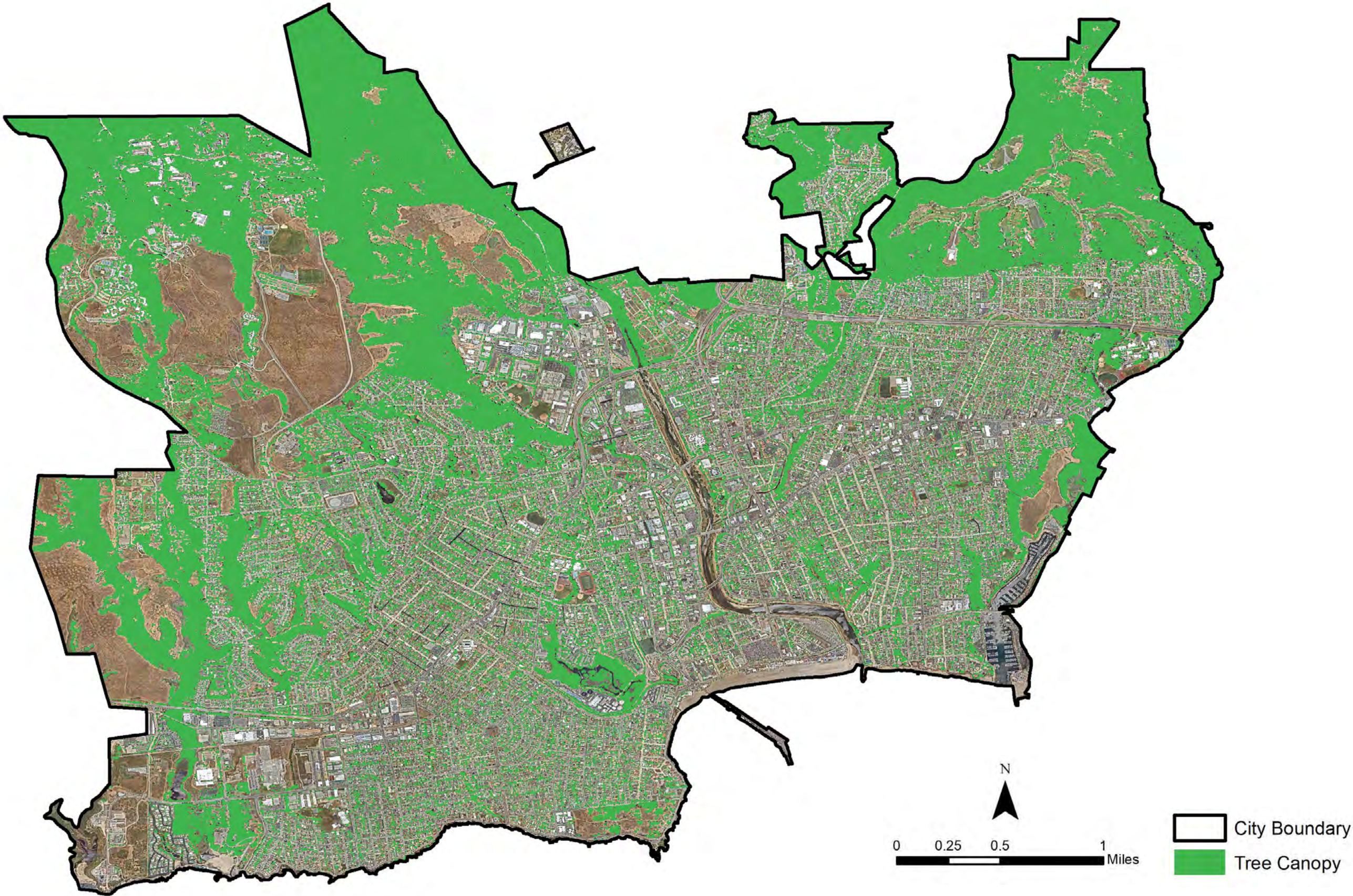
In addition to this subset of quantifiable annual benefits, trees in Santa Cruz on both public and private property have stored 107.1 metric tons (± 3.00 MT) of carbon in woody and foliar biomass to date, valued at \$9.1 million (± \$256,193)<sup>4</sup>.

<sup>4</sup> Carbon dioxide (CO<sub>2</sub>) storage is a total biomass amount of 21.940 kT/mi<sup>2</sup> valued at \$23,256.92.





MAP 1: TREE CANOPY COVER IN SANTA CRUZ



Left: Pogonip Open Space





Street Tree Resource

The street tree resource is the collection of community trees planted in the public rights-of-way along the streets in Santa Cruz. The street tree resource, comprising 9,742 trees, is a mixture of native and non-native species. Street trees enhance aesthetics and provide numerous environmental and socioeconomic benefits that contribute to the quality of life and sustainability of the community (Santa Cruz Street Tree Mapbook, 2020).

STRUCTURE AND COMPOSITION

A structural analysis is the first step toward understanding the benefits provided by trees as well as their management needs. Considering species composition, diversity, age distribution, condition, canopy cover, and replacement value, the following information characterizes Santa Cruz’s street tree resource in 2020:

- 9,742 individual trees representing 277 unique species
- London plane tree (*Platanus X hispanica*, 6.2%) is the most common species, followed by crape myrtle (*Lagerstroemia indica*, 5.7%) and coast redwood (*Sequoia sempervirens*, 5.1%)
- 50.9% of trees are less than 8-inches in diameter (DBH) and 13.4% of trees are larger than 24-inches in diameter, indicating an almost ideal age distribution
- 57.2% are in good or better condition

<sup>5</sup>i-Tree Eco (itreetools.org)

**Fold:** Canary Island date palm  
**Right:** Kwanzan cherry blossoms

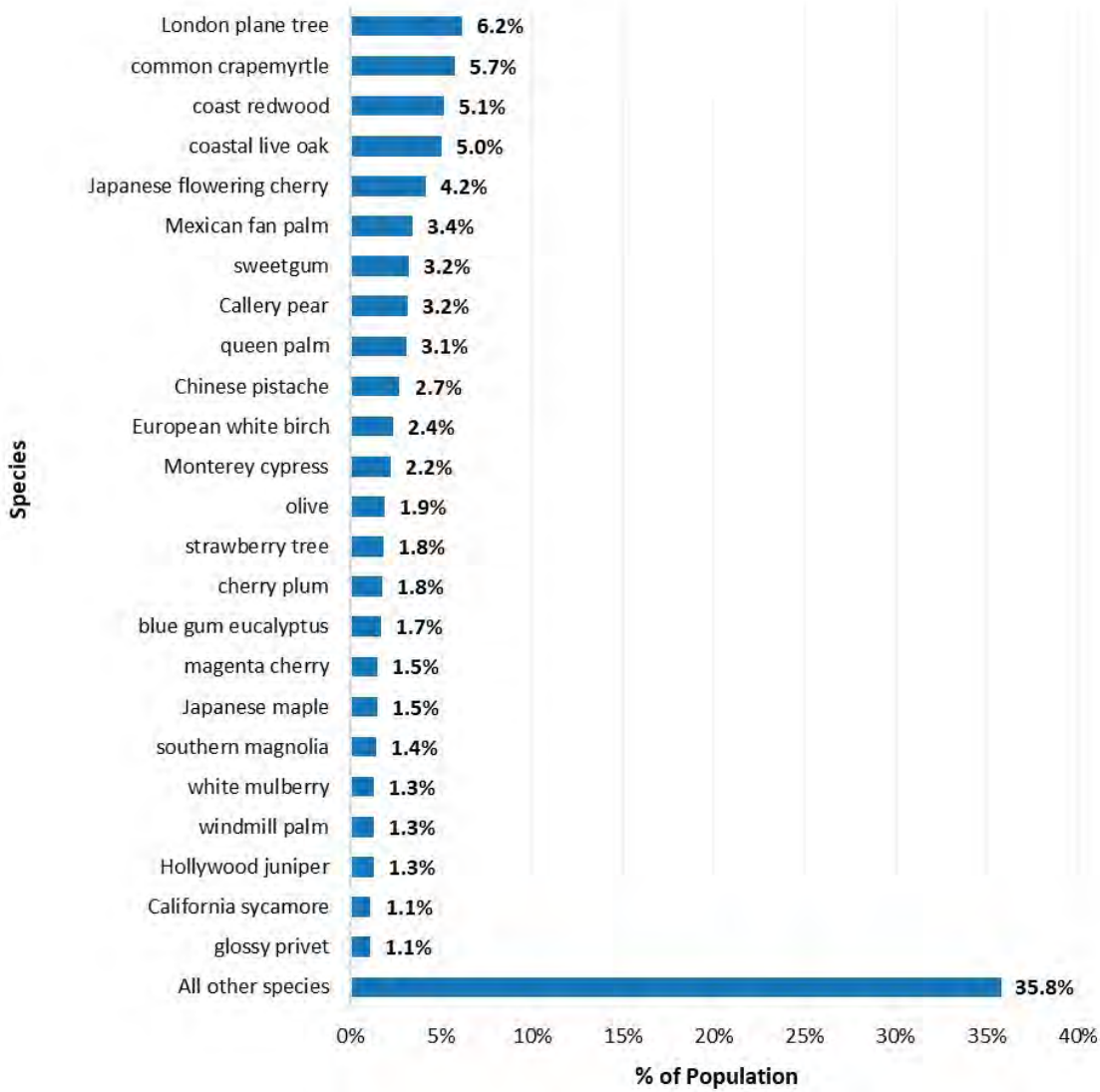
- Street trees provide an estimated 361.3 acres of tree canopy cover, 4.3% of total land area<sup>5</sup>
- Replacement of Santa Cruz’s 9,742 street trees with trees of equivalent size, species, and condition, would cost nearly \$38.6 million<sup>5</sup>
- To date, street trees have stored 4,946 tons of carbon (CO<sub>2</sub>) in woody and foliar biomass, valued at \$843,540<sup>5</sup>

SPECIES DIVERSITY

Maintaining species diversity in an urban forest is essential. Dominance of any single species or genus can have detrimental consequences in the event of storms, drought, disease, pests, or other stressors that can severely affect a public tree resource and the flow of benefits and costs over time. The most abundant species in Santa Cruz’s street tree resource are *Platanus X hispanica* (London plane tree, 6.2%), *Lagerstroemia indica* (crape myrtle, 5.7%), and *Sequoia sempervirens* (coast redwood, 5.1%). The City of Santa Cruz is able to increase species diversity and strive for less than 5% of any species in the overall street tree resource.



FIGURE 3: MOST PREVALENT STREET TREE SPECIES IN SANTA CRUZ





RELATIVE AGE DISTRIBUTION

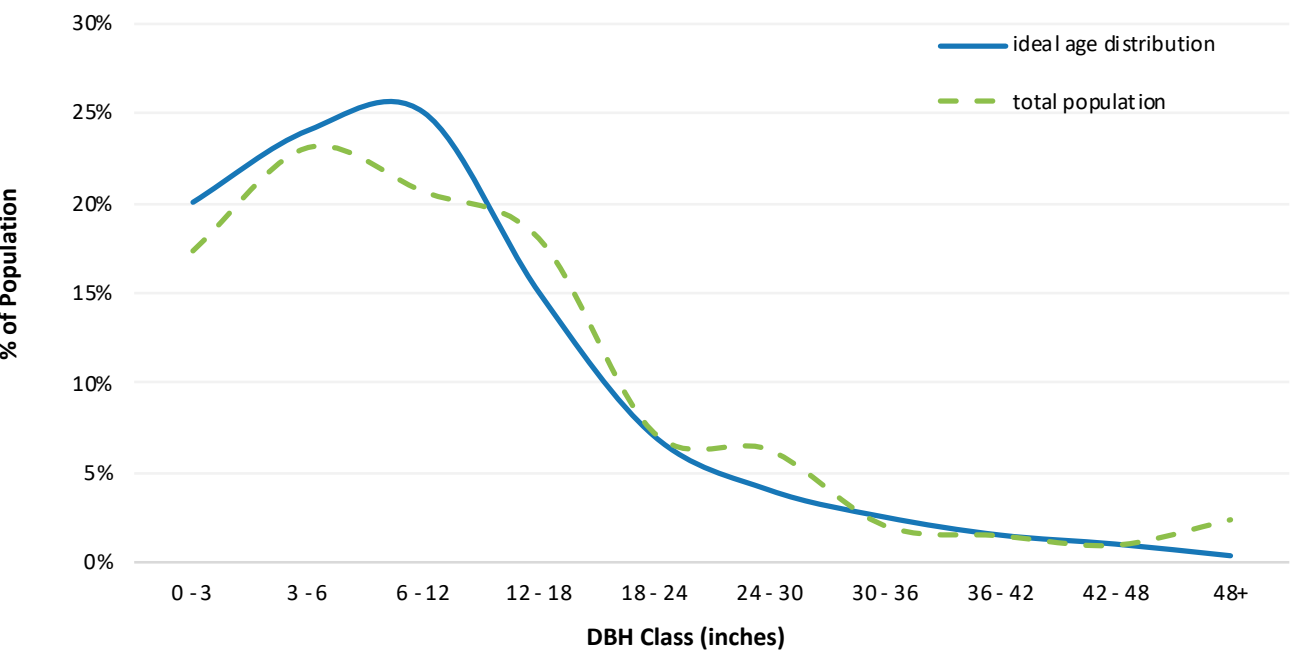
The relative age distribution can be approximated by considering the DBH range of the overall inventory. Trees with smaller diameters tend to be younger. Palms do not increase in diameter over time, so they are not considered in this analysis. In palms, height more accurately correlates to age and mature height varies among palm species.

The relative age distribution of the urban forest is a key indicator and driver of maintenance needs (Richards, 1982-83). Although, it is important to note that in many regions of the world, urban trees larger than 24 inches are

mature and, in some cases, over-mature and beginning to senesce. However, on the central and northern California coastline, native species, including coast redwood (*Sequoia sempervirens*), Monterey cypress (*Cupressus macrocarpa*), and coastal live oak (*Quercus agrifolia*) commonly exceed 48 inches in diameter and a 24-inch diameter tree may still be in a phase of active growth.

The relative age distribution of Santa Cruz’s street tree resource (excluding palms) reveals an almost ideal age distribution with 50.8% of trees 8 inches in diameter or less and 13.4% of trees larger than 24 inches diameter (Figure 4).

FIGURE 4: RELATIVE AGE DISTRIBUTION OF SANTA CRUZ STREET TREES



In general, trees greater than 24 inches in diameter require more regular inspections and routine maintenance as they mature. Santa Cruz’s street tree inventory has 1,168 mature trees (13.4%), 199 of which are City maintained. Managers can gain a better understanding of the specific risks that individual mature trees pose with regular inspection and risk assessment.

Trees between 6 and 18 inches in diameter are generally established and are a mixture of young, large- and medium-stature tree species and mature small-stature species. This age group is a positive indicator for future benefits from the street trees since large shade trees typically provide more shade, pollutant uptake, carbon sequestration, and rainfall interception than small trees. The 3,365 trees between 6 and 18 inches in diameter represent 38.7% of the street tree population. In total, 607 are City maintained street trees.

Trees below 6 inches in diameter indicate young trees and new tree plantings. Of the street trees, 5,033 trees are below 6 inches and represent 40.5% of the population (554 trees are City-maintained). This figure reflects tree planting over the last two decades from both City projects and conditions of approval for development projects.

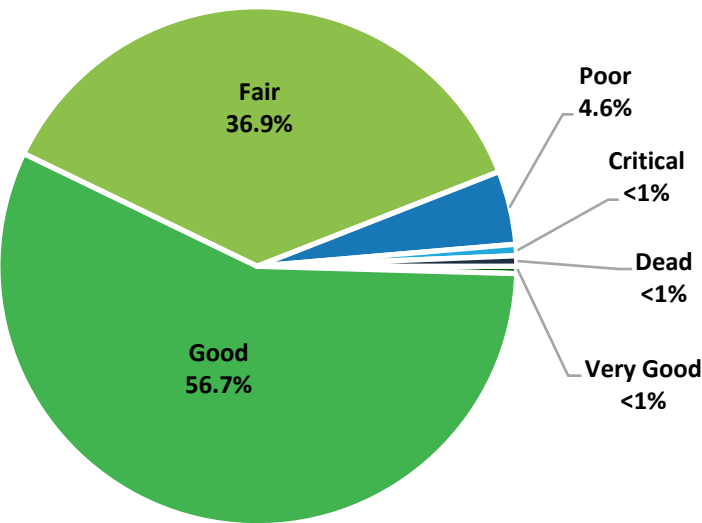
CONDITION

Tree condition is an indication of tree health, which can be measured by how well trees are managed and how well they are performing in each site-specific environment (e.g., street, median, parking lot, etc.). Condition ratings can help managers anticipate maintenance and funding needs. In addition, tree condition is an

important factor for the calculation of public tree resource benefits. A condition rating of good assumes that a tree has no major structural problems, no significant mechanical damage, and may have only minor aesthetic, insect, disease, or structural problems, and is in good health. When trees are performing at their peak, as those rated as good or better, the benefits they provide are maximized.

The majority of community trees (57.2%) in Santa Cruz are in good or better condition, with 5.9% of trees in poor or worse condition. Less than 1% of community trees are dead or dying (Figure 5).

FIGURE 5: CONDITION OF STREET TREES IN SANTA CRUZA



STOCKING LEVEL

Stocking level is an indication of how many planting sites contain trees. Considering that there are 12,350 total sites in the street tree inventory, including 9,742 existing trees and 2,608 available sites, the stocking level for the street tree resource is currently 78.9%.

BENEFITS

The benefits provided by the street tree resource are dependent upon the species, age (size), and condition of the tree population. Trees are the one component of urban infrastructure that has the potential to increase in value over time and with proper care. As tree canopy cover increases, so do the benefits afforded by leaf area.

Annually, Santa Cruz’s 9,742 street trees provide cumulative environmental benefits to the community at an average value of \$4.53 per tree, for a total value of \$44,177. These annual environmental benefits include:

- \$5,435 in intercepted stormwater (608,263 gallons), an average benefit of \$0.56 per tree
- \$20,729 in air quality improvements (2.4 ton of particulates removed), an average of \$2.13 per tree
- \$18,013 in sequestered atmospheric carbon (105.6 tons), an average of \$1.85 per tree

It should be noted that these quantified benefits are only a fraction of the overall benefits provided by the street tree inventory. Ongoing research continues to identify and demonstrate relationships between tree canopy and environmental and human health. i-Tree *Eco* is only able to quantify those benefits for

air quality, carbon, and stormwater that can be accurately measured and related to known costs. Some benefits that can be calculated by i-Tree *Eco* could not be included in the analysis such as reductions in energy use (electricity and natural gas) through shading and climate effects. Furthermore, many benefits are intangible and/or difficult to quantify such as increases in property values and impacts on psychological and physical health, crime, and violence. Empirical evidence of these benefits does exist (Wolf, 2007; Kaplan and Kaplan, 1989; Ulrich, 1986), but there is limited knowledge about the physical processes at work and the complex nature of interactions make quantification imprecise. Tree growth and mortality rates are highly variable. A true and full accounting of benefits and investments must consider variability among sites (e.g., tree species, growing conditions, maintenance practices) throughout the City, as well as variability in tree growth. In other words, trees are worth far more than what one can ever quantify!

Street Tree Maintenance Needs

Santa Cruz’s street tree resource includes 9,742 trees, 2,419 planting sites, and 189 stumps. The tree inventory identified primary maintenance needs (pruning, removal, and stump grinding) where applicable. Table 6 summarizes maintenance needs as well as responsibility (e.g., city-maintained (CITY) or adjacent-property-owner-maintained (PO). Overall, the majority of street trees require routine pruning. Street trees maintained by adjacent property owners require a higher percentage of priority removals and priority pruning (13.8% and 8.1% of primary maintenance, respectively) (Figures 6 and 7).

PRIORITY 1 REMOVAL

Forty six (46) street trees require Priority 1 removal (4 CITY: 42 PO). Trees categorized as Priority 1 removals have defects that cannot be cost-effectively or practically treated. The majority of the trees in this category has a high percentage of dead crown and pose an elevated risk of failure. This category also includes trees that are a potential danger to persons or property and that may cause a potential liability. Large dead and dying trees that have high liability risks are also included in this category.

PRIORITY 2 REMOVAL

One hundred ten (110) street trees require Priority 2 removal (12 CITY: 91 PO). Like removals designated as Priority 1, Priority 2 removals should be removed as soon as possible, but they do not pose risks as significant as the Priority 1 trees.

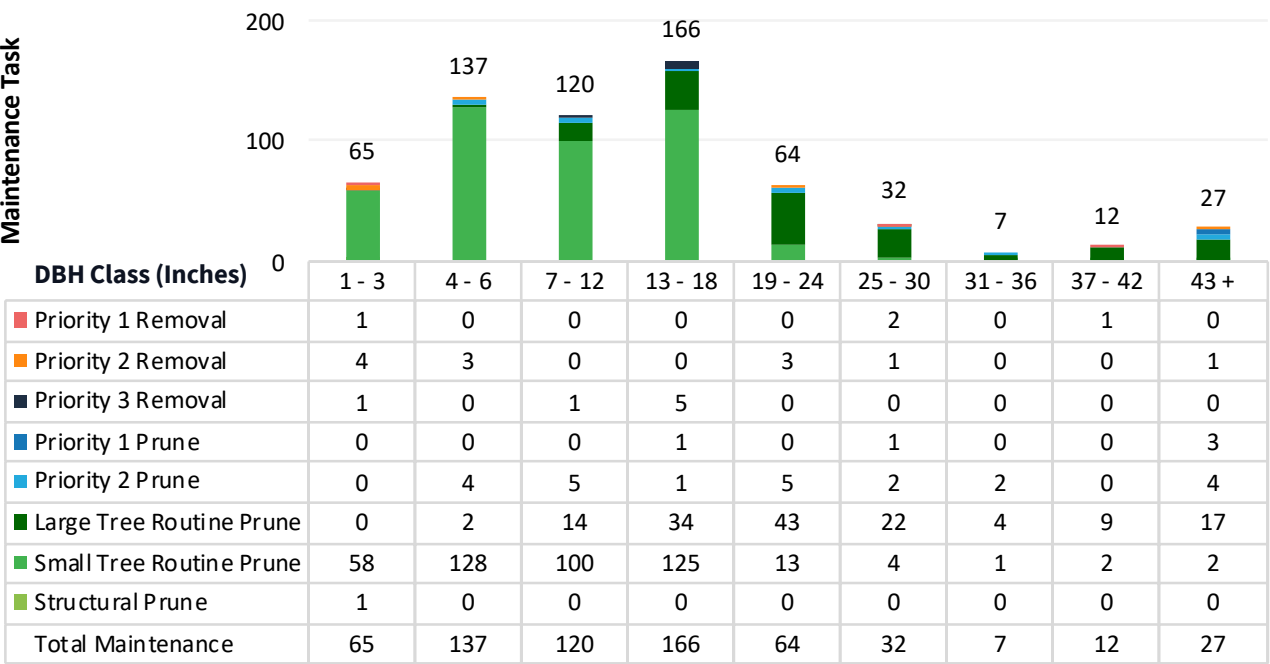
PRIORITY 3 REMOVAL

One hundred fifty four (154) street trees are recommended for Priority 3 removal (7 CITY: 147 PO). Trees with this designation should also be removed but have a lesser prioritization compared to the other removal categories and pose minimal liability to persons or property.

TABLE 6: SUMMARY OF STREET TREE MAINTENANCE NEEDS

| Maintenance Task                   | Diameter Class (inches) | Priority Removal |            |            | Priority Prune |            | Structural Prune | Routine Prune | Stump Grind/ Removal | Plant | Total  |
|------------------------------------|-------------------------|------------------|------------|------------|----------------|------------|------------------|---------------|----------------------|-------|--------|
|                                    |                         | Priority 1       | Priority 2 | Priority 3 | Priority 1     | Priority 2 |                  |               |                      |       |        |
|                                    |                         | Priority 1       | Priority 2 | Priority 3 | Priority 1     | Priority 2 |                  |               |                      |       |        |
| City-Maintained                    | 0 - 3                   | 1                | 4          | 1          | 0              | 0          | 1                | 276           | 3                    | 104   | 390    |
|                                    | 4 - 6                   | 0                | 3          | 0          | 0              | 4          | 0                | 283           | 0                    |       | 290    |
|                                    | 7 - 12                  | 0                | 0          | 1          | 0              | 5          | 0                | 357           | 1                    |       | 364    |
|                                    | 13 - 18                 | 0                | 0          | 5          | 1              | 1          | 0                | 252           | 3                    |       | 262    |
|                                    | 19 - 24                 | 0                | 3          | 0          | 0              | 5          | 0                | 130           | 5                    |       | 143    |
|                                    | 25 - 30                 | 2                | 1          | 0          | 1              | 2          | 0                | 71            | 0                    |       | 77     |
|                                    | 31 - 36                 | 0                | 0          | 0          | 0              | 2          | 0                | 27            | 0                    |       | 29     |
|                                    | 37 - 42                 | 1                | 0          | 0          | 0              | 0          | 0                | 20            | 1                    |       | 22     |
|                                    | 43 +                    | 0                | 1          | 0          | 3              | 4          | 0                | 43            | 0                    |       | 51     |
| Activity Total(s)                  |                         | 4                | 12         | 7          | 5              | 23         | 1                | 1,459         | 13                   | 104   | 1,628  |
| Adjacent Property Owner-Maintained | 0 - 3                   | 9                | 12         | 33         | 0              | 0          | 12               | 1236          | 16                   | 2,315 | 3,633  |
|                                    | 4 - 6                   | 9                | 12         | 30         | 7              | 4          | 1                | 1775          | 47                   |       | 1,885  |
|                                    | 7 - 12                  | 16               | 20         | 47         | 23             | 49         | 0                | 2023          | 46                   |       | 2,224  |
|                                    | 13 - 18                 | 4                | 19         | 16         | 17             | 31         | 0                | 1226          | 22                   |       | 1,335  |
|                                    | 19 - 24                 | 1                | 12         | 10         | 21             | 14         | 0                | 585           | 19                   |       | 662    |
|                                    | 25 - 30                 | 1                | 6          | 8          | 11             | 7          | 0                | 375           | 17                   |       | 425    |
|                                    | 31 - 36                 | 1                | 3          | 3          | 13             | 5          | 0                | 146           | 3                    |       | 174    |
|                                    | 37 - 42                 | 0                | 2          | 0          | 3              | 9          | 0                | 113           | 3                    |       | 130    |
|                                    | 43 +                    | 1                | 5          | 0          | 18             | 14         | 0                | 213           | 3                    |       | 254    |
| Activity Total(s)                  |                         | 42               | 91         | 147        | 113            | 133        | 13               | 7,692         | 176                  | 2,315 | 10,722 |
| Overall Total(s)                   |                         | 46               | 103        | 154        | 118            | 156        | 14               | 9,151         | 189                  | 2,419 | 12,350 |

FIGURE 6: CITY MAINTAINED STREET TREE PRIORITY MAINTENANCE



PRIORITY 1 PRUNE

One hundred eighteen (118) street trees require Priority 1 pruning (5 CITY: 113 PO). Priority 1 pruning generally refers to trees recommended for pruning to remove hazardous deadwood, hangers, or broken branches. These trees have broken or hanging limbs, hazardous deadwood, and dead, dying, or diseased limbs or leaders greater than 4 inches in diameter.

PRIORITY 2 PRUNE

One hundred forty nine (149) street trees were recommended for a Priority 2 prune (23 CITY: 133 PO). These trees need pruning to remove hazardous deadwood limbs greater than two, but less than four inches in diameter.

LARGE TREE ROUTINE PRUNE

One thousand four hundred forty four (1,444) trees are recommended for large-tree routine prune (145 CITY: 1,299 PO). Some trees with this priority maintenance level are in poor or critical condition. Trees with the lower condition ratings should be prioritized, because the condition of these trees might be improved through prompt response. For example, a tree in poor condition may require some management of mistletoe. If the mistletoe is removed, the condition of the tree may be improved with relief from this parasitic organism.

SMALL TREE ROUTINE PRUNE

Two thousand five hundred twenty seven (2,527) trees are recommended for small-tree routine prune (433 CITY: 2,094 PO). Small-tree care/pruning does not require many tools and can be completed in a relatively short amount of time, often from the ground.

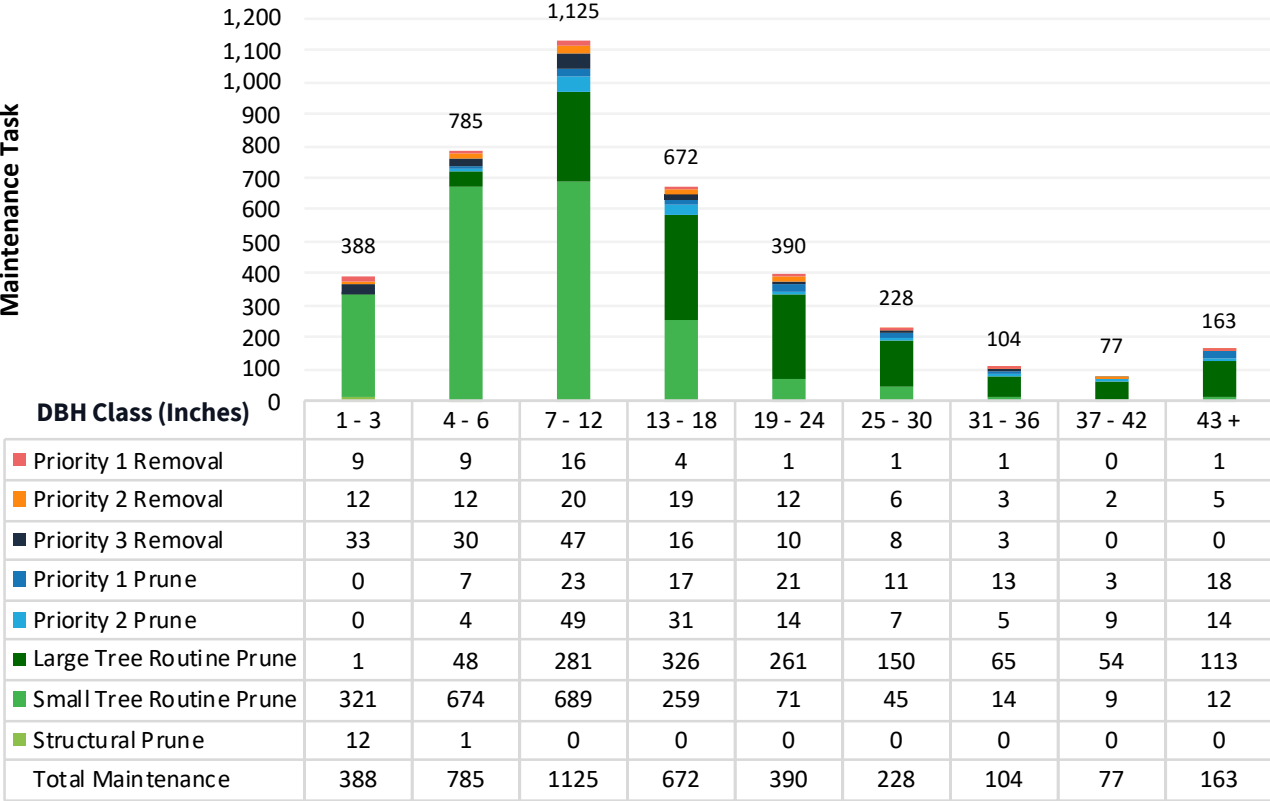
STRUCTURAL PRUNE

Fourteen (14) street trees require a structural prune (1 CITY: 13 PO). Training, defined as the selective pruning of small branches to influence the future shape and structure of a young tree. Training is important for young trees, as minor pruning cuts can improve the overall structure of a tree and can often reduce more significant maintenance needs as the tree matures.

STUMP GRINDING

One hundred eighty-nine (189) otherwise vacant tree sites require stump grinding (13 CITY: 176 PO). Once the stumps are removed, these sites should be confirmed as available for tree planting.

FIGURE 7: ADJACENT PROPERTY OWNER MAINTAINED STREET TREE PRIORITY MAINTENANCE



“The road and sidewalk layout throughout the City is not conducive to tree growth.”

Parks and Recreation Partner, City of Santa Cruz



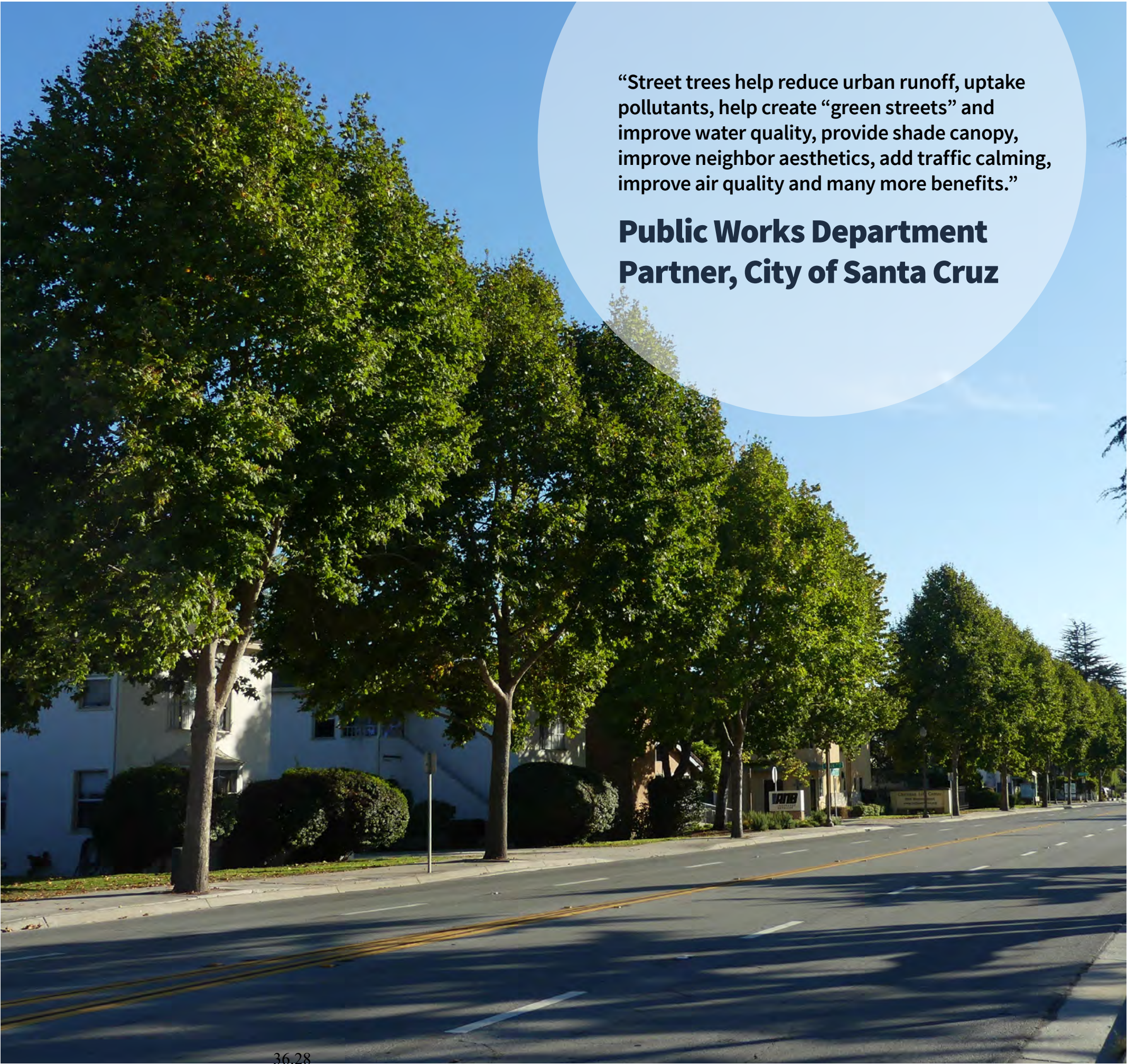
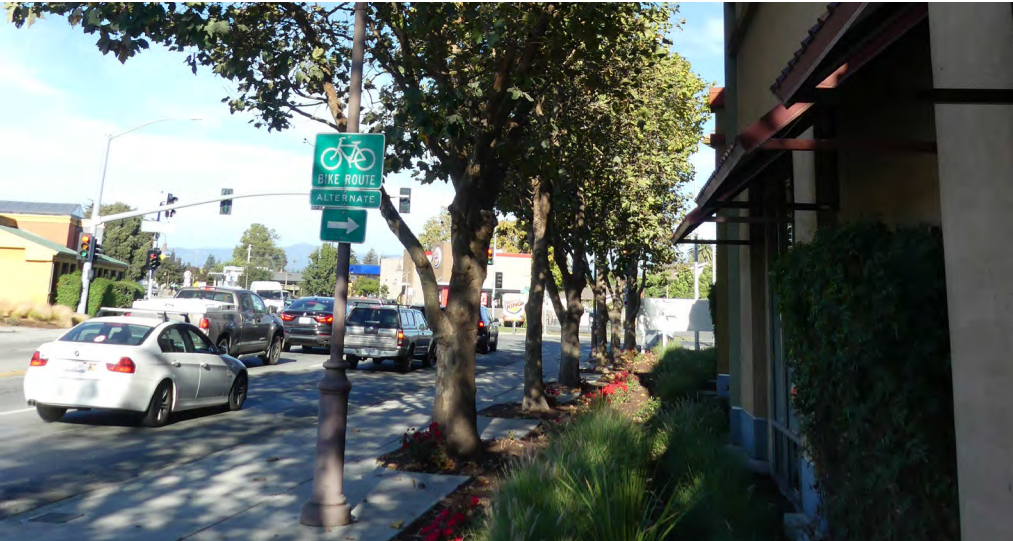
**Street Tree Program**

The Urban Forestry Office within the Department of Parks and Recreation has responsibility for the administration of the street tree program. Currently, the Urban Forestry Office employs one full-time Urban Forester, one full-time Parks Maintenance Worker, and one part-time, temporary staff member (1,000 hrs./year) as funding allows.

Prior to 2004, the City employed 5 full-time staff that focused on tree-related work: one forester, one assistant arborist, one administrative assistant, and a two-person tree crew. After 2004 administrative staff, the assistant arborist, and the tree crew were dissolved to the current staffing levels and funding was allotted for contractual tree maintenance. Intermittent furloughs and staff reductions in other departments often result in an increase in collateral work for the Urban Forestry Office, further impeding staff’s ability to keep up with permitting, plan review, code enforcement, public education and outreach, grant administration, and inventory management. In the future, the Department is hoping to focus more of the Urban Foresters time and energy to forestry management and canopy enhancement.

**Left:** Mission Street

**Right:** London plane trees on Mission Street  
photo credits Debbie Bulger and Richard Stover



“Street trees help reduce urban runoff, uptake pollutants, help create “green streets” and improve water quality, provide shade canopy, improve neighbor aesthetics, add traffic calming, improve air quality and many more benefits.”

**Public Works Department  
Partner, City of Santa Cruz**



Ideally, the Urban Forestry Office would employ two full-time Parks Maintenance Workers (or a combination of full-time and temporary staff), one full-time Administrator, one Assistant Arborist, and an Urban Forester in order to reallocate duties to better manage the current administrative and outreach workload as well as advance in permitting and cost recovery. The Urban Forestry Office provides the following services:

- Maintaining community trees along a subset of streets, in medians, and chokers/bump-outs
- Assisting private property owners with the maintenance of rights-of-way trees adjacent to private property along specific areas of the downtown surrounding Pacific Avenue, and arterials such as the Mission Street Caltrans corridor
- Overseeing the maintenance for community trees managed by other City Departments and Offices including trees in parks, at City facilities, and street trees adjacent to facilities and parking lots
- Granting permits for Heritage Tree and Street Tree Ordinances
- Tree planting and establishment
- Enforcing City Code relating to street trees
  - Informing private property owners of tree maintenance needs
  - Overseeing the Heritage Tree Ordinance
- Responding to emergencies (coordination, clearing the rights-of-way of tree debris)

- Seeking solutions to retain street trees when conflicts arise
- Planning and review for internal and development projects
- Inspecting sidewalks for root damage
- Contract monitoring for street tree maintenance (pruning, removal, stump grinding)
- Maintaining Tree City USA status
- Organizing the annual Arbor Day celebration
- Conducting community outreach and street tree giveaways
- Managing the tree inventory and permit data
- Coordinating with the Climate Action Program on common interests and projects
- Performing non-street tree related duties:
  - Enforcing Code related to private trees
    - i. Heritage Tree Ordinance
  - Administering the Heritage Tree Grant funds to assist property owners in the maintenance of private trees
  - Providing horticultural technical support
  - Stormwater reporting and management
  - Collaborating with Public Works in vegetation management of the San Lorenzo River corridor north of Hwy 1
  - Assisting with regulatory permits for fish and wildlife in riparian areas
  - Assisting with endangered species and biological consulting

- Conducting fire suppression and vegetation management

The Urban Forestry Office’s responsibilities extend to the overall urban forest, including trees in parks, streets, and city properties and facilities. Other departments and teams share responsibility for maintaining trees in specific locations, including the departments of Libraries and Public Works. Approximately 20% of staff time is dedicated to the maintenance of street trees. Most tree maintenance, including pruning and tree removal, is provided by professional tree contractors. Utility providers are responsible for tree maintenance in utility corridors (e.g. gas lines and overhead power lines). In residential and business areas, trees in the rights-of-way and adjacent to private property are maintained by the adjacent property owners with ordinance oversight by the Urban Forestry Office.

Currently, the street tree resource includes 9,742 trees. The city provides maintenance for 1,511 street trees (15.5%) and adjacent property owners are responsible for maintaining 8,231 street trees (84.5). The Urban Forester maintains authority for all street trees, including code enforcement and approval of permits for planting, pruning, root pruning or design modification for sidewalk repair, and tree removal.

The Urban Forestry Office is led by an Urban Forester and supervised by the Superintendent of Parks, both of whom are ISA certified arborists. Because most tree maintenance work is contracted, the City does not have a need for aerial lifts, bucket trucks, chippers, etc. Chainsaws are only used by trained personnel and all work is done from the ground with chainsaws, pole saws, and

pruners. Any equipment the Urban Forestry Office uses is owned by the City and shared between Departments. Training on equipment is performed in-house by supervisors or by the distributor. Documenting safety tailgates and trainings is done by supervisors under the ultimate oversight of the City’s Risk Management team. Staff are expected to inspect all equipment and vehicles before and after use. In addition, a Department mechanic ensures equipment is safe for use.

**TREE PRUNING**

In addition to the City, numerous parties are responsible for tree care, including private property owners, the state, and utility providers (electric, cable, phone, etc.). As a result, street trees are not currently maintained in a consistent manner nor on a regular cycle.

City-maintained street trees (currently 1,511 trees), including trees within medians, chokers, and in the public rights-of-way along designated arterials and the downtown area, are maintained under professional tree care contracts. Most pruning on city-maintained street trees is currently reactive, with the exception of trees on Pacific Avenue and side streets downtown (389) and on Mission St., which are pruned every one to two years. A parks maintenance worker supplements contract pruning in medians. According to Municipal Code, contractors must be licensed by the state (CA C27 and D49, California Code of Regulations), but do not have to be certified arborists. While most pruning conducted by contractors meets the City’s standards (as laid out in the Heritage Tree Ordinance), some trees do not receive adequate care. The Heritage Tree Ordinance allows for up to 25% of the canopy to be pruned without a

permit. Depending upon the age, condition, and species, the removal of 25% of living canopy can substantially impact tree growth.

Currently, the adjacent property owner is responsible for the maintenance, including pruning, for the majority of community street trees (8,231). At one point, the City maintained all street trees in Santa Cruz. The shift in rights-of-way tree maintenance to adjacent property owners (in 1985) has been to the detriment of the street tree resource. Resident responsibilities are clearly laid out in the Municipal Code and call for residents to only hire licensed tree care companies and follow standards for tree maintenance. Despite this, many residents are not aware of this responsibility and Municipal Code standards are not always followed. Some property owners prioritize proactive maintenance and hire licensed and certified arborists while others hire unaccredited parties, attempt tree maintenance themselves, or defer maintenance. The Urban Forestry Office places an emphasis on education and outreach to property owners so they better understand tree benefits and the value of the urban forest. In cases where pruning severely and negatively

affects street trees, the Urban Forester may cite the property owner for not using a licensed vendor. Citations are often complaint driven and largely dependent upon the neighborhood.

The Municipal Code specifies requirements for visibility, clearance, and sidewalk condition. Residents can submit service requests to the Public Works Department. If street trees violate requirements, the Public Works Department then collaborates with the Urban Forester to notify property owners of their responsibilities. The Urban Forester may post letters that indicate any Municipal Code violations and supports notifications sent by Public Works.

Pacific Gas & Electric (PG&E) manages trees located under utility lines and AT&T maintains trees under phone lines. Trees with overhead power lines should be directionally pruned by trained and authorized line clearance personnel only to provide clearance and/or reduce height. Tree species that regularly interfere with utility lines are subject to removal and replacement and the City coordinates with the utility provider for mitigation on site or by paying an in lieu fee to fund replanting elsewhere.

## EMPHASIZING THE BENEFITS OF TREE CANOPY ON BUSINESS SUCCESS

Santa Cruz's downtown is a business district, but it also serves as a gathering place for residents and tourists to enjoy community events, performances, and dining. Those interested in community art, fitness, or games are also drawn to the downtown area. The many local and unique retail stores also draw consumers (Downtown Association of Santa Cruz, 2020). In all, downtown Santa Cruz is a social and economic hub for the community.

Local businesses have expressed concerns over trees blocking views of signage. As a result, the City has some planning recommendations to prevent conflicts between signage and street trees (Eastside Business Improvement Plan, 1996; Downtown Plan, 2017). The City follows guidelines for species with compatible growth forms in these areas, specifically trees with high or narrow canopies. The City also gives special consideration to the Downtown Association, proactively pruning street trees in the downtown area to raise their canopies for increased sign visibility.

From a design perspective, trees with a narrow habit or with open and airy canopies and mature heights that are higher than business signs are preferred. Using sign designs that incorporate colors that contrast with the foliage as well as monument signs (i.e., ground signs) that are visible below the canopy. Traffic calming devices reduce speed and allow more time for people to notice the signage (Wolf, 2005).

Promoting trees in shopping areas is important, as there is growing evidence that trees are good for business. Visually, shoppers prefer locations with trees, but trees also influence shopper perceptions and behaviors. Shopping areas can stimulate stress and frustration in consumers when locating a product is difficult or overcrowding and time constraints occur. In these situations, trees can help decrease stress levels and restore attention (Joye et al. 2010). The frequency, duration, and willingness of consumers to travel a larger distance are all connected to the presence of trees in the retail area (Wolf, 2009). Consumers tend to spend more time and money on goods, an average of 11% more in landscaped areas (Wolf, 1998). In all, there is a need for future conversations addressing any misconceptions of street trees on business success and adapting signage to allow for the promotion of street trees in business districts.



**Left:** California Street

**Right:** Southern magnolia



### Tree Permitting

The Urban Forestry Office administers permits for the following:

- Tree planting in rights-of-ways
- Tree removal, including heritage trees on private property
- Tree pruning, greater than the percentage of canopy indicated in the Municipal Code, including heritage trees on private property

Permits are subject to the criteria stated in Municipal Code 13.30 and in the approved Resolutions to Municipal Code 9.56 Preservation of Heritage Trees and Heritage Shrubs (NS-23,710). All trees that meet the Heritage Tree or Street Tree requirements, whether they are on public or private land, are subject to the Ordinances.

Approximately 90% of tree permit applications are approved, but the turnaround time varies depending on the type of permit. Street tree applications are typically processed within 2-3 weeks and Heritage tree permits within 3-4 weeks. Heritage trees within the shoreline protection overlay require Coastal Permits which are processed by the Planning Department and are typically approved within 4-6 months. Processing time may vary due to permit volume.

### Tree Planting

The Urban Forestry Office coordinates with community volunteers to plant new and replacement street trees. The community advocates for tree lined streets and plays an active role in tree-planting events. Individuals and neighborhoods groups can contact the Urban Forester or the Parks and Recreation Department for a tree planting permit or to request street tree giveaways and neighborhood planting events. The majority of city-maintained trees are planted during community events with volunteers and city staff. On occasion, the city will contract tree planting.

Once a permit has been obtained, the City delivers the free street trees and marks the curb to identify where the trees should be planting. The Urban Forester provides expertise and educational documents on tree planting, including the Public Works Standard Planting Detail, but property owners are responsible for planting and caring for the trees. The City follows American Nursery Standards (ANSI Z60.1) for new tree plantings. On average, the City plants 250-300 trees annually through community partnership each year.

Since 2001, the City of Santa Cruz maintains an Approved Street Tree Planting List for trees planting along city sidewalks. The list is periodically reviewed and updated to reflect

evolving information on species performance, pests, and climate adaptation. The Approved Street Tree Planting List does not apply to medians or mitigation trees on private property. The Urban Forester maintains the authority to specify or approve species not on the Approved Street Tree Planting List with consideration for the umbrella policies provided in the General Plan and area plans.

The Urban Forester works to provide residents with their preferred species of tree. Occasionally, species selection is influenced by the planting palette for a specific area (see Area Plans section). Residents can request certain species that are not included in the Area Plan or Approved Street Tree List, but they must be approved by the Urban Forester. Species availability is also dependent upon current nursery stock. Local nurseries stock an assortment of species, but on occasion, some species of oak are not available. Other species, like paperbark trees *Melaleuca* spp.), perform well in Santa Cruz, but they are hard to source and therefore are not widely planted.

Tree planting is funded through the Tree Trust Fund, a City Fund generated through private donations, code enforcement revenue, and in lieu fees associated with tree removal when on site mitigation planting is not practical. In recent years, supplemental funding has allowed for a temporary increase in tree planting. Between 2018 and 2020, 500 additional trees were planted as a result of grant funding for canopy trees along streets, in medians, and parks. Tree planting also occurs annually in celebration of Arbor Day.

### RIGHT TREE RIGHT PLACE

The practice of installing the optimal species for a particular planting site is known as **Right Tree Right Place**. This planning philosophy considers the effects of trees as they grow on existing and planned landscapes, utilities, and other infrastructure. Factors to consider include planter size, soil characteristics, water needs, as well as the intended role and characteristics of the species. In many instances, conflicts and premature removal of trees can be avoided by considering the long-term consequences of planting a particular tree species in a particular place. Santa Cruz has been successfully practicing “Right Tree Right Place” for over 20 years. Large shade trees are planted where space allows and small-statured ornamentals are installed in more constrained sites.

Small statured palms and trees are recommended for use near and under power lines (PG&E, n.d.). Urban forest managers avoid and discourage the planting of palms in areas where they may conflict with power transmission lines. Some species of palm can reach substantial heights and if planted under power lines, must be removed because they cannot be directionally pruned to avoid contact. Palms are adapted to withstand high wind events, but the fronds are commonly bent toward or carried in the direction of the wind. If power lines are in their line of movement, problems can occur upon contact. Palms are called for in area plans along the beach frontage and on Morrissey Blvd. In other areas many Santa Cruz residents prefer shade trees over palms.

**If a jacaranda (*Jacaranda mimosifolia*) were planted as a street tree and lived for 20 years, it would provide numerous environmental benefits including sequestering 2,064 pounds of CO<sub>2</sub>, preventing 13,169 gallons of rainfall runoff, and intercepting 9 pounds of air pollutants.**

**from i-Tree Design**



There are a number of trees in the inventory that were planted prior to the adoption of Right Tree Right Place policies, including several large stature species planted in spaces that are too small, resulting in infrastructure conflicts (e.g., sidewalks, drainage, and utilities) or visibility problems. The City has identified several key species in Santa Cruz that regularly conflict with infrastructure and therefore need large planting spaces such as redwoods (*Sequoia sempervirens*) and eucalyptus (*Eucalyptus* spp.). In some cases, repurposing of streets and bike lane improvements have reduced planting space exacerbating this problem. In other instances, unpermitted planting and replacement of street trees has resulted in inappropriate placement.

The City’s Downtown Plan provides examples of species that are known to conflict with sidewalks (e.g., Privet or *Ligustrum*) and the City avoids planting ash (*Fraxinus* spp.) and sweetgum (*Liquidambar* spp.) for this reason. These species, along with species that have been identified as poorly adapted (e.g., Victorian Box or *Pittosporum*), are avoided. Several of the Area Plans recommend the incorporation of native tree species, but the City recognizes that many native species lift and damage infrastructure. Therefore, coastal live oak (*Quercus agrifolia*) is the only native species widely planted as a street tree and other native species are incorporated into medians, wide street side rights-of-ways, or other public areas that have sufficient space.

The Urban Forestry Office collaborates with Public Works to find creative solutions and explore new technologies to incorporate street trees into more confined urban areas.

Irrigation

The City is responsible for watering city-maintained street trees, the majority of which do not have irrigation systems. The Parks and Recreation Department has placed an emphasis on planting more drought tolerant species. The City is responsible for watering new trees during establishment, which is more difficult in areas that lack existing irrigation. New street trees are watered with the City’s shared water tanker (300-gallon tank). Overall, approximately 70% of median tree plantings are watered by hand. Due to time constraints, street trees planted with recent grant funding are watered by contractors. Other strategies such as water bags, mulching, and informal neighbor adoption are also utilized.

Residents are responsible for watering street trees adjacent to private property. This causes some concern about high water bills, which can become a disincentive to planting new street trees.

Santa Cruz receives around 31 inches of rainfall each year, mostly between November and March. In recent years, droughts have occurred more frequently and can sometimes be severe. As a response to previous droughts, water has been restricted. In dry years, supplemental water is needed to ensure tree health. Unlike turf and other vegetation, when trees are damaged or killed by drought, it can take 15 years or more to reestablish a new tree in addition to the lost benefits.

Right: Pacific Avenue





Tree Removal

A permit is required by ordinances 13.30 and 9.56 for the removal of a community street tree or the removal of a heritage tree on public or private property, including for emergency removals. The Urban Forester has the authority to cite property owners for the illegal removal of street trees or heritage trees. When a tree is removed without a permit, mitigation requirements are increased. Property owners must request a dead tree verification permit to ensure the tree being removed is in fact dead.

Heritage trees on public and private property are protected by the Heritage Tree Ordinance. Per Ordinance 13.30, street tree removal is warranted when the proposed action is necessary to protect the curb, gutter or sidewalk or to protect the public health and safety. Heritage tree removals are warranted when the tree has, or is likely to have, an adverse effect upon the structural integrity of a building, utility, or public or private right of way; the physical condition or health of the tree warrants removal; or a construction project design cannot be altered to accommodate existing heritage trees. Heritage tree removals require a permit and a notification of removal must be posted

to give citizens an opportunity to appeal the removal. Appeals are heard by the Parks and Recreation Commission or Planning Commission (for trees within the Coastal Zone). Decisions of the Commission may be appealed to the City Council. If trees are approved for removal, then the mitigation requirements must also be completed.

Although current mitigation requirements do not fully account for the loss of a tree, the relatively low fees help ensure that residents comply with the mitigation requirements. When trees cannot be replanted on site, mitigation fees are applied to the Santa Cruz Tree Trust Fund, which provides funding for tree planting on public property throughout the City.

Wood chips generated from the maintenance or removal of city-managed trees are used at dog parks and in parks and medians. Some supervisors purchase wood chips rather than using the generated wood chips. Woody material 15 inches in diameter and larger goes to the landfill. In some instances, redwoods are repurposed.

Left: Fence at Laurel Park play area  
Right: Bridge to Parks Maintenance Yard at Harvey West Park



SOLAR ENERGY AND TREES

Promoting both trees and solar energy production can help communities advance in resource efficiency, yet in many cases trees and solar compete for the same space. Tree branches can shade roofs resulting in blocked light that would otherwise reach a rooftop solar array. This can lead to conflicts between neighbors and may result in tree removal or pruning.

Solar energy has been promoted and developed in Santa Cruz since the 1980s and is a leader in solar energy. In the past decade, Santa Cruz implemented the Solar One Project focused on promoting solar energy throughout the community. Recently, three solar parking lot canopies were constructed at the Santa Cruz Police Station, City Hall, and DeLaveaga Golf Course. The City estimates these solar arrays will substantially decrease pollution and emissions that result from traditional power sources and save over \$4 million in energy costs over its25 year lifespan (City of Santa Cruz, n.d.d).

The City of Santa Cruz encourages solar initiatives and is expanding on them in future Climate Action Plans. Currently, solar is also promoted for individual customers in Santa Cruz, both residential and commercial, as part of the same Go Solar Santa Cruz initiative. There are occasional conflicts between trees and solar arrays in Santa Cruz and there is increasing concern that if existing trees are removed, their replacement will be more difficult due to the potential conflict. Currently Municipal Code Title 24 Zoning requires property owners "maintain a compatible relationship to and preserve solar

access of adjacent properties" and California Shade Act guidelines are followed. There is concern among Parks and Recreation staff that Santa Cruz may experience a reduction in tree canopy due to future solar energy infrastructure conflicts. Although current trees are protected by the Act and the City’s Heritage Tree Ordinance, if trees are removed, the subsequent incorporation of solar infrastructure may prevent large canopy shade trees.

The City will continue to evaluate the potential for community solar opportunities. Community solar gardens are an alternative to small residential rooftop solar, where multiple parties own or lease a portion of an offsite solar system. The concept of shared solar, allows a greater number of people access to solar energy, due to limitations in owning suitable roof space (e.g. shading or poor orientation). In community solar models, those involved receive credits on their utility bills that correspond to the portion of the energy that is produced (Residential Consumer Guide to Community Solar, 2016). The solar array can be strategically implemented in a space that allows for maximum energy production as well as integration with the grid (Office of Energy Efficiency and Renewable Energy, n.d.).

As the amount of solar energy infrastructure increases, conflicts between solar and trees will continue to rise. Rather than a dotting of solar arrays spread throughout a community, shared solar allows for the aggregation of solar panels and has the unintended benefit of reducing solar and tree conflicts.



Emergency Response

The Santa Cruz Fire Department coordinates city-wide Emergency Operations Center (EOC) and provides protocols for emergency response. Staff from the Parks and Recreation Department attend meetings where multiple Departments assess damage and determine an appropriate response plan.

The City is responsible for clearing the rights-of-way after storm damage occurs. After hours on-call staff (made up of volunteer City maintenance staff) clear fallen branches or restrict public access until a contractor can complete the work. The City does not have any staging areas or debris storage areas, so during large storm events material may be piled on or near site with proper delineation for public safety for approximately one week before a contractor chips the material. When possible, tree debris is moved to an area that can be blocked off (e.g., parking spot), but in some cases when trees are privately owned, debris is piled on the private property adjacent to the damaged tree. In situations where a chainsaw and ground work cannot clear the debris, contractors are needed and their assistance is coordinated by the Urban Forester.

WILDFIRE—WILDLAND URBAN INTERFACE

Vegetation management for fire hazards may also be part of emergency response. Less than 1% of street trees are in fire prone areas of Santa Cruz, the Urban Forester is involved with routine and emergency fire mitigation activities. If emergency removals are necessary or public safety concerns arise, utility providers, fire, police, public works officials, or the Urban Forester coordinate to remove the trees or otherwise mitigate the hazard.



Top: Brookwood Service Road in DeLaveaga Park  
Bottom Left: Wood grain on a stump  
Bottom Right: Sweetgum storm damage



“No one knows exactly when or where the redwood entered the history of life on earth, though it is an ancient kind of tree and has come down to our world as an inheritance out of deep time.”

Richard Preston



## SEA LEVEL RISE AND TREES IN SANTA CRUZ

A steady rise of sea levels has occurred through much of the last century but has recently been exacerbated with an increase of nearly 3 inches in the past 25 years (Lindsey, 2020). In the United States, this phenomenon has been seen most clearly along the eastern U.S. where freshwater wetland ecosystems have shifted to salt marshes. This phenomenon is not unique to the southern and mid-Atlantic coastal forests but is also occurring in other parts of the world (Drouin, 2016). Sea level is projected to increase up to 6 feet in the foreseeable future, which will likely have significant impacts on coastal cities such as Santa Cruz (Map 2<sup>6</sup>).

The trees that once dominated wetland areas that now have salt intrusion are stressed, dying, or dead depending on their salt tolerance level, the duration of exposure, and the concentration of salt. Initially, trees cease growing when exposed to salt water, but continued exposure leads to death in many species.

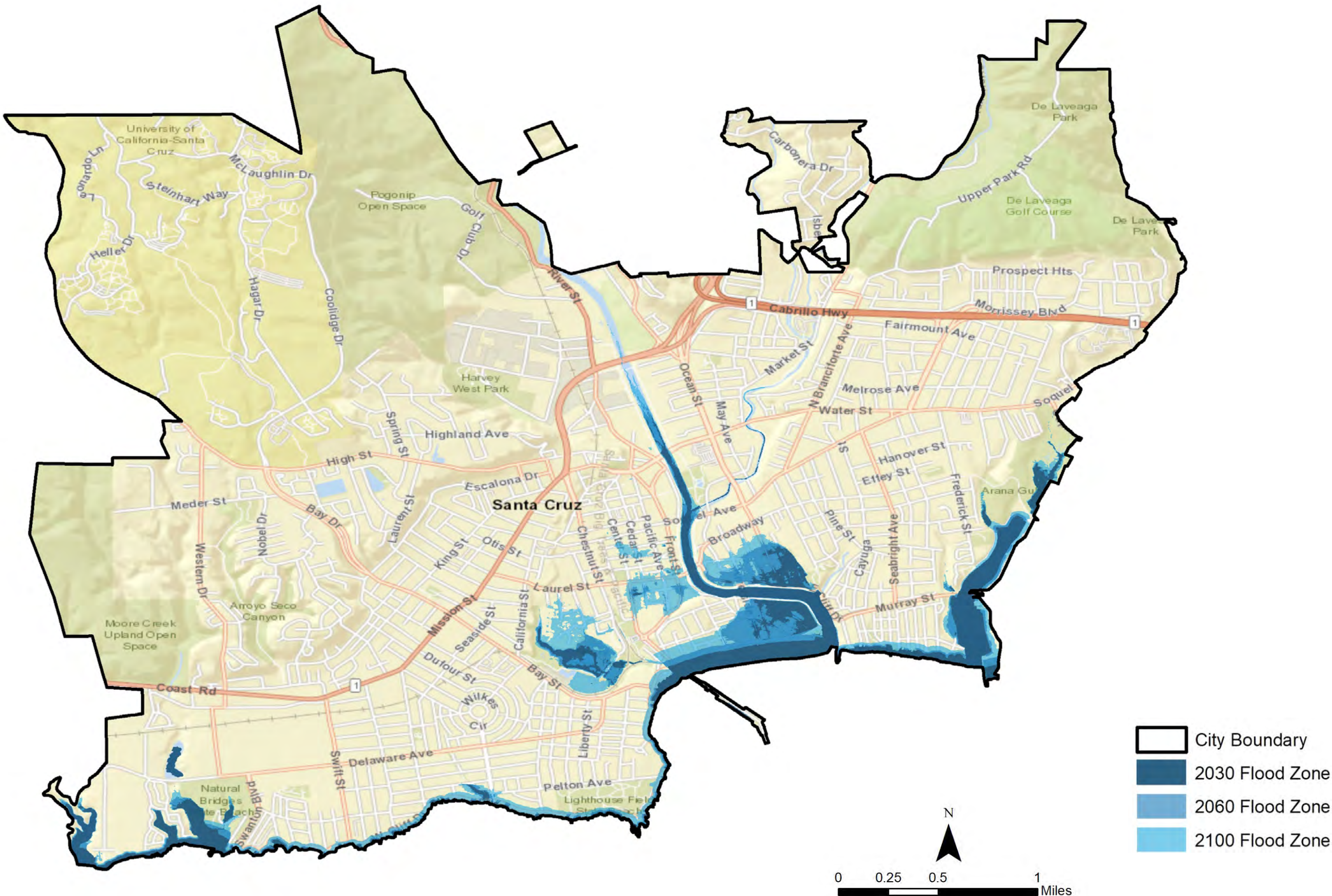
In Santa Cruz, the San Lorenzo River brings fresh water into the Pacific Ocean. The tidal influence and amount of saltwater present in the estuary is dynamic and dependent upon the river flow and weather events, but the impact of saltwater intrusion will not only impact these wetlands. The City's General Plan, Local Hazard Mitigation Plan, and Climate Adaptation Plan (2018) map FEMA flood zones and identify areas in Santa Cruz that are most vulnerable to saltwater intrusion. Sea level rise, erosion and coastal storm flooding are also projected in the Climate Adaptation Plan and

more current Resilient Coast Santa Cruz Initiative (2019-2020). Without intervention, Inundation is projected in low lying areas such as Beach Flatts and downtown Santa Cruz.

Although the City has not yet faced street tree mortality as a result of flooding, erosion or saltwater intrusion, the potential is there (City of Santa Cruz, 2012, 2018). Recognizing the threat of saltwater intrusion, the City is already working to incorporate more salt tolerant tree species into high risk areas. One of the neighborhoods that is at most risk of flooding is interested in planting fruit trees. The City is trying to find ways to provide this neighborhood with the trees they want while planning for mitigation in the case of salt damage. Here, they have installed stormwater pumps and large planter boxes. Sea level rise and stormwater surges are a real threat and the City is exploring ways to move forward with equitable solutions in policy and infrastructure planning and implementation.

Trees can be tested for salt tolerance using experimental trials where irrigation water is modified with different concentrations of salt. Although most of the species planted in Santa Cruz have not been tested for salt tolerance, silk tree, Deodar cedar, Japanese boxwood, juniper, olive, pinyon pine, hawthorn, Chinese tallow tree, and California fan palm were more tolerant when compared to other species (Wu et al. 2001). These species may be good choices for incorporation into high-risk areas of Santa Cruz.

MAP 2: PROJECTED SEA LEVEL RISE IN SANTA CRUZ



<sup>6</sup> Disclaimer: The data utilized for the Projected Coastal Climate Hazard zones were collected from various sources and are not to be construed as "legal description." This information is intended to be used for planning purposes only. Site-specific evaluations may be needed to confirm/verify information presented in these data. Inaccuracies may exist, and the City and Central Coast Wetlands Group (CCWG) imply no warranties or guarantees regarding any aspect or use of this information. Further, any user of these data assumes all responsibility for the use thereof, and further agrees to hold the City or CCWG harmless from and against any damage, loss, or liability arising from any use of this information.





### Community Engagement and Outreach

Starting as early as the 1970s, the urban forestry program in Santa Cruz has continually played a role in outreach and education. This long-standing relationship with residents and community partners is illustrated by the many volunteers who help during tree planting events and engage in outreach programs held by the Urban Forestry Office. Currently, the Urban Forestry Office and the Parks and Recreation Department are active at annual events and engage the community on many levels.

#### ANNUAL EVENTS

- Arbor Day events are centered around tree planting and education and the ceremonial reading of a mayoral proclamation. The annual Arbor Day event is often hosted in collaboration with Horticulture students attending Cabrillo College. Each year they plant 20 to 30 trees along streets, in natural areas, and parks. The City will host additional tree planting and educational events if other groups such as the Boy Scouts are interested in participating in an Arbor Day activity.

- Earth Day events are celebrated at a community festival to highlight the City's greenbelt and tree programs. The Parks and Recreation Department booth contains informational handouts and seedling giveaways. The Urban Forester interacts with the community around the importance of caring for the urban forest. Topics such as planting the right tree in the right place, common pests, right way to trim a tree/

proper pruning, the importance of hiring an arborist, and energy conservation are commonly covered.

- The Downtown Santa Cruz Significant Tree Walk is led by the Urban Forester. The walk highlights 25 significant trees in the downtown area, most of which are heritage trees on private property. The common name, scientific classification, fun facts about the tree, and history of the community are presented. Participation is always high and the community appreciates the walk.
- The Parks and Recreation Department celebrates July as Parks and Recreation month where they host free activities.

Santa Cruz has an engaged and active public that participates in tree planting events and activities to celebrate the urban forest. While most volunteers are students, residents and environmental nonprofits also participate in volunteer activities. Although there has not been a consistent nonprofit organization involved in the urban forest events.

#### OTHER ENGAGEMENT

The Parks and Recreation Department has a strong following and a well-curated media presence. The Parks and Recreation Department posts information on the Heritage Tree Grant Program<sup>7</sup>, neighborhood tree planting events, and any outreach events that the Urban Forestry Office is hosting on social media (e.g., Facebook, Instagram). In addition, information is posted on the city websites and further distributed by a city-wide communication staff.

Currently, the city webpage has tree-related information centered around permitting and regulations. The Department webpage advertises annual events and other outreach activities such as volunteer events centered around urban forestry. Increasingly, the community looks to the city webpage as a resource. Staff recognize that a more robust city webpage for tree-related information would be beneficial for providing quick and accurate answers to residents. A tree-related page could further engage and educate the community about the urban forest. Incorporating educational materials about the benefits of trees, the state of the urban forest, tree care operations, tree selection (the Approved Street Trees List), or information on how property owners can best care for trees into the City website would provide another avenue to promote community involvement in the urban forest.

**Bottom:** California fan palm along Morrissey Blvd, many have been replaced with Mexican fan palm for disease resistance



### Disease, Pest, and Weed Management

Trees are inspected for pests and diseases upon complaint, but property owners are responsible for any management. The Urban Forestry Office follows the City Integrated Pest Management Guidance Manual and only uses cultural methods to prevent pest and disease problems. Namely, the Urban Forester avoids monocultures, tracks species that experience pest or disease issues, and avoids planting species that are known to have problems. For example, pears (*Pyrus spp.*) and California fan palm (*Washingtonia filifera*) are not planted due to consistent disease problems in the past.

In some instances where sucking insects are causing a sticky film on surfaces underneath the tree canopy, a forced stream of water is used to dislodge the insects and wash away the sugar residues. Tanglefoot® or natural predators may also be used. The Urban Forestry Office does

**Fold Top:** Coastal live oak grove on Oak Way

**Fold Bottom Left:** Dormant trees on Roosevelt Terrace

**Fold Bottom Right:** London plane trees on Mission Street

<sup>7</sup>When available, these funds are used to assist property owners in maintaining any heritage trees on their property and for street tree maintenance (e.g., pruning, cabling) and sidewalk repairs in the rights-of-way.



not have specific funding for pest or disease management, however significant outbreaks can be addressed using existing resources.

Despite routine hand-pulling and mowing of weeds, Parks and Recreation staff are not able to control weedy plants that pose a threat to City infrastructure. Therefore, exemptions to the City’s IPM policy are periodically requested for the targeted use of herbicides in medians, traffic islands, and chokers/bulb-outs in designated locations throughout the City. Applications are conducted in a manner that does not pose a threat to street trees, wildlife, or the public.

SUDDEN OAK DEATH

**Sudden oak death** (caused by the pathogen *Phytophthora ramorum*) is documented in many coastal counties of California and has been detected in Santa Cruz county (California Oak Mortality Task Force, 2020). The City of Santa Cruz Park Master Plan 2030 identifies this disease as a threat and calls for action to prevent the spread of this disease. In susceptible hosts, the pathogen can become systemic and girdle trees as quickly as one year after infection (Daugherty and Hung, 2020). Of Santa Cruz’s most abundant species, coastal live oak (*Quercus agrifolia*) is highly susceptible to sudden oak death and incurs high mortality rates upon infection. Sudden oak death has not been a significant problem to date, though cases have been observed in the open spaces.

FIRE BLIGHT

**Fire blight** is a disease caused by the bacterium *Erwinia amylovora* which is an active pathogen in Santa Cruz’s urban forest. Fire blight can infect

over 150 plants in the *Rosaceae* family. Some street trees in Santa Cruz are vulnerable to fire blight including apples (*Malus*), pears (*Pyrus*), quinces (*Cydonia*), hawthorns (*Crataegus*), and mountain ash (*Sorbus*) (Koski and Jacobi, 2014). This disease can result in blighted branches or limb dieback, or tree death (Teviotdale, 2011). The symptoms include branches bent over resembling a shepherd's crook, which contain dead foliage or shriveled fruit. Street trees with fire blight are typically pruned rather than removed. To avoid the spread of the disease, managers should plant resistant trees and use proper sanitation while pruning or removing infected trees.

PITCH CANKER

**Pitch Canker** is a disease of pine species caused by the fungal pathogen *Fusarium circinatum*. Monterey pine is most severely impacted by pitch canker, but a wide range of other native and exotic pine species are also vulnerable. First discovered in Santa Cruz County in 1986, this disease is adapted to the mild climate experienced in the central coast of California. The pathogen causes discrete cankers which can cause seedling die-off or branch and tip dieback in established and mature trees (Swett and Gordon, 2013). The fungus does not spread within the tree, but multiple infection sites coupled with increased susceptibility to pest infestations, can block the flow of nutrients and cause tree death. Proactively management can help to slow or control the disease (i.e., minimizing the spread and removing diseased branches).

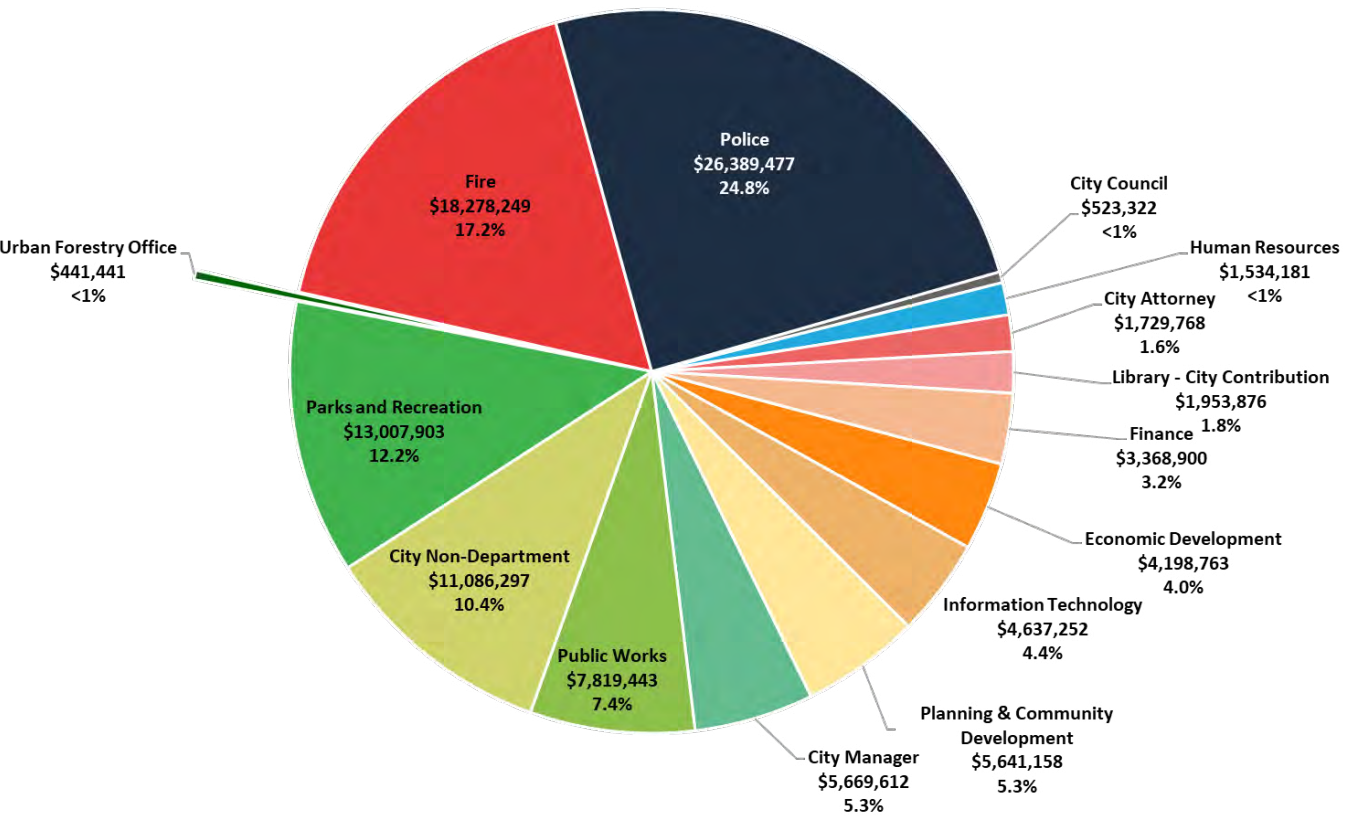
Funding

Stable and predictable funding is critical to effective and efficient management of an urban forest. Trees are living organisms, constantly growing and changing over time and in response to their environment. There are a number of factors that affect tree health and structure, including nutrition, available water, pests, disease, wind, and humidity. In addition, some specific maintenance is critical at certain stages of life. For instance, young trees benefit greatly from early structural pruning and training. Minor corrections that are simple can be applied with low costs when a tree is young. However, if left unattended, they can evolve into very expensive structural issues and increase liability as trees

mature (at which point it may be impossible to correct the issue without causing greater harm). Over mature trees often require more frequent inspection and removal of dead or dying limbs to reduce the risk of unexpected failure. A stable budget allows urban forest managers to program the necessary tree care at the appropriate life stage when it is most beneficial and cost effective.

The majority of street tree operations are funded through the General Fund (Figure 8). All Departments funded through the General Fund have experienced reductions in their budgets since the early 2000s, including the Urban Forestry Office.

FIGURE 8: FY2020 GENERAL FUND OPERATING COSTS





Annual funding for urban forestry in Santa Cruz has followed larger economic trends (Figure 9). In 2004, the Urban Forestry Office employed five full-time employees including a tree crew. Staff were responsible for facilities management duties for a short time (2005 through 2007) before Public Works assumed responsibility. In 2006, the crew was reduced to an Urban Forester and, in general, funding continued to decline until 2014. When funding was the lowest (2010) the Urban Forester position became part-time. When it was restored to a full-time position in 2011, one third of the costs were funded by other City Departments (i.e., Public Works and Planning). In 2016, funding was restored to the Urban Forestry Office to support new prevailing wage requirements. The 2021 increase in urban forestry funding is a result of dedicating one Parks Maintenance Worker position to urban forestry duties and accepting Liability Funds to support hazard tree maintenance.

The **Tree Trust Fund** provides funding for planting City-maintained trees as well as rights-of-way trees adjacent to private property throughout Santa Cruz. Funding for the Tree Trust Fund is generated through private donations and revenue from citations and mitigation fees (for the removal of Heritage Trees on private property and the removal of street trees by utility providers when replacement plantings cannot be done at the removal site). Each year approximately \$15,000 from this fund are used to purchase trees for public property across the City, some of which are street trees. Grant funding, including this CAL FIRE grant, is used to supplement street tree planting and other urban forest operations.

The **Liability Fund** is a City of Santa Cruz fund directed toward risk management. The Liability Fund has been used to support hazard mitigation of blue gum trees and transferred dedicated funds to the Urban Forestry Office in fiscal year 2021.

Street tree funds are used to support staff salary and benefits, equipment, supplies, services, materials, contract maintenance and tree removals or city-maintained trees along medians, in chokers, and in the designated rights-of-ways (e.g., Downtown Area, and some arterials) (Table 7).

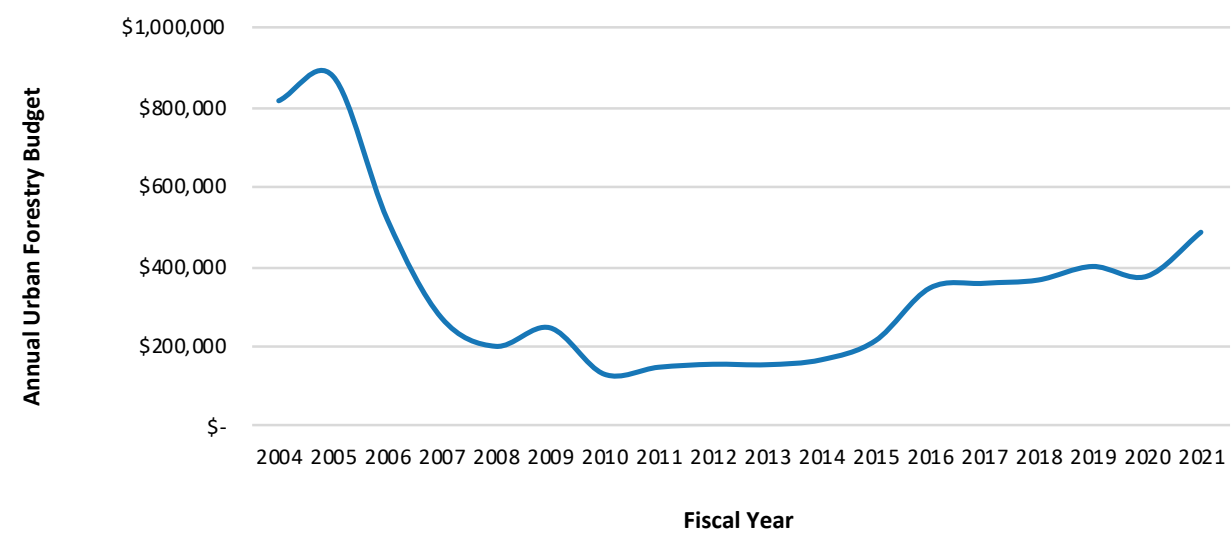
TABLE 7: 2021 URBAN FORESTRY PROGRAM FUNDING

|                                  | Total Urban Forestry Budget (\$) | Street Trees Portion (\$) |
|----------------------------------|----------------------------------|---------------------------|
| Parks and Recreation Department  |                                  |                           |
| Urban Forestry Office            | 502,000                          | 240,000                   |
| Other Parks and Recreation Units | 141,000                          | -                         |
| Other City Departments           |                                  |                           |
| Other Departments <sup>8</sup>   | 124,000                          | 39,000                    |
| Total                            | \$767,000                        | \$279,000                 |

Bottom: New Street



FIGURE 9: HISTORICAL URBAN FORESTRY FUNDING





Partners

While managing the community street tree resource is primarily the responsibility of the Urban Forestry Office, a number of internal departments and teams share responsibilities for tree management, regulation, advocacy, and planning. The Urban Forester regularly interacts with staff from other Departments to obtain grants that incorporate street trees and projects that involve street trees. Urban forestry staff members make a large impact and have strong rapport with other City Departments. Collaboration is common during design and problem solving around tree and infrastructure conflicts to ultimately find solutions that improve the streetscape. Furthermore, staff from across Departments recognize that street tree and urban forest goals support other City initiatives and work toward policies that transcend guiding and planning documents. Thirteen stakeholders contributed to the development of the Street Tree Master Plan, including the following groups and individuals:

- Parks and Recreation Department
- Public Works Department
- Planning and Community Development
- Human Resources Department
- City Manager's Office, Climate Action Program
- California Department of Forestry & Fire Protection
- California Urban Forests Council
- Pacific Gas & Electric Company
- City leadership

These partners provided important information about the current function of the Urban Forestry Office and furthering the congruence between the Urban Forestry Office and others involved in tree management. Concerns, requests, and suggestions from all stakeholders were of primary interest and were provided full consideration in the development of the Plan. The following information summarizes the challenges and opportunities that were identified by stakeholders.

PUBLIC WORKS DEPARTMENT — ENGINEERING

Within the Public Works Department, Engineering is responsible for maintaining and improving Santa Cruz’s public rights-of-way as well as reviewing land development proposals that impact the rights-of-way. As such, the Department manages the Capital Improvement Program for streets, sidewalks, curbs, gutters, sewer, and storm drains. Public Works receives service requests for infrastructure repairs. When trees damage hardscapes or impede visibility in the rights-of-way, Engineering Staff collaborates with the Urban Forester. Property owners are notified by letter when sidewalk repairs are mandated due to tripping hazards or impassable sidewalks. The Urban Forester addresses the service requests and acts as a liaison to the community during problem solving around tree and infrastructure conflicts. Challenges and opportunities include the following:

- Property owners are responsible for the cost of repairs that result from tree roots buckling or lifting sidewalks adjacent to their property. Most residents are not aware of this responsibility. Mitigation varies by property owner where some elect to reroute

sidewalks and implement bump-outs, but other residents rely on personal insurance and prefer to avoid the repairs because they can be costly.

- Whenever possible, the City works with community members with a strong desire to preserve rights-of-way trees by using mitigation techniques and alternative designs to avoid tree removals. Efforts made to preserve existing trees include root pruning, root barriers, redirecting the sidewalk, and implementing bump-outs when the street and drainage designs are conducive.
- Conflicts can arise between trees and underground utilities. The Urban Forester works routinely with Public Works staff to assess and address such concerns. Criteria in the existing ordinance allow for tree removal when conflicts cannot be mitigated.
- Property owners that request sidewalk cutouts to incorporate street tree plantings are responsible for funding the project. Because this is more cost restrictive, it has decreased the number of neighborhood tree planting events.
- To comply with American Disabilities Act (ADA) and California Building Code (CBC) standards, the Public Works Department does not allow for street tree planting where sidewalks are too narrow. This limits opportunities for street tree plantings. In some instances, tree grates may be approved or plantings may be done at the back of the sidewalk. The City is also exploring other opportunities to incorporate

Right: Sidewalk on Lennox Street modified to protect a heritage Monterey cypress

trees through alternative planter designs (Gilman, 2006; Smiley, 2008; Appendix E). The City’s street tree planting specification also does not meet the CAL FIRE standard for future grant funding.

- Some tree species are more prone to infrastructure conflicts (e.g., redwoods and eucalyptus). Considering mature tree stature can reduce conflicts, including raised sidewalks and streets.
- The City avoids removing trees whenever possible during capital improvement projects. Sometimes tree removals are needed and the City decides whether to conduct an Environmental Impact Review. These reviews are costly but are prioritized in instances where community members use the California Environmental Quality Act (CEQA) to start lawsuits.
- It is common for building and sidewalk configurations in redevelopments to be implemented around protected trees. With more long-term vision, the funds could be redirected to support designs that allow the incorporation of more trees, even if some trees have to be removed in the process.
- There is a desire from staff in multiple departments to collaborate on updating the standards, details, and specifications for tree planting.





**PUBLIC WORKS DEPARTMENT –  
STORMWATER**

The Storm Water Division is responsible for the storm drain system and implementing low impact development requirements that can help to control flooding. Trees are considered in planning meetings and plan reviews, but the majority of stormwater projects have not included trees specifically. However, many small residential development projects do disconnect the roof downspouts so that these discharge onto splash blocks that direct the roof runoff to landscaping. When possible, trees are implemented into stormwater designs and the Urban Forester will specify the tree species to be incorporated into stormwater systems. The City has several successful stories where stormwater was diverted toward existing trees and significantly enhanced their condition. Currently, there are several examples of stormwater designs that incorporate trees in Santa Cruz (e.g., bioretention facilities or bioswales), but there are opportunities to expand the use of trees in stormwater management to promote greater stormwater retention and improve water quality. Challenges and opportunities include the following:

- Currently trees are not typically included in curb cuts where the stormwater runoff is directed toward landscaping. The City uses the plant list provided by Central Coast Low Impact Development Initiative and although this document contains reasons to incorporate trees in low impact designs, trees are not included in their plant list.

**Left:** City parking lot at Cathcart and Cedar Streets  
**Right:** Bioswale on Tosca Terrace

- Including trees is not the typical recommendation for stormwater infrastructure because some shrubs and perennials use less water. Therefore, tree establishment and supplemental irrigation may limit the incorporation of trees in stormwater infrastructure.
- The City’s catch basin projects typically do not provide enough space for trees to be incorporated and sometimes the catch systems use liners to prevent contaminants from entering the groundwater. Liners and other underground features cause tree root conflicts and prevent the incorporation of trees.





**PLANNING AND COMMUNITY  
DEVELOPMENT DEPARTMENT —  
PLANNING**

The Urban Forester reviews all design plans, regardless of whether street trees are included. When designs impact trees, the Urban Forester collaborates regularly with other Departments and provides input on whether to remove or protect a tree in place and identifies the best options for the incorporation of new trees. Challenges and opportunities include the following:

- The city is built out and the road and sidewalk layout throughout the City is not conducive to tree growth (i.e., existing tree wells are relatively small). This makes the incorporation of additional planting spaces and maintaining mature trees difficult.
- The continued increase in urban density has resulted in expansions to urban infrastructure. Infill development and redevelopment projects are expected to continue as Santa Cruz grows, which poses one of the biggest challenges for Santa Cruz’s street trees.
- Parkways are considered in all redevelopment projects, but they are only implemented when feasible, and in many cases they are not possible.
- Identifying opportunities to expand street tree planting opportunities is important to meet tree canopy goals. City staff have expressed a desire to incorporate alternative planter designs, structural soils, and structural cells to continue to allow for further street tree plantings.

- Currently, the City’s Municipal Code does not include shade requirements for parking lots, rather it has tree requirements for the property to shade a percent of the parking area. City Staff are currently working on the parking ordinance and recognize trees are essential to urban cooling efforts. Therefore, recommendations for shading around parking lots are being considered.
- Currently, City planning documents do not go into detail regarding structural soils or alternative planter designs that could increase options for trees in urban areas. There are opportunities to promote and incorporate such revamps in public/ community projects.
- Community members hold distinct and differing views on the types of trees that should be planted in the community. A subset of the community reveres, or loathes, certain species of trees (e.g. eucalyptus, palms, or redwoods), but the City incorporates or protects each species so the community benefits from the distinct roles these trees play (e.g., roosting habitat for monarch butterflies, a beach town atmosphere, or protecting native species).
- For City planners, trees are also important from a pedestrian safety standpoint.

**Climate Action Program**

The Climate Action Program is part of the City Manager’s Office and is integral to the implementation of the City’s Climate Action Plan (2012) and Climate Adaptation Plan (2018) and will lead the development of the Climate Action

Plan 2030 in 2021. Similar to many communities, Santa Cruz is expected to experience climatic events that can cause additional stress to street trees such as water resource concerns (i.e., increased frequency and duration of droughts, storm surges, and sea level rise), wildfires, and pests and diseases. Challenges and opportunities related to the street tree resource include the following:

- City staff are looking to increase canopy cover throughout the urban forest and consider the street tree resource as an important aspect in climate change adaptation measures.
- Particular areas of the City are the focus of additional street tree planting and planning efforts as they are at most risk to the future impacts of climate change.
- City staff are interested in having regional conversations on suitable trees to include in the planting palette, also considering species that do well with the temperature and precipitation patterns that may be experienced in the future due to climate change.
- The urban forest is tied directly to the Climate Action Plan and will continue to be a key carbon mitigation strategy. Therefore, benchmarks for the urban forest and street trees could be reported in conjunction with those in development for the Climate Action Plan 2030.



**Top:** Myrtle Street

**Bottom:** Delaware Median



EXTERNAL PARTNERS

Pacific Gas & Electric (PG&E)

Tree and utility conflicts are a common source of concern for electric providers. Trees that grow into power lines can cause electrical outages and fires. They can even conduct an electric shock to someone who comes into contact with a tree that is contacting a high-voltage line.

In California, all utility providers are subject to General Order 95; Rule 35 Vegetation Management (California Public Utilities Commission, revised 2012) and FAC-003-2 Transmission Vegetation Management (NERC) which outline requirements for vegetation management in utility easements. These requirements include clearance tolerances for trees and other vegetation growing in proximity to overhead utilities.

Many street trees located under power lines are too large for the site, requiring extreme pruning to maintain clearance. Trees located under utility lines must be directionally pruned by trained, authorized line clearance personnel. Selecting

small-stature tree species that are utility friendly for planting sites in utility rights-of-way or using undergrounding lines as alternative means for providing energy can minimize the need for these maintenance activities.

In 2017, PG&E did extensive work to main distribution lines located within the public rights-of-way that resulted in the removal of many street trees. The Urban Forestry Office received mitigation funds and replaced trees on a two-for-one basis. When the utility company removes community trees, they voluntarily submit mitigation payments.

California Department of Forestry & Fire Protection (CAL FIRE)

Under the authority of the Urban Forestry Act (PRC 4799.06 - 4799.12), the California Department of Forestry and Fire Protection’s Urban & Community Forestry Program works to expand and improve the management of trees and related vegetation in communities throughout California.

The mission of the California Department of

Forestry and Fire Protection's Urban Forestry Program is to lead the effort to advance the development of sustainable urban and community forests in California. Trees provide energy conservation, reduce stormwater runoff, extend the life of surface streets, improve local air, soil, and water quality, reduce atmospheric carbon dioxide, improve public health, provide wildlife habitat, and increase property values. In short, they improve the quality of life in our urban environments, which increasingly are where Californians live, work, and play. The program also administers State and Federal grants throughout California communities to advance urban forestry efforts such as the California Greenhouse Gas Reduction Fund that funded the recent planting of 500 trees, the tree inventory, and this plan (fire.ca.gov).

Cabrillo College and University of California Santa Cruz

Cabrillo College is located in Aptos, California approximately 6 miles east of Santa Cruz. The College offers associate degrees in more than 70 fields of study, including horticulture. The Horticulture Department offers diverse classes and hands-on experience. Facilities such as greenhouses, a nursery, and shade houses provide opportunities for students to study and practice production of ornamental plants, including trees. They offer two plant sales throughout the year and several of the Clubs are centered around environmental stewardship and industry experience. Annually Cabrillo College students participate in Arbor Day tree planting.

The University of California at Santa Cruz has well established biology and agroecology programs. With nearly 20,000 students, UCSC contributes interns and volunteers to urban

forestry, open space management, and related climate action efforts.

Environteers

Environteers is a non-profit organization dedicated to providing the community with environmental volunteer opportunities and promoting events held by over 50 local environmental groups and organizations. They support environmental-centered actions and compile news and resources. The *Environteers* have participated in several tree planting events.

Ecology Action

Ecology Action is a nonprofit organization that engages businesses and community members in various energy, water, and transportation actions to decrease greenhouse gas emissions. This group supports agencies, utilities, and other nonprofit organizations in reaching goals to help create a lower carbon footprint.

Santa Cruz Local Schools

Santa Cruz City Schools operates 10 public schools including elementary, middle, and high schools across the community and there are additional private schools throughout the City. Students are encouraged to engage in community service hours and approximately half of the volunteers in the City-hosted community tree planting events are students.

Monterey Bay Master Gardeners

The Monterey Bay Master Gardeners are the local Master Gardener volunteers affiliated with the University of California Extension Service. The Master Gardeners provide the community with research-based information about horticulture and served as a promotional partner for the urban tree inventory project.



Left: Norfolk Island pine

**Policies and Regulations**

The following documents and regulations provide direction and requirements specific to Santa Cruz’s urban forest, including vision, policy, and regulatory requirements.

**Federal and State Law**

**CALIFORNIA URBAN FORESTRY ACT**

Section 4799.06-4799.12 of the California Public Resources Code defines a chapter known as the California Urban Forestry Act. The Act defines trees as a “vital resource in the urban environment and as an important psychological link with nature for the urban dweller.” The Act also enumerates the many environmental, energy, economic, and health benefits that urban forests provide to communities.

The purpose of the Act is to promote urban forest resources and minimize the decline of urban forests in the state of California. To this end, the Act facilitates the creation of permanent jobs related to urban forestry, encourages the coordination of state and local agencies, reduces or eliminates tree loss, and prevents the introduction and spread of pests. The Act grants the authority to create agencies and mandates that urban forestry departments shall provide technical assistance to urban areas across many disciplines (while also recommending numerous funding tools to achieve these goals).

**VEGETATION MANAGEMENT STANDARD**

All utility providers in the nation are subject to the Federal Regulatory Commission (FERC) approved North American Electric Reliability Corporation (NERC) reliability standard FAC-003-3 Transmission Vegetation Management which requires vegetation maintenance along transmission lines and sets clearance tolerances.

**MIGRATORY BIRD TREATY ACT**

Passed by Congress in 1918, the Migratory Bird Treaty Act defines that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior.

This Act can impact forestry operations during times when birds are nesting, which may delay work to avoid violating the MBTA.

**ENDANGERED SPECIES ACT**

Signed in 1973, the Endangered Species Act provides for the conservation of species that are endangered or threatened throughout all, or within a significant portion of, their range, as well as the conservation of the ecosystems on which they depend. The listing of a species as endangered makes it illegal to "take" (i.e., harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to do these things) that species. Similar prohibitions usually extend to threatened species.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE**

To promote the conservation and efficient use of water and to prevent the waste of water, a Model Water Efficient Landscape Ordinance (MWELO) was adopted in 2009 and later revised in 2015. The Ordinance requires increases in water efficiency standards for new and retrofitted landscapes through the use of more efficient irrigation systems, greywater usage, and onsite stormwater capture. It also limits the portion of landscapes that can be covered in turf.

**CALIFORNIA SENATE BILL NO. 606 AND NO. 1668**

The California Senate Bill No. 606 and No. 1668, signed in 2018, require cities and water districts to set permanent water conservation rules, even in non-drought years. Under the bills, each urban water provider is required to set target water use goals that must be approved by the State Water Resource Control Board by 2022. If agencies fail to meet these goals, potential fines as high as \$10,000 a day may be issued. Standards are based on 55 gallons per person, per day for indoor water use (later decreasing to 50 gallons by 2030) and regional based standards for outdoor use.

**CALIFORNIA SOLAR SHADE ACT**

Passed in 1978, California’s Solar Shade Control Act supported alternative energy devices, such as solar collectors, and required specific and limited controls on trees and shrubs. Revised in 2009, the Act restricted the placement of trees or shrubs that cast a shadow greater than ten percent of an adjacent existing solar collector’s absorption area upon the solar collector surface at any one time between the hours of 10am and 2pm.

The Act exempts trees or shrubs that were:

- Planted prior to the installation of a solar collector
- Trees or shrubs on land dedicated to commercial agricultural crops
- Replacement trees or shrubs that were planted prior to the installation of a solar collector and subsequently died or were removed (for the protection of public health, safety, and the environment) after the installation of a solar collector
- Trees or shrubs subject to City and county ordinance

**If a London plane (*Platanus X hispanica*) were planted as a street tree in the Downtown area and lived for 20 years, it would provide numerous environmental benefits including sequestering 2,416 pounds of CO<sub>2</sub>, preventing 19,659 gallons of rainfall runoff, and intercepting 16 pounds of air pollutants.**

**from i-Tree Design**



CALIFORNIA GLOBAL WARMING SOLUTIONS ACT

In 2006, the California Global Warming Solutions Act (Assembly Bill 32) was implemented to reduce greenhouse gas emissions. Through this Act, California was the first state in the nation to initiate long term measures to help mitigate the effects of climate change through improved energy efficiency and renewable technology. California approached the goal to reduce emissions to 1990 levels by 2020 through direct regulations, market-based approaches, voluntary measures, policies, and programs. The 2015 update set targets to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030.

VEGETATION MANAGEMENT

In California, all utility providers are subject to the state regulations outlined in General Order 95; Rule 35 Vegetation Management (California Public Utilities Commission, revised 2012) and by the California Department of Forestry and Fire Protection (Public Resource Code 4292 and Public Resource Code 4293) which outline requirements for vegetation management in utility easements. These requirements include clearance tolerances for trees and other vegetation growing in proximity to overhead utilities and are to be conducted by authorized line clearance personnel. Utility providers must also comply with the Public Utilities Commission of the State of California Resolution ESRB-4 (enacted in 2014) which mandates the removal of dead or dying trees near power lines and poles.

Municipal Code

CHAPTER 9.56 PRESERVATION OF HERITAGE TREES AND HERITAGE SHRUBS

Chapter 9.56 provides various measures for the preservation of heritage trees. It codifies relevant definitions including that for a heritage tree. It outlines the powers and duties of the parks and recreation director and the Parks and Recreation Commission, protective measures and permits for work affecting heritage trees, along with the appeals process. The code defines and exempts emergency situations by the chapter and requires state tree care licensed professionals perform all pruning, maintenance, care, or removal of heritage trees. It also requires mitigation as part of removal permits or in the instance a tree is damaged, destroyed or removed and defines penalties for violations (see Appendix A).

CHAPTER 13.30 TREES

Chapter 13.30 defines “street tree”, as well as the areas in which a City street tree may be located. The chapter defines the duties and responsibilities of the Director of Parks and Recreation, including the issuance of permits for planting, pruning, and removal of street trees. The chapter also requires the director to prepare and maintain a master street tree list that allows for which trees are permitted to be planted on public property, as well as prepare a street tree planting plan. Along with the Director of Parks and Recreation, the duties and responsibilities of the Parks and Recreation Commission are defined, including hearing appeals and making recommendations to city council concerning policies, programs, and decisions related to trees. In Santa Cruz, property owners are responsible for the maintenance of street trees; the chapter defines the duties and liabilities of property owners when it comes to the maintenance of street trees, as well as, requiring property owners to obtain a permit to plant, prune, or remove such trees. The chapter prohibits any person from injuring a street tree by any means, defines nuisance vegetation, and requires property interns to abate such nuisance vegetation.

Chapter 13.30 defines penalties associated with violation of any of the sections within the chapter and the costs that can be recovered as a result of damage or loss of trees. It defines the right of property owners to appeal and the process by which they may file for an appeal, including where to file, the process, stays, and hearings. The chapter also defines liability (See Appendix A).

Left: Mission Street  
Right: Maidenhair tree





CHAPTER 15.20 DRIVEWAYS AND SIDEWALKS

Chapter 15.20 designates property owners be responsible for maintenance of the sidewalk area, including any trees in planting strips. Tree maintenance may include root pruning, installing root barriers, or pruning and must follow City the permit process outlined in Chapter 13.30.

CHAPTER 23.24 SUBDIVISION IMPROVEMENTS

Chapter 23.24 requires a street tree and landscaping plan in all subdivisions. Plans must include information such as tree species, location, and maintenance as well as an impact report if infrastructure is designated to the City. All street tree maintenance is to be performed in accordance with Chapter 13.30. The chapter also outlines protections for existing trees.

Bottom: Dormant London plane trees on Chestnut Street



CHAPTER 24.08 LAND USE PERMITS AND FINDINGS

Chapter 24.08 outlines criteria for various land use permit entitlements some of which are aimed at protecting habitats, natural resources and vegetation, such as significant trees, and providing appropriate type, size and quality of landscaping.

Part 3: Coastal Permits

Coastal Permits are required for proposed development in certain areas of the coastal zone and apply to trees and vegetation.

CHAPTER 24.10 LAND USE DISTRICTS

Santa Cruz municipal code calls for shaded parking lot surface areas and perimeter tree plantings.

City of Santa Cruz  
2030 General Plan

The City of Santa Cruz 2030 General Plan provides the following:

- Vision for Santa Cruz’s future physical, social, cultural, environmental, and economic development
- Strategies and specific actions that will allow the community’s vision to be maintained or accomplished
- Basis for judging whether specific development proposals and public projects are in harmony with community goals
- Protects natural resources and community welfare
- Authorizes the design of projects that will enhance the character and safety of the community and preserve and environmental resources
- Guides planning and implementing programs, such as the zoning and subdivision ordinances, specific plans, impact fee studies, and the Capital Improvements Program

**Chapter 1: Introduction** presents the vision of Santa Cruz, which calls attention to the greenbelt surrounding the City and the emphasis the community places on the natural environment.

**Chapter 3: Community Design** promotes street trees as a way to enhance the character of the community. Notes that street trees improve the aesthetics of transportation corridors and

entrances into the City. Recognized trees for their role in improving and promoting the use of pedestrian paths. A goal of this chapter includes planning for trees along pedestrian corridors.

**Chapter 4: Land Use** requires tree wells along sidewalks and/or trees on private property in development, redevelopment, and maintenance projects.

**Chapter 6: Economic Development** promotes energy efficient infrastructure, green buildings, sustainable energy, and environmentally oriented businesses.

**Chapter 8: Hazards, Safety, and Noise** describes the responsibility of fire protection services, identifies areas at high risk of wildfire risk and explains fire mitigation efforts.

**Chapter 10: Natural Resources and Conservation** describes the natural resources present in Santa Cruz, provides information on the existing conditions and visions for the urban forest. Explains the benefits of trees in the urban forest, including minimizing the heat island effect and capturing stormwater. Designates the urban forest as green infrastructure that serves the community in temperature control and stormwater runoff.

Outlines the following goals for the urban forest:

- Considers significant and heritage trees
- Encourages community educational programs to promote and celebrate the urban forest
- Promotes increasing street tree plantings, tree diversity, and native tree species
- Recommends an approved street tree list



## Climate Action Plan

**Chapter 1: Climate Change and the City of Santa Cruz** recognizes the central coast ecosystem will likely be impacted by changes in environmental conditions.

**Chapter 5: Sustainable Transportation & Land Use Planning** supports the preservation of natural areas around Santa Cruz through land use planning that promotes infill development and also promotes bicycle and pedestrian corridors.

**Chapter 6: Water Conservation & Solid Waste Management** supports the Water Conservation Plan and efficient use of water for landscaping.

**Chapter 7: Solar Santa Cruz** outlines the need to switch to renewable energy sources to meet greenhouse gas reduction targets.

**Chapter 8: Sustainability Through Public Partnerships, Education & Outreach** lists the City’s Environmental Programs, including Urban Tree Programs. It considers improvements to the City’s parks, open spaces, and urban forest as a way to reduce greenhouse gas emissions and improve sustainability. This chapter promotes collaboration with community groups to support tree planting and maintenance and prioritizes tree protection and preservation, and water-wise landscaping in development projects.

The Climate Action Plan is being updated in 2021 as an equitable and community driven process where carbon sequestration will be a key carbon mitigation strategy.

## Climate Adaptation Plan

The Climate Adaptation Plan outlines the actions Santa Cruz is planning to lessen the impacts of climate change on the community.

**Chapter 1: Introduction** provides adaptation measures that relate to the urban forest including tree species selection and forest management practices that decrease vulnerability to storm damage and wildfire. Considers street trees as infrastructure.

**Chapter 3: Vulnerability Assessment Updates & Projected Impacts** acknowledges threats resulting from climate change and provides a vulnerability assessment. Some vulnerabilities relate to the urban forest including (1) intense storms leading to tree or branch failure, (2) sea level rise and associated saltwater intrusion into irrigation supplies negatively impacting trees and other vegetation, (3) heat waves and tree canopy helping to mediate high temperatures.

**Chapter 4: Adaptation Strategies** explains steps the City of Santa Cruz is taking in order to be more resilient in the face of climate change. Actions include obtaining grant funding to complete an urban tree inventory, planting 500 trees in addition to the ~300 trees planted each year, and undertaking restoration projects. Goals include increasing tree canopy, diversifying the tree species represented in urban areas. Protecting and preserving tree canopy is listed as important in the implementation process.

**Right:** Lower DeLaveaga Park





City of Santa Cruz Park Master Plan 2030

Guides the future management and improvement of parks, facilities, beaches, and open spaces in Santa Cruz.

**Chapter 2: Introduction & Inventory—Who We Are & What We Have** describes the features available at the current parks, open space lands, beaches, and facilities in Santa Cruz. Provides Master Plans for specific parks, open spaces, and beaches, several of which consider incorporation and management of trees.

**Chapter 3: Community Outreach & Needs Assessment—What We Need & Want** presents the community's desire to continue preserving green space and providing recreational opportunities.

**Chapter 4: Implementation—Where We’re Headed and How We’re Getting There** outlines steps the City can take to meet their goals. Trees are included in goals in the following ways:

- Increase the number of trees to provide increased canopy cover and reduce the heat island effect, store carbon, and provide habitat
- Expand the tree planting program
- Prevent the spread of *Phytophthora*, a threatening disease that impacts native tree species
- Complete a community tree inventory
- Increase tree canopy by 10% from 2008 to 2020

- Promote the Urban Forestry Program
- Preserve trees
- Celebrate Arbor Day
- Increase neighborhood tree planting and tree planting on public property
- Expand the Heritage Tree Grant Program

Stormwater Management Plan (2009)

The Stormwater Management Program aims to reduce the amount of pollutants in the City’s stormwater runoff.

**Chapter 1: Municipal Operations Program Pollution Prevention and Good Housekeeping** explains site Best Management Practices (BMPs) that are implemented to minimize or prevent the discharge of pollutants into the storm drain system. Inspections of the Parks and Recreation Department yard occur, where City equipment related to tree maintenance is stored and repaired when necessary.

**Chapter 6: Post Construction Stormwater Management Program** explains when permits for development or redevelopment projects are needed and the applicable requirements. Considers tree preservation in project plans for stormwater runoff and erosion.

**Chapters 7 & 8 Industrial & Commercial Facilities Programs:** aims to prevent the discharge of pollutants from industrial and commercial facilities to the City storm drain system and the environment, including pesticides and fertilizers which may be used on trees.

Local Coastal Program

Provides the basis for conservation and development of the coastal zone, with the following goals:

- Preserve natural resources
- Maintain already developed areas
- Prioritize land use/development dependent upon the coastal environment
- Maximize opportunities for all people to access the coast
- Protect undeveloped coastal areas and encourage development to areas with existing infrastructure

The Local Coastal Program (LCP) is currently being amended to reorganize the LCP to be consistent with the format of the General Plan and to incorporate sea level rise policies and visioning. The LCP amendment will be adopted in early 2021.

**Environmental Quality Element** explains policies and programs to minimize tree removal and promote consistent landscaping.

**Community Design Element** protects heritage trees by requiring (1) plans that include impacts to trees on properties undergoing construction, (2) replacement plantings at a two to one ratio if trees are removed, (3) minimal tree removal between the public road and the coast. Promotes incorporating species that support wildlife. Encourages developing an approved tree planting list that outlines approved and discouraged trees species and calls for the Master Street Tree List to include native and drought tolerant species.

**Beach and South of Laurel Plan** supports the heritage tree preservation program and streetscape design that considers and incorporates existing heritage trees.

**Lighthouse Field State Beach Plan** requires native, drought tolerant trees and other landscaping be used around parking areas.

**San Lorenzo Urban River Plan** encourages maintaining trees in the San Lorenzo Flood Control Improvement Project and incorporates trees in new developments, parking lots, and along the river trail between Soquel Drive and Laurel Street.

**Santa Cruz Harbor Urban River Plan** provides protections for healthy trees and promotes native, drought-tolerant species in landscaping.

**Western Drive Master Plan** encourages the preservation and maintenance of existing trees, restoration efforts that incorporate new tree plantings, and trees as visual screening for adjacent subdivisions. The plan also provides a list of recommended street tree species for the area.

“Requiring tree planting per a certain number of [parking] spaces is a great way to provide a better urban forest and urban cooling.”

Planning Department Partner, City of Santa Cruz





## City of Santa Cruz Integrated Pest Management (IPM) Guidance Manual

*The Integrated Pest Management (IPM) Guidance Manual* explains IPM policies and procedures adopted by the City Council in order to (1) reduce or cease the use of pesticides, (2) establish an IPM Program, (3) provide educational programming, and (4) annually report pesticide use on City property.

The IPM Program is followed by the Parks and Recreation Department in the management of street trees. The example IPM Plan and the supplemental training manual provide examples of how the IPM guidelines can be used in relation to the control of pests associated with street trees. Potential pesticides for the management pests, including those that relate to street trees, are considered in the reduced pesticide list and this list indicates when exemptions are required (e.g. herbicides for tree stump injection and chemicals for tree roots in sewer laterals).

The City is currently engaged in a process to review its IPM policy and procedures.

## City of Santa Cruz Integrated Pest Management (IPM) Annual Report 2001

The Department of Parks & Recreation reported on their use of biological, mechanical, and cultural control methods to manage scale insects on street trees. Furthermore, City Departments reported on numerous weed suppression activities on public property. The report shows a marked decrease in the use of pesticides as a result of the IPM policies and procedures adopted by City Council in 1998.

### Standard Planting Detail

**Curb, Gutter, and Sidewalk Detail** includes standards for landscape strips.

**Driveway Approach** Type “A” Driveway with Planter denotes standards for planters.

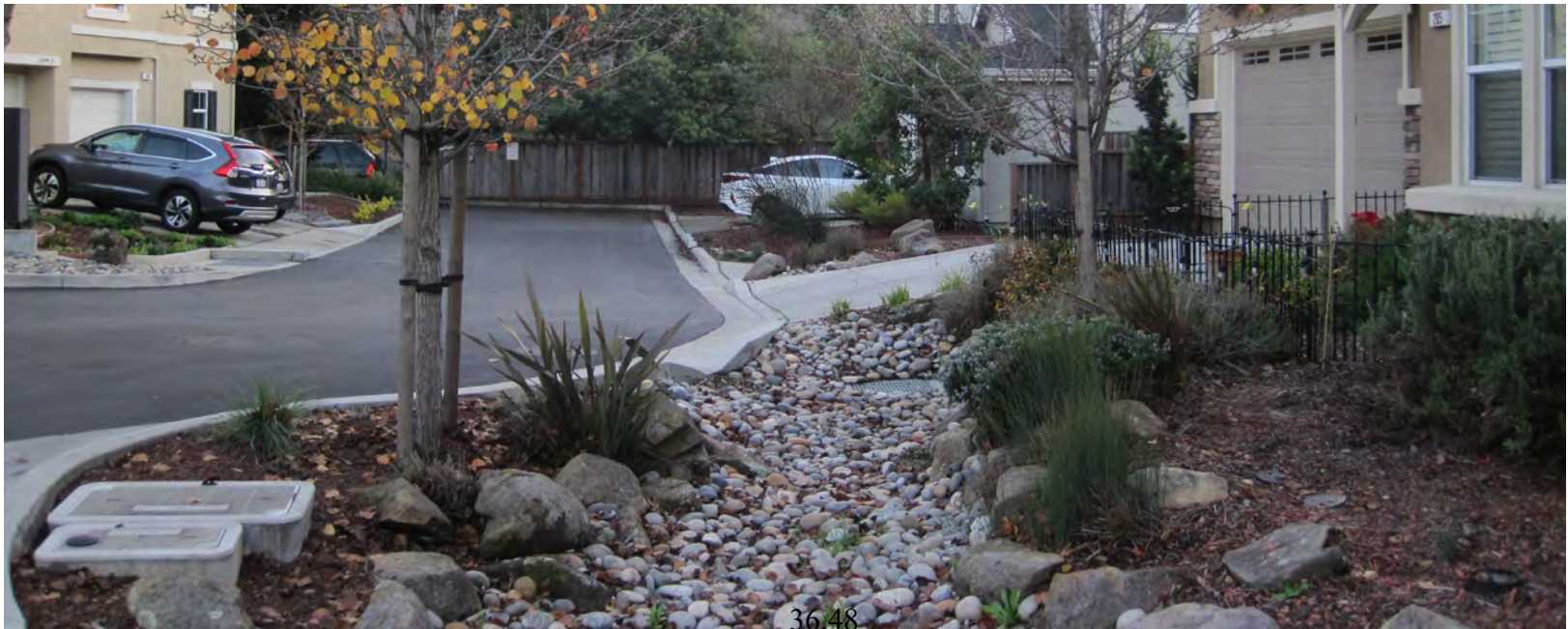
**Tree Planting Detail** illustrates and describes expectations for tree planting, including tree size, planting location, materials, and tree maintenance.

**Bioretention Facility** provides design details for planters.

## Tree Sidewalk Policy Program

The public sidewalk policy ensures sidewalks meet the standards of the Public Works Department and Americans With Disabilities Act (ADA) when trees are planted in the adjacent landscape strip. Ensures trees do not conflict with existing infrastructure or encroach the sidewalk. Includes the following:

- Provides minimum space requirements for tree planting wells
- Requires street trees be located a specified distance from existing utilities and infrastructure
- Requires property owners to call the City’s Underground Service Alert number to locate utilities prior to tree planting
- Allows for the use of tree grates that meet width requirements
- Requires concrete work resulting from tree well cut-outs be performed by permitted, licensed contractors
- Outlines the permit process
- Informs participants of potential tree root damage to existing infrastructure



**Top Left:** Blue gums on La Fonda Avenue

**Bottom Left:** Dormant crape myrtle on Gault Street at Seabright

**Bottom Right:** Green stormwater infrastructure on Fieldcrest Terrace



Area Plans and Tree Planting by Area

Currently, Santa Cruz has eight specific Area Plans adopted by City Council between 1980 and 2014 (Map 3). The Area Plans are intended to be used in combination with the General Plan and Zoning Ordinances, yet are superseded by the City Ordinance. They provide more in-depth recommendations for policy and programming that align with the character of the particular area and promote sustaining the unique attributes that make the areas distinct. The plans are used to guide any land use changes, development, and improvement projects in the specified area.

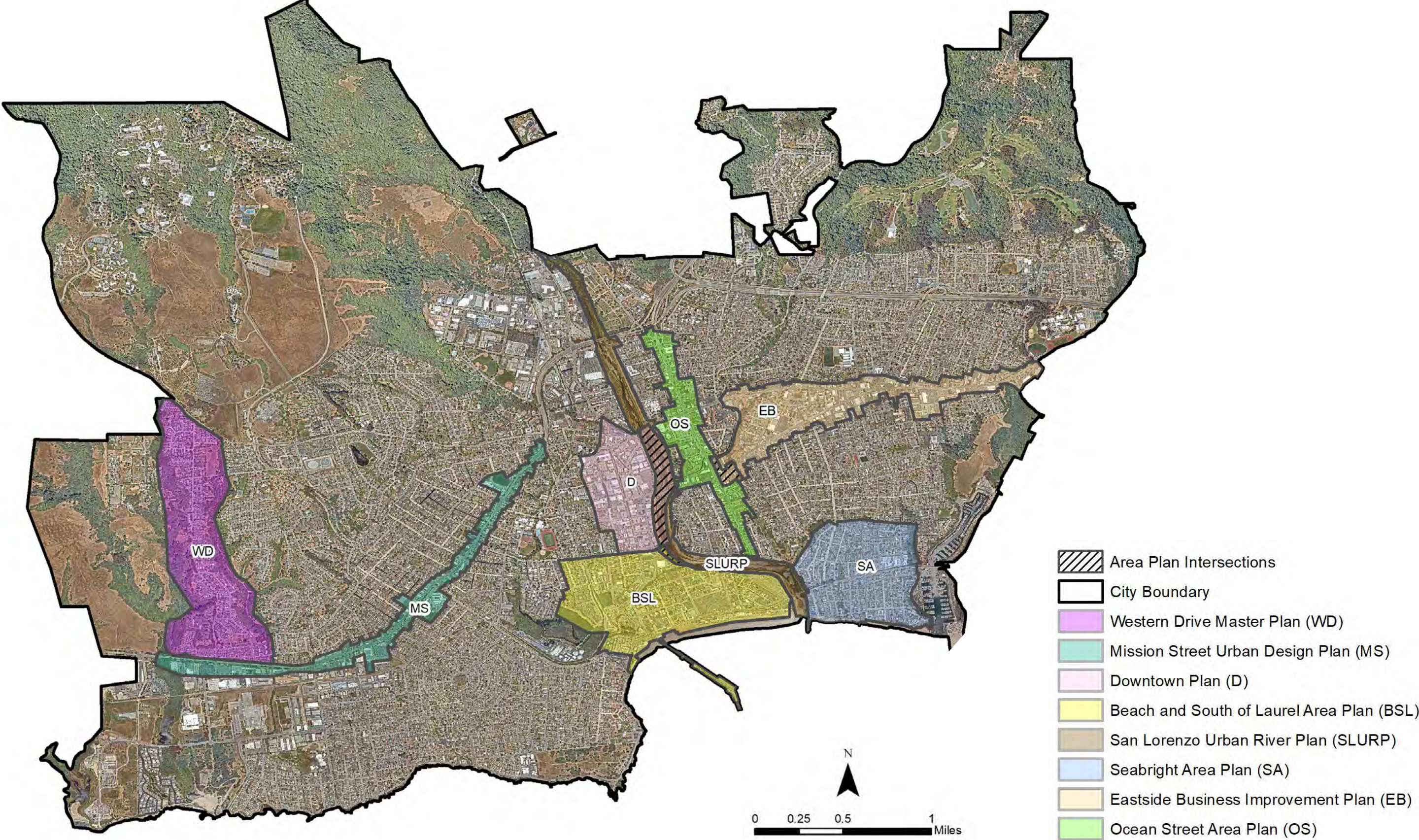
Urban planning, circulation, streetscape, architecture with the goal of improving aesthetics and linkages are considered in ways that maintain the characteristics that set the area apart from the rest of Santa Cruz.

Area Plans impact urban forestry operations because they include design guidelines and recommendations for general concept trees and/or street trees. All of the Area Plans except for the Seabright Area Plan suggest trees that should be incorporated into the area or provide a tree list. Planning provides recommendations for the stature and properties of trees to be planted in certain areas but leaves specifics about which species to be planted to the Public Works and the Urban Forester. In most cases, these recommendations are followed, but the City-wide approved street tree planting supersedes the Area Plan tree species lists and recommendations. The Urban Forester follows tree planting palettes that are included in the Area Plans to ensure consistency along main

arterials, commercial areas, and medians. Furthermore, the Urban Forester strictly adheres to the tree lists and example species provided in the Mission Street, Ocean Street, and Downtown Plans during street tree plantings. Other Plans are considered, but street tree planting in residential parcels can deviate from the Area Plan tree palettes. Allowing property owners to choose their preferred tree species typically results in a higher sense of ownership and enhanced care.

Some Area Plans mention creating a master tree list. Although there is not currently a Master Tree List, the City has an Approved Street Tree Planting List that guides species selection for street tree plantings. The Street Tree List is a dynamic document subject to ongoing review. This living document reflects appropriate species for the area and can incorporate new varieties and cultivars developed in the industry. Importantly, it can be adapted by the Urban Forester to ensure the tree species selected are compatible with individual circumstances and are suitable given any project constraints. Street tree plantings along sidewalks are almost exclusively non-native and native species are used when there is not a sidewalk, along levees and riverbanks, and other areas that are conducive.

MAP 3: AREA PLANS IN SANTA CRUZ







**EASTSIDE BUSINESS  
IMPROVEMENT PLAN**

The Eastside Business Area (1996) is a commercial district located east of downtown and between Water Street to Soquel Avenue. Located along a knoll, there is a steep grade change on the west end of the business district that provides a distinct transition into the area. The Water Street entry is located along a creek and there are riparian plantings on the east and west sides of Soquel Avenue. Within the area, there is a mixture of retail and office buildings which are surrounded by residential areas. The retail stores and medical providers in the Eastside Business Area offer diverse services and products. The businesses range from auto dealers and markets to restaurants and fitness centers. Some of the structures in the area are part of early Spanish settlements, with a row of businesses located along the traditional Spanish plaza. With a rich history and stages of development, the area is characterized by a variety of architectural styles.

**Adopted:** 1996

**Last Revised:** 1996

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

**Specific Recommendations:**

- Street tree plantings on the retail side of road
- Dense landscaping to provide visual barriers of cut slopes and backs of buildings
- Tree planting in sidewalk wells

**Fold:** Chanticleer pears on Soquel Avenue

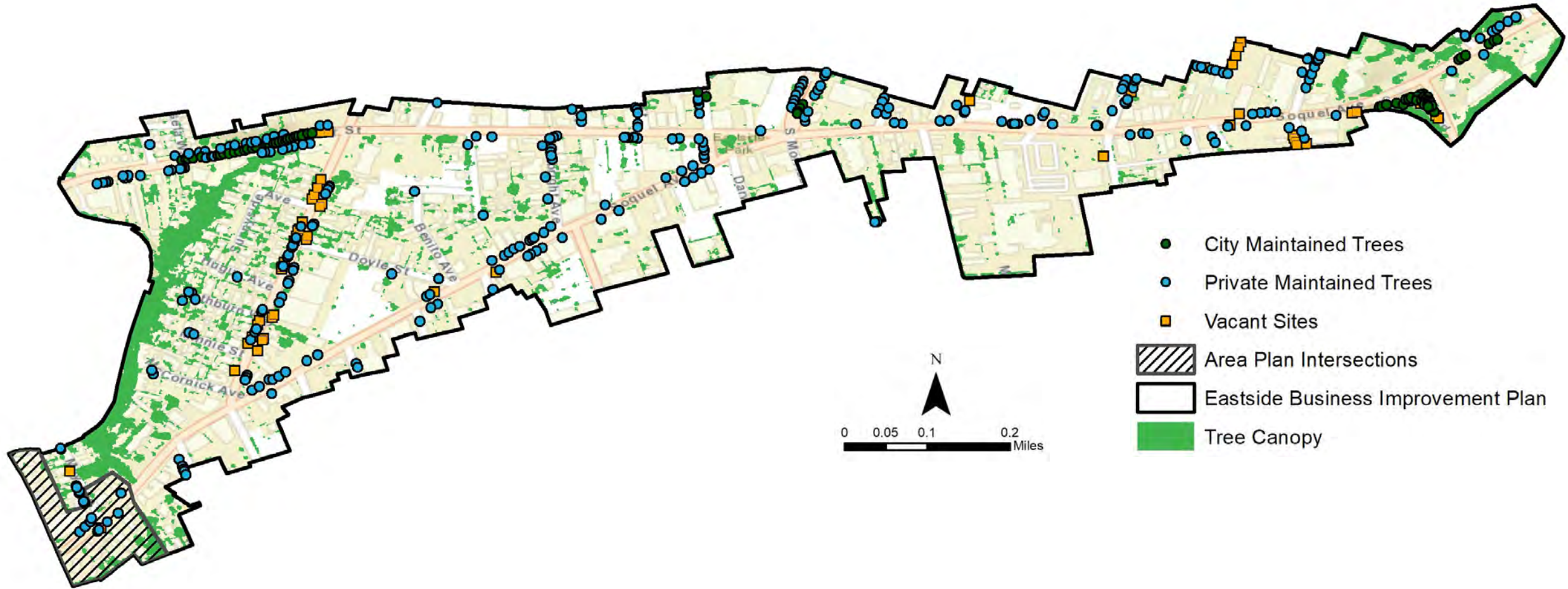
- Landscape screening for parking lots
- Widely spaced trees along storefronts
- Promote wider sidewalks to accommodate street tree plantings when possible
- Promote trees in parking area medians
- Consistent plantings of particular tree species

**Street Tree Composition in the Eastside  
Business Area (2020):**

- Total number of trees: 335 (80 CITY: 318 PO)
- Total number of vacant sites: 54
- Stocking level: 84.2%
- Total number of species: 55
- Top 5 species:
  - Hollywood juniper (*Juniperus Torulosa*)
  - Mexican fan palm (*Washingtonia robusta*)
  - Callery pear (*Pyrus calleryana*)
  - coast redwood (*Sequoia sempervirens*)
  - queen palm (*Syagrus romanzoffiana*)

Eastside Business Improvement Plan suggests planting flowering trees, trees that can be trimmed to avoid sign conflicts, and trees that can be used for screening. The top species in this area align with these criteria.

**MAP 4: EASTSIDE BUSINESS IMPROVEMENT PLAN AREA**







## WESTERN DRIVE MASTER PLAN

The area encompassed in the Western Drive Master Plan is a marine terrace with unique geological features. A large portion of the terrace remains undeveloped and has been preserved as a public resource, and native and non-native trees such as blue gum, coastal redwood, cypress, and California myrtle (i.e., Pacific wax myrtle) are common. The steep slopes have highly erodible soils, making a balance between vegetation retention to avoid landslides and vegetation removal for fire mitigation an ongoing consideration. Precipitation drains into Moore Creek, but the terrace also contains springs and surface water seeps. Large, mature trees are one of the distinguishing characteristics in this area and street trees are depicted in all renderings of the road.

“Street trees, as part of this urban forest, should be viewed as the intrinsically valuable part of infrastructure that they are (in terms of absorbing pollutants, reducing urban heat islands, capturing stormwater, calming traffic, raising property values, etc.).”

## CAL FIRE Partner

Fold: Blue gums on Western Drive

Adopted: 1980

Last Revised: 1980

Tree Palette or Specific Tree Requirements: Yes

Design and Construction Standards for trees or planters: Yes

Specific Recommendations:

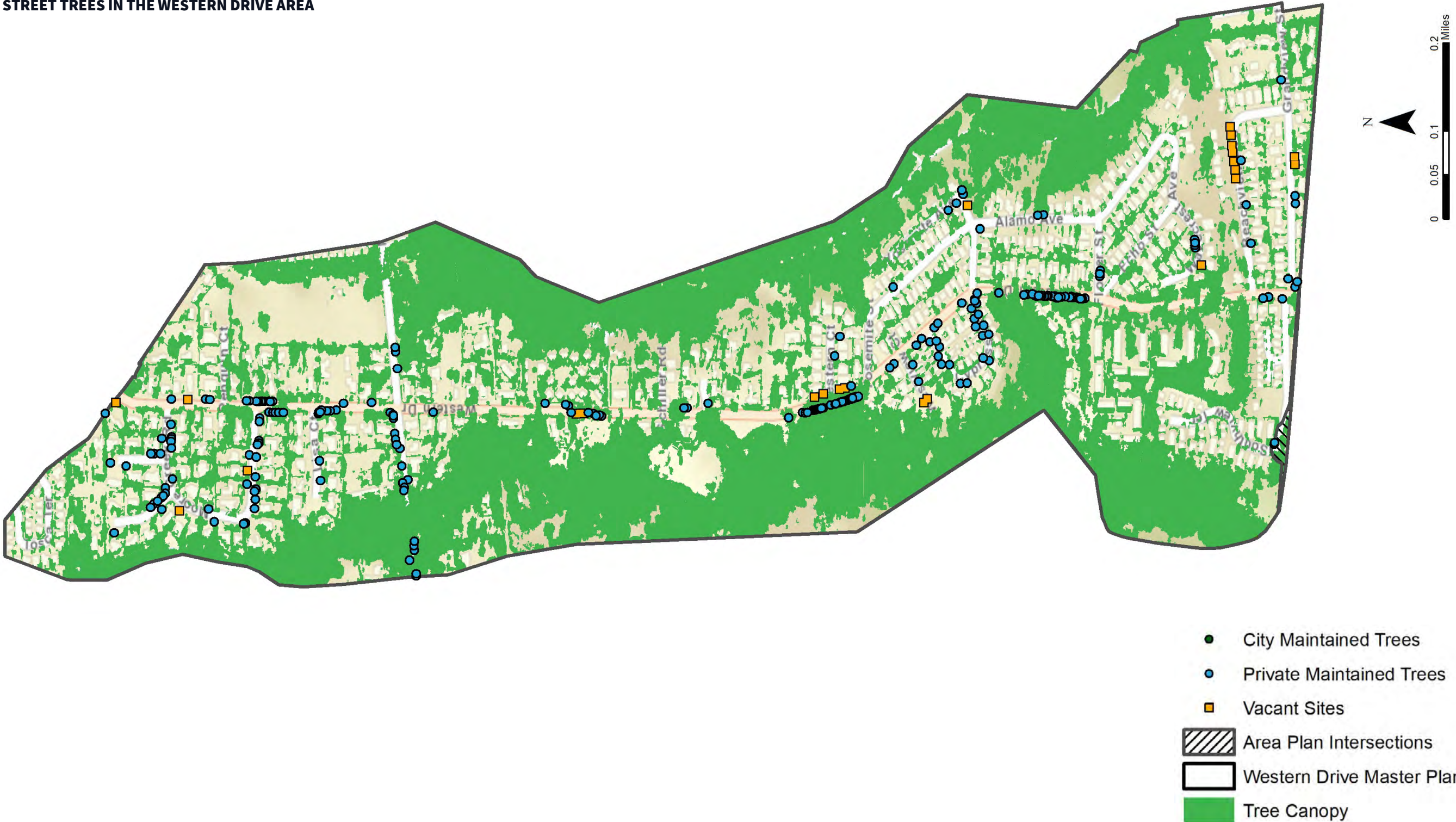
- Retention of trees
- Landscapes to reduce the impact of development

Street Tree Composition in the Western Drive Area (2020):

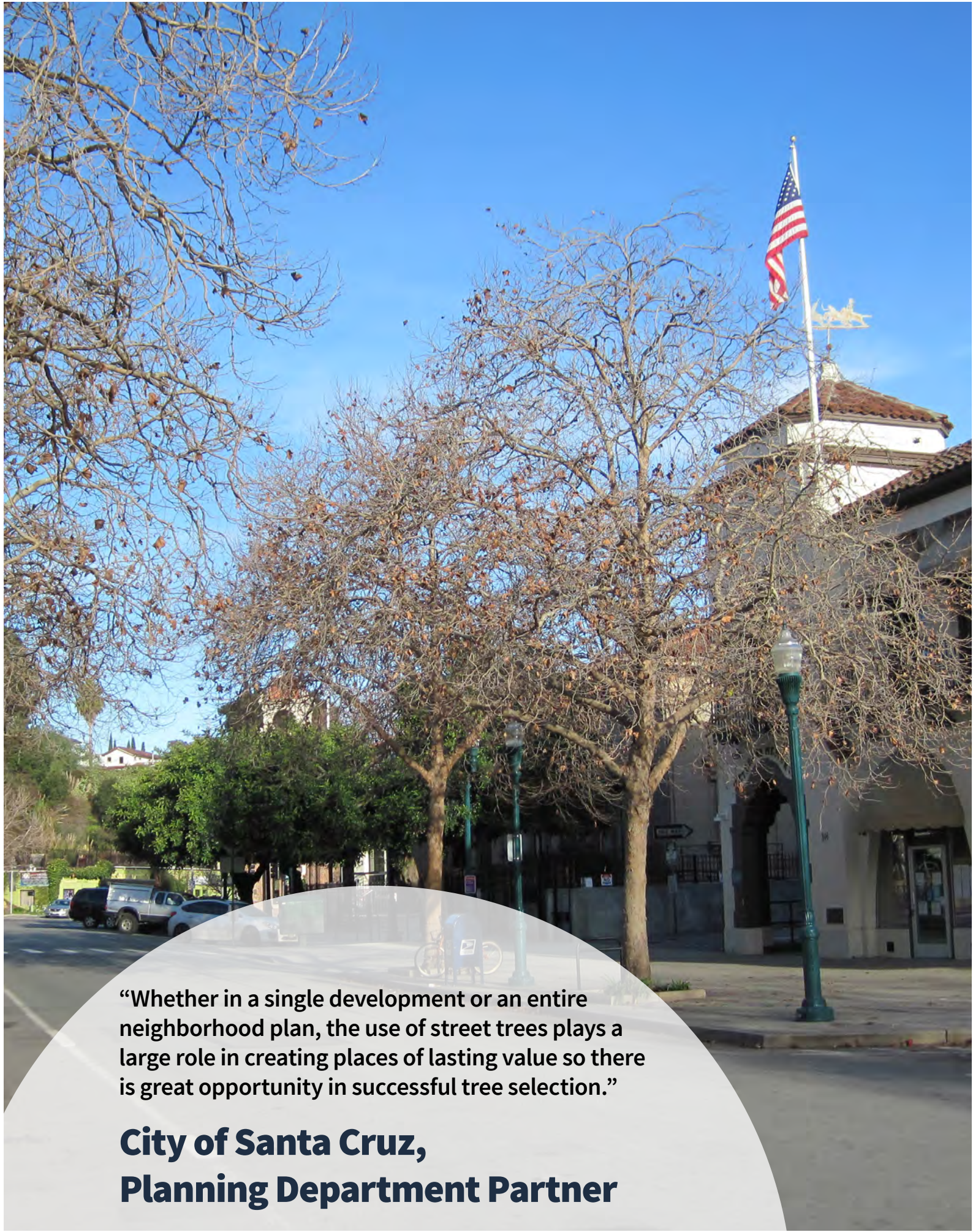
- Total number of trees: 267 (0 CITY; 267 PO)
- Total number of vacant sites: 31
- Stocking level: 88.4%
- Total number of species: 51
- Top 5 species:
  - blue gum eucalyptus (*Eucalyptus globulus*)
  - Monterey cypress (*Cupressus macrocarpa*)
  - London plane tree (*Platanus X hispanica*)
  - coastal live oak (*Quercus agrifolia*)
  - Florida hopbush (*Dodonaea viscosa*)

The top two most commonly planted street trees identified in the Western Drive Area are included in the list of Recommended Landscape Materials. All of the street trees within this area are maintained by private property owners, and therefore property owners play a large role in the species palette within this area.

## MAP 5: STREET TREES IN THE WESTERN DRIVE AREA







“Whether in a single development or an entire neighborhood plan, the use of street trees plays a large role in creating places of lasting value so there is great opportunity in successful tree selection.”

**City of Santa Cruz,  
Planning Department Partner**

**DOWNTOWN PLAN**

The Downtown Plan area is surrounded by the Mission to the north and Beach Hills to the south and is in close proximity to the San Lorenzo River to the east (Map 6. Riverfront and park sites contain historic landmarks (e.g. Post Office and Town Clock), which enhance the character of the Downtown Area. Many residents are employed at retail, commercial, and professional offices in the Downtown Area. The Downtown Area is also a gathering place for recreational activities, as it provides pedestrian linkages to natural spaces and historical sites, offers retail stores, restaurants, and cultural events.

Trees are considered as a way to enhance pedestrian environments and are recommended for planting near walkways as part of a plan to bring balance between pedestrians and vehicle activity. Overall, the plan calls for a number of different tree species, that provide a variety of characteristics. The Plan also provides tree spacing and tree height and clearance recommendations and envisions continuous Boulevard tree plantings within parking zones.

**Adopted:** 1991

**Last Revised:** 2017

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

**Specific Recommendations:**

- Uninterrupted plantings on both sides of Church Street and on Locust Street (e.g. London plane)

**Fold:** Dormant trees along Front Street

- Special trees at the "T" intersections and within the median south of Cathcart Street (e.g. London plane and Jacquemontii birch, and other specimen trees that contrast with the flowering trees)

- Plantings at the East Gateway, and Water to Mission Street (e.g. redwoods in medians)

- Large, distinctive, open trees for Soquel Avenue and Lincoln Street

- Flowering trees along Birch Lane

**Street Tree Composition in the Downtown Area (2020):**

- Total number of trees: 559 (400 CITY: 175 PO)

- Total number of vacant sites: 16

- Stocking level: 97.2%

- Total number of species: 44

- Top 5 species:

- London plane tree (*Platanus X hispanica*)

- Callery pear (*Pyrus calleryana*)

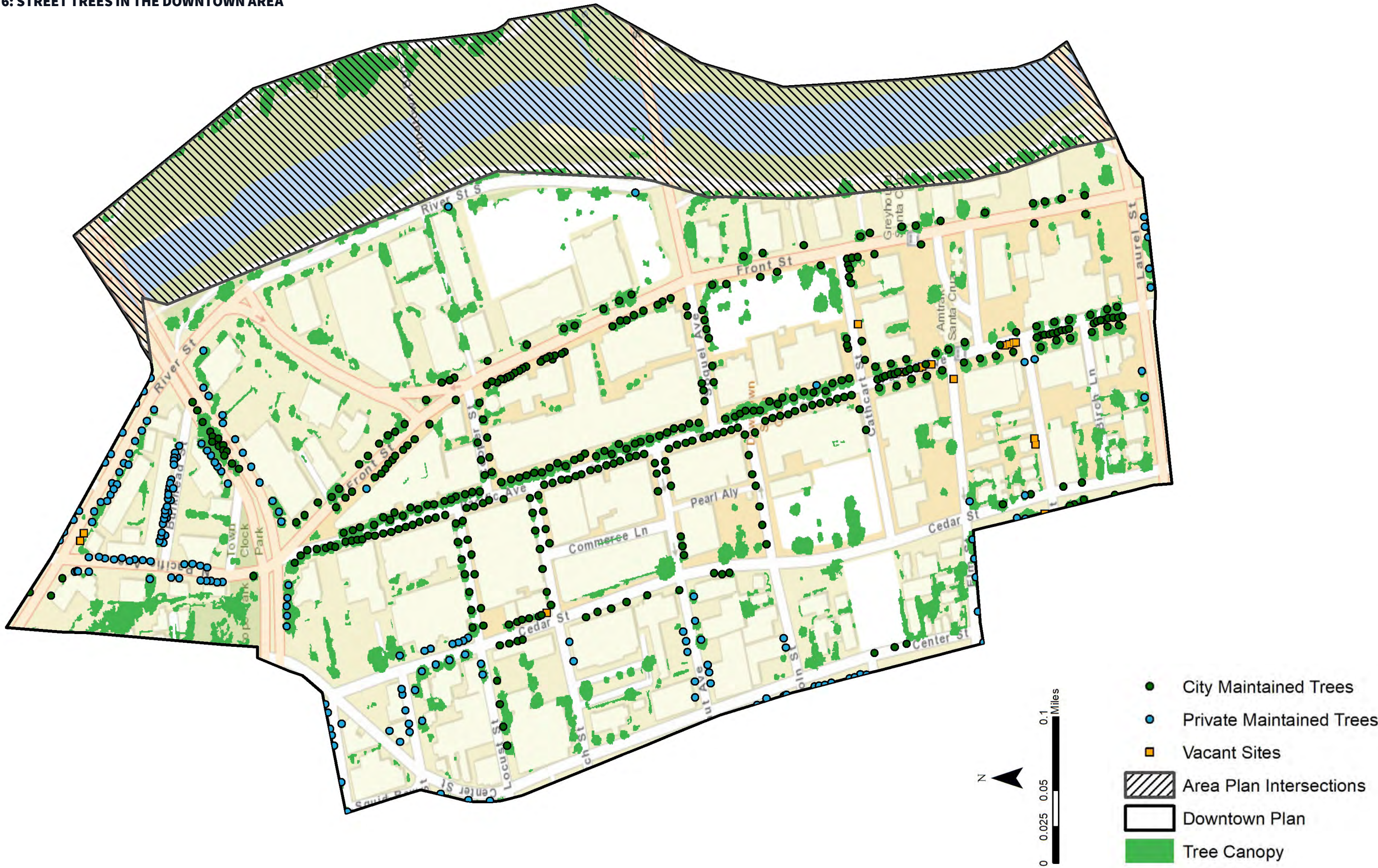
- Japanese flowering cherry (*Prunus serrulata*)

- European white birch (*Betula pendula*)

- crape myrtle (*Lagerstroemia indica*)

The Downtown Area Plan calls for an asymmetrical lining of street trees with high, branching trees on the east side of streets and flowering trees on the west side. It also recommends the use of several particular species, some of which are included in the top 5 species within this area.

**MAP 6: STREET TREES IN THE DOWNTOWN AREA**







**WEST CLIFF DRIVE ADAPTATION  
AND MANAGEMENT PLAN  
(A PUBLIC WORKS PLAN)**

The West Cliff Drive Adaptation and Management Plan is currently underway. It specifies short term (10-15 year) coastal armoring, landscaping and transportation improvements as well as visions for future coastal adaptation strategies. The Plan calls for assessment of protection of Cypress trees root systems lining West Cliff Drive

**SAN LORENZO URBAN RIVER PLAN**

The San Lorenzo Urban River Plan builds upon previous plans for the San Lorenzo River, Branciforte Creek, and Jessie Street Marsh. The San Lorenzo River brings water from the Santa Cruz mountains through Santa Cruz, providing habitat for a variety of flora and fauna and supporting the northernmost Cottonwood-Sycamore riparian forest. Recent land use changes such as logging, dams, levees, and development have negatively impacted these riparian areas leading to loss of habitat, poor water quality, and increased water contaminants. Valued as birding hot spots and salmon and steelhead runs, the City of Santa Cruz began efforts to monitor the health of these areas and begin planning to conserve the natural resources.

**Adopted:** 2003

**Last Revised:** 2003

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

**Specific Recommendations:**

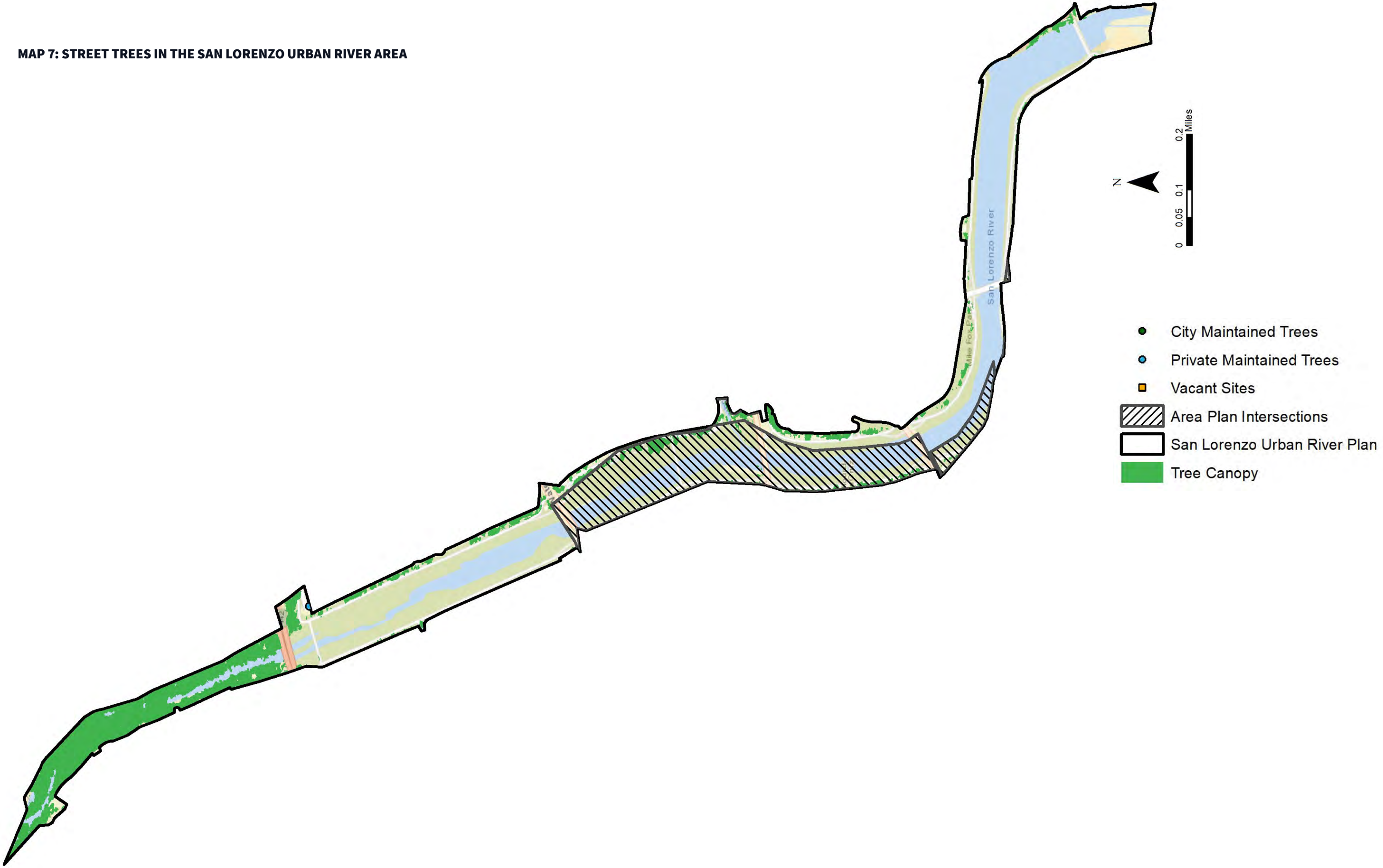
- Remove non-native trees and plant native species
- General improvements including planting street trees and parking lot trees

**Street Tree Composition in the San Lorenzo Urban River Area (2020):**

- Total number of trees: 1 (0 CITY: 1 PO)
- Total number of vacant sites: 0
- Stocking level: 100%
- Total number of species: 1
- Species: silver dollar eucalyptus (*Eucalyptus cinerea*)

There is currently only one street tree site in the area included in the San Lorenzo Urban River Plan because it does not have a public sidewalk. If development on the riverbank were to include sidewalks, then appropriate trees would be selected from the Approved *Street Tree List*.

**MAP 7: STREET TREES IN THE SAN LORENZO URBAN RIVER AREA**







### SEABRIGHT AREA PLAN

The Seabright Area is a distinct, historic, residential neighborhood abutting Monterey Bay and framed by the San Lorenzo River to the east. The area is a relatively flat, marine terrace, only 25 feet above sea level. In the mid to late 1800s, settlers began to acquire property in what is now part of East Cliff, a river bluff in the Seabright Area. Here, Alhambra, a resort camp with small cottages, was built amongst cypress trees. The incorporation of a railway station and population growth spurring from the University encouraged the development of smaller lots and the layout for the current neighborhood.

The Seabright Area Plan provides valuable information on the benefits of trees and calls out significant cypress trees. It provides historic information on a tree inventory, tree maintenance responsibilities, Heritage Trees, and the permitting process for tree maintenance.

**Adopted:** 1981

**Last Revised:** 1981

**Tree Palette or Specific Tree Requirements:** No  
**Design and Construction Standards for trees or planters:** Yes

**Specific Recommendations:**

- Retain Heritage trees

**Street Tree Composition in the Seabright Area (2020):**

- Total number of trees: 417 (0 CITY: 538 PO)
- Total number of vacant sites: 121

**Fold:** Seabright Avenue

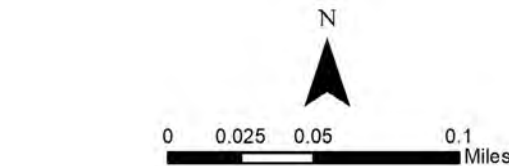
- Stocking level: 77.5%
- Total number of species: 84
- Top 5 species:
  - crape myrtle (*Lagerstroemia indica*)
  - Japanese flowering cherry (*Prunus serrulata*)
  - coastal live oak (*Quercus agrifolia*)
  - eastern redbud (*Cercis canadensis*)
  - Mexican fan palm (*Washingtonia robusta*)

The Seabright Area Plan does not provide a tree palette or recommend the planting of any particular tree species. All of the street trees in this area are maintained by adjacent property owners and the Approved Street Tree Planting List is followed.

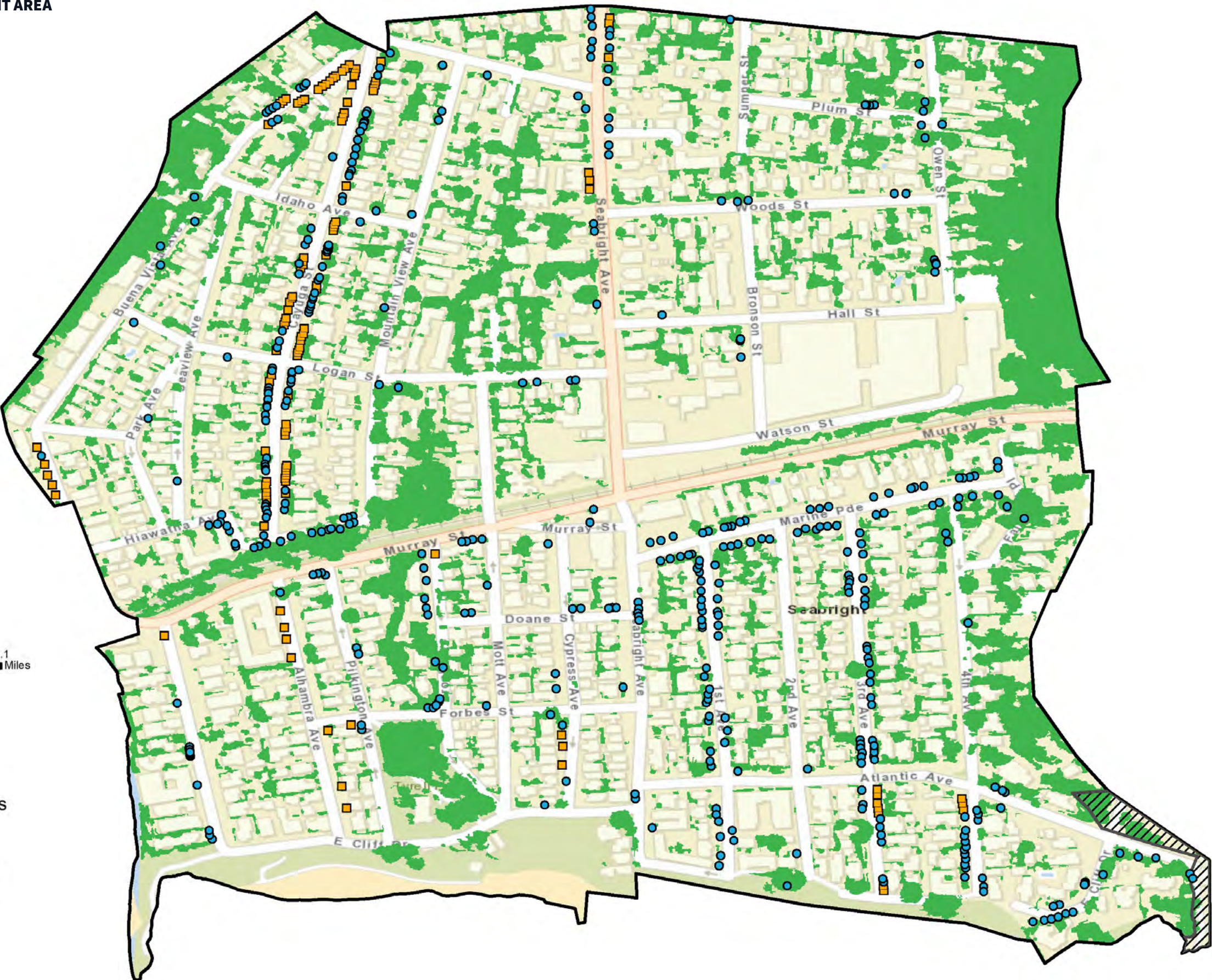
“My first recollection of Seabright was in the early eighties (that’s 1880s), when what is now known as Seabright was open field and Camp Alhambra was in a large grove of cypress trees, extending over what is now known as Pilkington and Alhambra streets.”

**Miss Forbes  
Reminiscences of Seabright, 1915**

### MAP 8: STREET TREES IN THE SEABRIGHT AREA



- City Maintained Trees
- Private Maintained Trees
- Vacant Sites
- ▨ Area Plan Intersections
- ▭ Seabright Area Plan
- Tree Canopy







### BEACH AND SOUTH OF LAUREL AREA PLAN

The area contained in the Beach and South of Laurel Plan contains residential neighborhoods that are contrasted with striking physical assets that draw over 2 million tourists annually (e.g. Beach, Wharf, and Boardwalk). It is an oceanside basin surrounded by West Cliff, Beach Hill, and the mouth of the San Lorenzo River. The area is shaped by frequently occurring flood events.

**Adopted:** 1998

**Last Revised:** 1998

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

#### Specific Recommendations:

- Street tree plantings to buffer pedestrians from road
- Local streets throughout the neighborhoods to be planted with the same, single species of street tree
- Parking lot trees to reduce heat

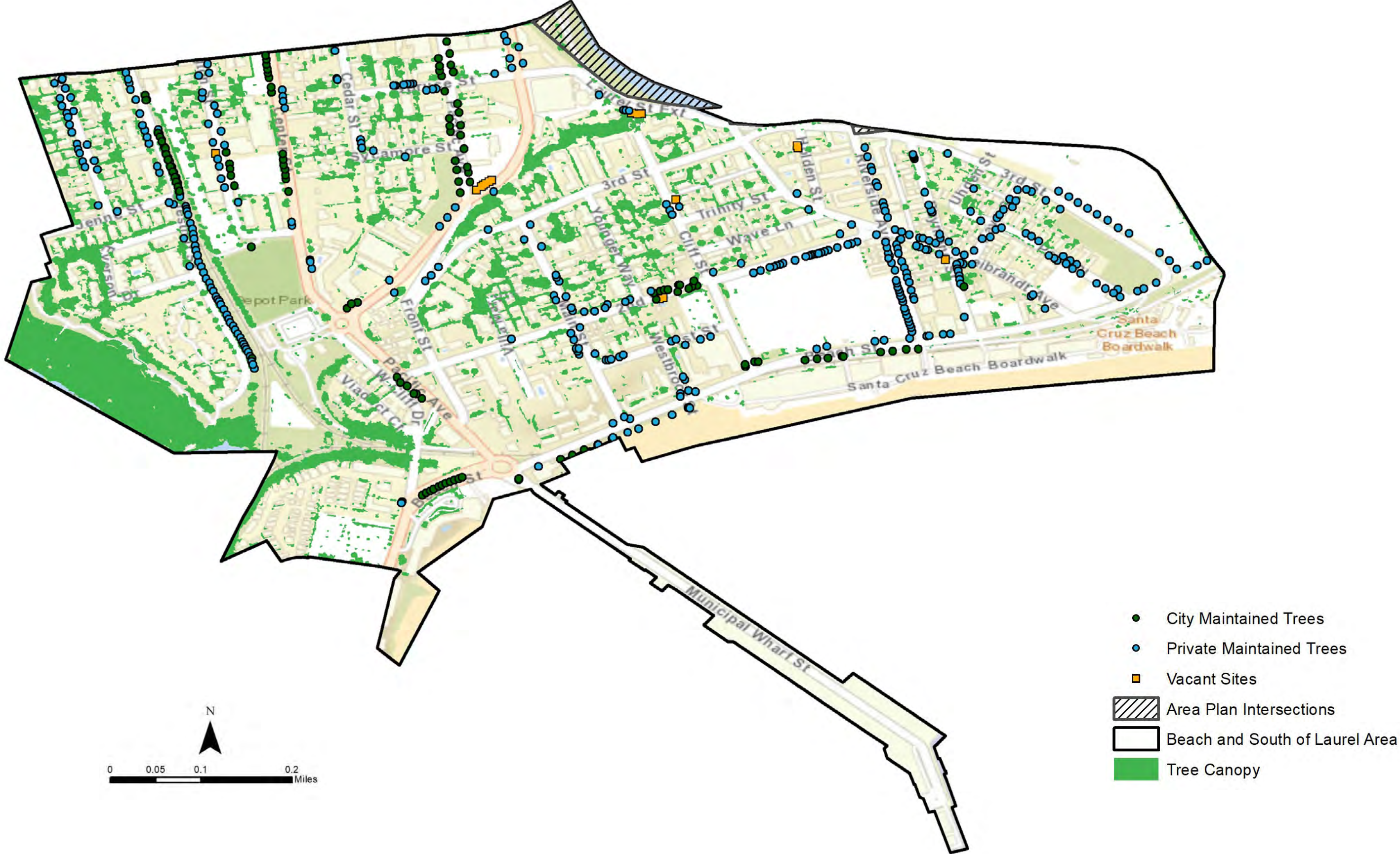
**Fold:** Mexican fan palms along Beach Street

### Street Tree Composition in the Beach and South of Laurel Area (2020):

- Total number of trees: 508 (114 CITY: 412 PO)
- Total number of vacant sites: 18
- Stocking level: 96.6%
- Total number of species: 41
- Top 5 species:
  - London plane tree (*Platanus X hispanica*)
  - crape myrtle (*Lagerstroemia indica*)
  - Mexican fan palm (*Washingtonia robusta*)
  - California sycamore (*Platanus racemosa*)
  - Callery pear (*Pyrus calleryana*)

The Beach and South of Laurel Plan specifically recommends the use of particular species. One of the recommended species is also one of the most commonly planted street trees in this area. Many of the street trees in this area are maintained by adjacent property owners. During street tree giveaways, residents are allowed to choose their preferred tree species.

### MAP 9: STREET TREES IN THE BEACH AND SOUTH OF LAUREL AREA







## OCEAN STREET AREA PLAN

The Ocean Street Area Plan focuses on revitalizing the Ocean Street corridor, a 1.2 mile length of Ocean Street that runs south from Highway 17 to the San Lorenzo River. This major gateway contains a variety of land uses, with an assortment of building types containing services such as retail stores, hotels and motels, medical and dental offices, business offices, and residential neighborhoods. Most of the City Government's main offices are located along the corridor. This corridor sees large flows of commuter, visitor, and truck traffic and largely consists of four lanes, a bike lane, off street parking, a center median with tree plantings, and a sidewalk. The Area Plan is meant to fulfill the General Plan 2030 goal to promote mixed-use development that positively impacts the character of the City, linkages, and streetscape enhancements.

**Fold Top:** Ocean Street

**Fold Bottom:** Tree canopy on Ocean Street

**Adopted:** 2014

**Last Revised:** 2014

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

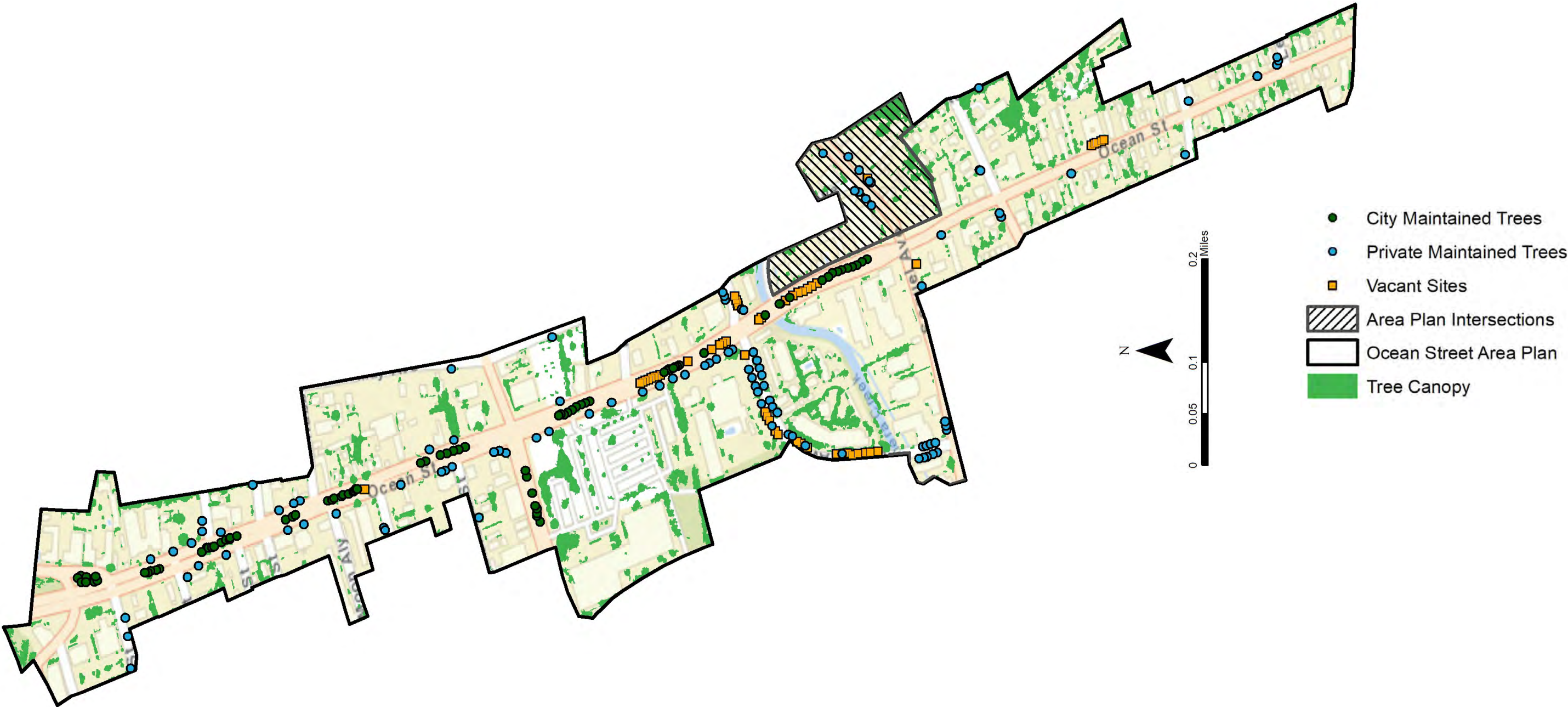
**Specific Recommendations:**

- Protecting trees
- Drought tolerant plants for low maintenance in medians
- Gateway improvements that incorporate landscaping
- Street trees to improve pedestrian amenities

**Street Tree Composition in the Ocean Street Area (2020):**

- Total number of trees: 188 (106 CITY: 132 PO)
- Total number of vacant sites: 50
- Stocking level: 80.0%
- Total number of species: 33
- Top 5 species:
  - coast redwood (*Sequoia sempervirens*)
  - Hollywood juniper (*Juniperus Torulosa*)
  - windmill palm (*Trachycarpus fortunei*)
  - California sycamore (*Platanus racemosa*)
  - London plane tree (*Platanus X hispanica*)

## MAP 10: STREET TREES IN THE OCEAN STREET AREA







### MISSION STREET URBAN DESIGN PLAN

As one of the most widely-used corridors in Santa Cruz, the construction projects to widen Mission Street initiated the development of the Mission Street Urban Design Plan. The Mission Street Urban Design Plan was adopted by California Department of Transportation (Caltrans) and City Council in 2002 for around 2.25 miles of the Mission Street corridor, several parcels deep, where it is now concurrent with the State Route 1. Most of the corridor interfaces with key commercial retail and office buildings, but there are several residential parcels as well. Businesses along the corridor provide various auto and visitor services (e.g. gas stations, restaurants, and hotels). As such, the Plan encourages varied building styles and landscapes and addresses the circulation conflict between the dual purposes of the corridor: access to local services and regional traffic thoroughfare and provides a unified vision for the commercial corridor.

**Adopted:** 2002

**Last Revised:** 2002

**Tree Palette or Specific Tree Requirements:** Yes

**Design and Construction Standards for trees or planters:** Yes

**Specific Recommendations:**

- Streetscape improvements that incorporate trees
- A Street Tree Program to support revitalization along the corridor

**Fold Top:** London plane trees on Mission Street

**Fold Bottom:** Queen palms on Mission Street

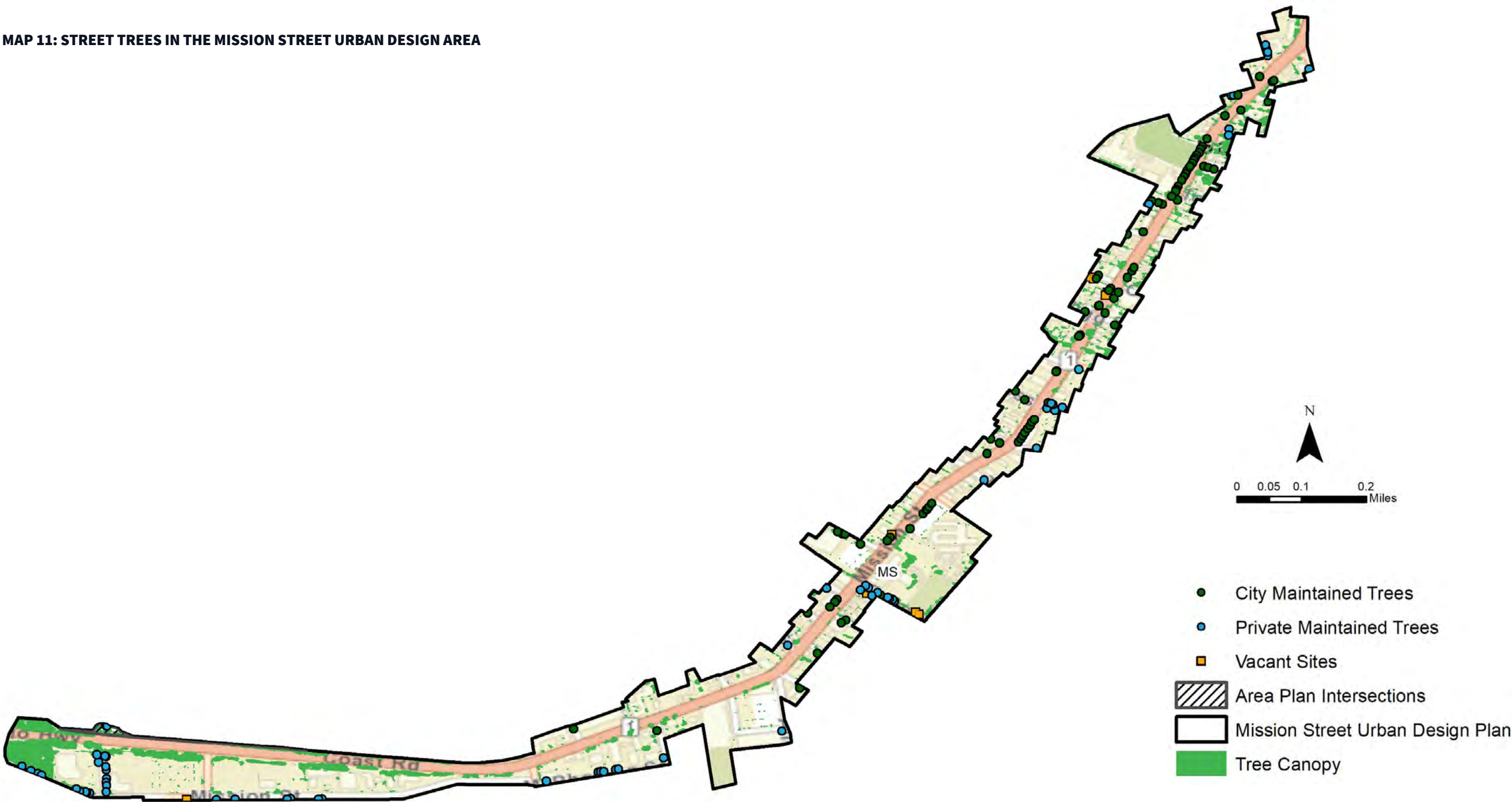
- Retaining existing evergreens and mature trees.
- Indicate all existing street trees and where street tree plantings are feasible

### Street Tree Composition in the Mission Street Area:

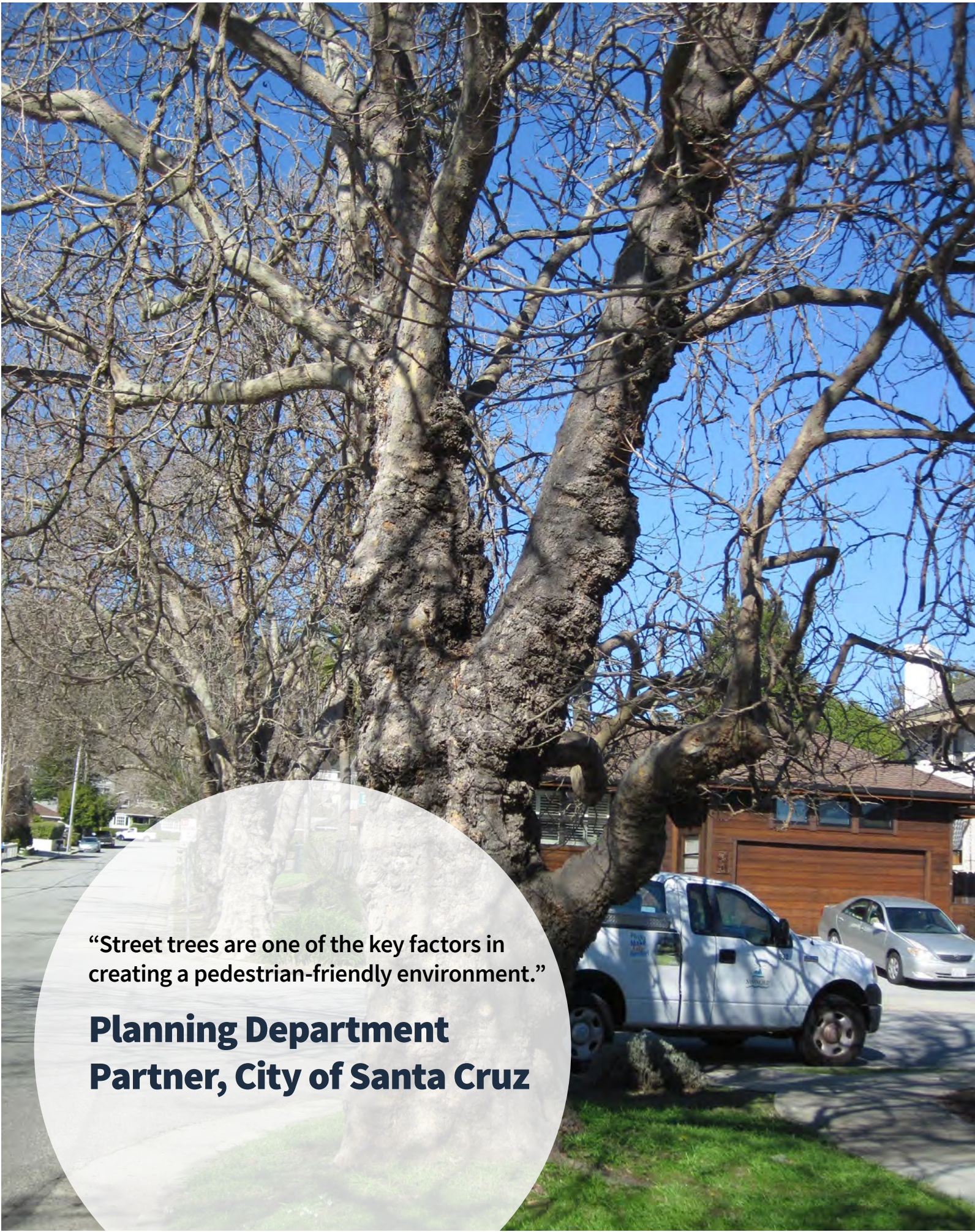
- Total number of trees: 150 (94 CITY: 69 PO)
- Total number of vacant sites: 13
- Stocking level: 92.0%
- Total number of species: 39
- Top 5 species:
  - London plane tree (*Platanus X hispanica*)
  - crape myrtle (*Lagerstroemia indica*)
  - Callery pear (*Pyrus calleryana*)
  - Chinese pistache (*Pistacia chinensis*)
  - coast redwood (*Sequoia sempervirens*)

The Mission Street Urban Design Plan provides a tree list. Only one of the top 5 species planted within this area is not included on the list.

### MAP 11: STREET TREES IN THE MISSION STREET URBAN DESIGN AREA







“Street trees are one of the key factors in creating a pedestrian-friendly environment.”

**Planning Department  
Partner, City of Santa Cruz**

## Conclusion

Santa Cruz is known as the community where the redwoods meet the ocean and residents appreciate the many natural resources that surround them. Because of the value the community places on natural resources, the City has a long-standing history of urban forestry and street tree programming. Building upon this history and well-established tree protection ordinances, the program is strengthened by a newly completed, comprehensive tree inventory and inventory management system, which allows managers to make data-driven decisions when addressing maintenance needs.

A Resource Analysis (2020) benchmarks the composition, benefits, and value of the community tree resource. The Street Tree Management Plan builds upon the information in the inventory and Resource Analysis. It outlines a comprehensive 5-year work plan with annual maintenance quotas to demonstrate how to address all maintenance priorities identified by the tree inventory over the next 5 years.

Street trees make up an estimated 4.3% of the land area in Santa Cruz and are integral to the wellbeing of the community. The overall species diversity is exceeding the national average and the industry rule of thumb. Nevertheless, urban forest managers are dedicated to increasing diversity, especially at the area and neighborhood levels. The City is interested in increasing tree canopy and, as part of the Climate Action Plan 2030, is engaging the community to determine canopy goals for the urban forest as well as the street tree component.

The Urban Forestry Office has capable and dedicated staff. Although, due to resource limitations, urban forestry operations are at, or above, capacity. The street tree budget is limited. This has resulted in staffing reductions and the transition of care for rights-of-way trees to adjacent property owners (1985). The transition from City to private street tree care has been to the detriment of the street trees. While the care of street trees is largely the responsibility of private property owners (84.5%), permits are required for street tree planting, pruning, and removal. This results in an overwhelming volume of tree permits which are all handled by the Urban Forester.

The City is responsible for the maintenance of 15.5% of street trees, or those trees adjacent to City property. Staff in the Parks and Recreation Department realize that current funding levels are not adequate to maintain all the street trees adjacent to City property on a proactive cycle. A subset of the trees are prioritized and maintained on a 2-year cycle, including those in the Downtown Area and along main corridors, all other maintenance is ad-hoc.

Municipal Code designates that property owners are responsible for the maintenance of adjacent street trees and for resolving any safety concerns in the parkway. Despite this, the maintenance of street trees adjacent to private properties is variable and, in many cases, not performed regularly or to industry standards. Many homeowners may be unaware of these responsibilities or may not have the knowledge

or the resources to properly care for trees. As a result of the inconsistencies in tree maintenance, not all trees are receiving adequate care. Overall, there is a need for more education regarding the care of trees planted in the rights-of-way.

Trees in Santa Cruz are protected under the Heritage Tree Ordinance and the Street Tree Ordinance. Some street trees meet the size threshold for a heritage tree and are therefore protected by both ordinances. As a whole, mitigation requirements are followed by residents and the resulting funds help to replenish tree canopy on public property and rights-of-way throughout the community.

Street tree planting occurs in vacant City-maintained sites when possible and in sites adjacent to private property upon resident or neighborhood requests for trees. Planting also occurs to commemorate significant events or people, but it is not currently guided by the tree inventory or prioritized by the amount of environmental or socioeconomic benefits that could be gained from strategic tree planting. Tree plantings follow the Approved Street Tree Planting List and/or recommended species provided in the Specific Area Plans. Notably, in the areas where planning is guided by a Specific Area Plan, the street tree inventory aligns with the recommended tree species or the overarching tree list for the area. Urban forest managers are considering the future impacts of climate change when selecting tree species and they plan to incorporate experimental species that are suitable for the projected climate conditions.

Santa Cruz is built out, but infill development and redevelopment projects occur on a regular basis. During these projects, street trees are considered, but due to ongoing space limitations, tree wells may not be incorporated or are reduced in size to accommodate development. City staff are highly collaborative and share the common goal to have tree lined streets. Therefore, they work together to implement the most practical solutions on a case by case basis. In doing so, the City has successfully avoided many tree-infrastructure conflicts. Sometimes conflicts arise because, by definition, street trees are planted amongst other infrastructure and space is limited.

The STMP can help guide the Urban Forestry Office as staff continue to work toward solutions to increase the level of care for street trees. The STMP identifies 8 goals that focus on strengthening the street tree resource and an additional 14 goals for the urban forest. It also benchmarks the current performance of Santa Cruz’s street tree program using the Sustainability Indicators (Appendix I). Moving forward, this tool can be used to better understand how the program can meet industry recommendations and improve the effectiveness of their management approach.

**Fold:** Dormant London plane trees on Fairland Way





# Street Tree Work Plan – 5 Year

Over the next five years, the street tree work plan provides a roadmap through annual work plans to efficiently address the maintenance needs of all street trees by prioritizing primary maintenance needs. The work plan does not account for changes in priority maintenance needs or resources and funding limitations. Staff will continue to schedule work based on the highest known maintenance priority. The highest level of priority maintenance should occur first. In other words, if a tree that is recommended for a routine prune during the initial inventory collection, but a service request and/or further inspection indicates a heightened maintenance priority, lesser priorities should be organized accordingly.

Work plans include consideration for City-managed street trees and street trees maintained by adjacent property owners (Tables 8 to 10; Appendix H). For City-managed trees, priority maintenance will be followed by routine maintenance, and the establishment of an ongoing 5-year maintenance cycle (and 1-2 years for downtown trees).

For the 10,686 street trees maintained by adjacent property owners, 246 trees were identified with priority maintenance tasks. These trees require the City to notify the adjacent property owners to indicate the necessary maintenance. In addition, the City will notify property owners of 456 street trees in need of removal and stump grinding.

There are 104 potential tree planting locations within the City-maintained rights-of-way and 2,315 potential tree planting locations within the rights-of-way abutting private property. As the Santa Cruz Tree Trust Fund is used for street tree planting, regardless of maintenance designation, the planting plan includes the maintenance activities needed for all street tree sites.

**Total City-maintained trees: 1,628**

**Total adjacent property owner-maintained trees: 10,722**

**Left:** Red flowering gum

**Right:** Lily of the valley tree





YEAR 1 WORK PLAN

In the interest of safety, Year 1 will address priority removals and priority pruning. Trees with priority removals have a high volume of dead wood or pose immediate risk to public safety. At a minimum, trees designated as Priority 1 removal should be addressed in Year 1. Large trees or trees that are located at, or near, City facilities, schools, and along major arterial roads should be addressed before small trees or trees within areas with lower occupancy rates.

To address City-maintained trees in need of priority prunes and removals, the city will address all five Priority 1 prunes and 23 Priority 2 prunes. City-maintained trees with Priority 1 and 2 removals (11) are also scheduled for Year 1. In addition, the City will notify property owners responsible for the maintenance of the 280 identified rights-of-way trees with the recommendation of Priority 1, 2, or 3 removal as well as 246 trees identified with Priority 1 and 2 pruning in Year 1.

Structural pruning is extremely beneficial for the future health and structure of young trees. Most structural defects that occur in older trees could have been prevented through the strategic pruning of young trees. Structural pruning can promote desirable and stable branch structure, which can result in reduced maintenance costs later in the life of the tree, as well as, extend the overall lifespan. Because structural pruning is most beneficial for trees when they are young, the city will conduct structural prunes on the trees recommended for this specialized structural pruning within the first year of the Plan. In addition, adjacent property

owners will be notified of all 13 trees with the recommendation of structural prune.

Routine pruning includes trees recommended for large and small routine prune and trees with no maintenance recommendation. The type of prune can provide managers with a general idea of the equipment needed to complete the task (small routine prunes should not require climbing equipment or aerial lifts). In total, routine prunes identified for City-maintained trees include 1,081 trees, excluding the Downtown Area. These trees are scheduled for pruning on a five-year cycle. In addition, there are 378 trees in the Downtown area recommended for routine pruning. These trees are scheduled for pruning on a two-year cycle. To offset the priority maintenance needs, 336 City-maintained trees are scheduled for routine pruning in year 1.

Considering these 2,419 planting sites and sites created from the removal of trees recommended for priority removal, managers should aim to plant approximately 761 trees annually over the next five years (Table 9).

- Priority Pruning (28 CITY: 246 PO)
- Priority Removal (11 CITY: 280 PO)
- Routing Maintenance (336 CITY: 1,548 PO)
- Structural Prune: (1 CITY: 13 PO)
- Planting (32 CITY: 729 PO)

**Year 1 Total Cost for city-maintained tree maintenance and all planting: \$473,220 (\$381,900 Maintenance: \$91,320 Planting)**

YEAR 2 WORK PLAN

Year 2 maintenance includes non-priority tree removal and stump grinding, with 191 tree removals in Year 2, which will complete this task. Routine pruning will continue for 442 City-maintained trees, including 189 in the Downtown Area, and 1,536 adjacent property owner-maintained trees.

- Tree Removal and Stump Grind: (15 CITY: 176 PO)
- Routine Maintenance (442 CITY: 1,536 PO)
- Planting (32 CITY: 718 PO)

**Year 2 Total Cost for city-maintained tree maintenance and all planting: \$617,100 (\$527,100 Maintenance: \$90,000 Planting)**

YEAR 3 WORK PLAN

In Year 3, routine pruning will continue to occur for 1,957 trees. As trees are planted, structural prunes should occur regularly during Year 3 through Year 5 of the Plan, otherwise many of the trees recommended for structural prune will have grown and will likely require elevated maintenance and care. Some structural pruning can be completed as trees are planted, but most will require additional visitation within two years after establishment. On average, 754 trees need structural prunes annual over the last three years of the Plan.

- Routine Maintenance (421 CITY: 1,536 PO)
- Structural Prune: (32 CITY: 729 PO)
- Planting (32 CITY: 718 PO)

**Year 3 Total Cost for city-maintained tree maintenance and all planting: \$578,300 (\$488,300 Maintenance: \$90,000 Planting)**

YEAR 4 WORK PLAN

Routine pruning will continue for 1,957 trees completing one full-cycle for the majority of trees and two full cycles for Downtown trees in Year 4. Structural prunes will continue on 750 trees.

- Routing Maintenance (421 CITY: 1,536 PO)
- Structural Prune: (32 CITY: 718 PO)
- Planting (32 CITY: 718 PO)

**Year 4 Total Cost for city-maintained tree maintenance and all planting: \$580,100 (\$490,100 Maintenance: \$90,000 Planting)**

YEAR 5 WORK PLAN

Trees with priority pruning will be added back into the routine pruning cycle in Year 5. In total, 2,180 trees are scheduled for routine maintenance. Structural prunes will continue on 750 trees.

- Routine Maintenance (431 CITY: 1,749 PO)
- Structural Prune: (32 CITY: 718 PO)
- Planting (32 CITY: 718 PO)

**Year 5 Total Cost for city-maintained tree maintenance and all planting: \$587,300 (\$497,300 Maintenance: \$90,000 Planting)**

"Our sidewalks cannot accommodate tree wells in most locations."

Climate Action Partner,  
City of Santa Cruz

TABLE 8: CITY-MAINTAINED STREET TREE WORK PLAN

| Estimated Costs for Each Activity     |                         |           | Year 1     |            |           | Year 2     |            |           | Year 3     |            |           | Year 4     |            |           | Year 5     |              |                   | Total 5-Year Work Plan Cost |
|---------------------------------------|-------------------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|--------------|-------------------|-----------------------------|
| Maintenance Activity                  | Diameter Class (inches) | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost   | Total 5-Year Cost |                             |
| Routine Pruning <sup>8</sup>          | 0 - 3                   | \$300     | 49         | \$14,700   | \$300     | 49         | \$14,700   | \$300     | 49         | \$14,700   | \$300     | 49         | \$14,700   | \$300     | 53         | \$15,900     | \$74,700          |                             |
|                                       | 4 - 7                   | \$300     | 50         | \$15,000   | \$300     | 47         | \$14,100   | \$300     | 47         | \$14,100   | \$300     | 47         | \$14,100   | \$300     | 49         | \$14,700     | \$72,000          |                             |
|                                       | 8 - 13                  | \$800     | 48         | \$38,400   | \$800     | 46         | \$36,800   | \$800     | 46         | \$36,800   | \$800     | 46         | \$36,800   | \$800     | 46         | \$36,800     | \$185,600         |                             |
|                                       | 14 - 21                 | \$1,800   | 0          | \$0        | \$1,800   | 42         | \$75,600   | \$1,800   | 41         | \$73,800   | \$1,800   | 41         | \$73,800   | \$1,800   | 42         | \$75,600     | \$298,800         |                             |
|                                       | 22 - 35                 | \$1,800   | 0          | \$0        | \$1,800   | 38         | \$68,400   | \$1,800   | 36         | \$64,800   | \$1,800   | 36         | \$64,800   | \$1,800   | 38         | \$68,400     | \$266,400         |                             |
|                                       | 36 +                    | \$1,800   | 0          | \$0        | \$1,800   | 16         | \$28,800   | \$1,800   | 13         | \$23,400   | \$1,800   | 13         | \$23,400   | \$1,800   | 14         | \$25,200     | \$100,800         |                             |
| Activity Total(s)                     |                         |           | 147        | \$68,100   |           | 238        | \$238,400  |           | 232        | \$227,600  |           | 232        | \$227,600  |           | 242        | \$236,600    | \$998,300         |                             |
| Routine Pruning Downtown <sup>8</sup> | 0 - 3                   | \$500     | 16         | \$8,000    | \$500     | 15         | \$7,500    | \$500     | 16         | \$8,000    | \$500     | 15         | \$7,500    | \$500     | 16         | \$8,000      | \$39,000          |                             |
|                                       | 4 - 7                   | \$500     | 53         | \$26,500   | \$500     | 54         | \$27,000   | \$500     | 53         | \$26,500   | \$500     | 54         | \$27,000   | \$500     | 53         | \$26,500     | \$133,500         |                             |
|                                       | 8 - 13                  | \$1,000   | 40         | \$40,000   | \$1,000   | 39         | \$39,000   | \$1,000   | 40         | \$40,000   | \$1,000   | 39         | \$39,000   | \$1,000   | 40         | \$40,000     | \$198,000         |                             |
|                                       | 14 - 21                 | \$2,200   | 63         | \$138,600  | \$2,200   | 63         | \$138,600  | \$2,200   | 63         | \$138,600  | \$2,200   | 63         | \$138,600  | \$2,200   | 63         | \$138,600    | \$693,000         |                             |
|                                       | 22 - 35                 | \$2,800   | 11         | \$30,800   | \$2,800   | 11         | \$30,800   | \$2,800   | 11         | \$30,800   | \$2,800   | 11         | \$30,800   | \$2,800   | 11         | \$30,800     | \$154,000         |                             |
|                                       | 36 +                    | \$2,800   | 6          | \$16,800   | \$2,800   | 7          | \$19,600   | \$2,800   | 6          | \$16,800   | \$2,800   | 7          | \$19,600   | \$2,800   | 6          | \$16,800     | \$89,600          |                             |
| Activity Total(s)                     |                         |           | 189        | \$260,700  |           | 189        | \$262,500  |           | 189        | \$260,700  |           | 189        | \$262,500  |           | 189        | \$260,700    | \$1,307,100       |                             |
| Priority Pruning                      | 0 - 3                   | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0          | \$0               |                             |
|                                       | 4 - 7                   | \$300     | 5          | \$1,500    | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0          | \$1,500           |                             |
|                                       | 8 - 13                  | \$800     | 4          | \$3,200    | \$800     | 0          | \$0        | \$800     | 0          | \$0        | \$800     | 0          | \$0        | \$800     | 0          | \$0          | \$3,200           |                             |
|                                       | 14 - 21                 | \$1,800   | 4          | \$7,200    | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$7,200           |                             |
|                                       | 22 - 35                 | \$1,800   | 7          | \$12,600   | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$12,600          |                             |
|                                       | 36 +                    | \$1,800   | 8          | \$14,400   | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$14,400          |                             |
| Activity Total(s)                     |                         |           | 28         | \$38,900   |           | 0          | \$0        |           | 0          | \$0        |           | 0          | \$0        |           | 0          | \$0          | \$38,900          |                             |
| Structural Pruning                    | 0 - 3                   | \$300     | 1          | \$300      | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0          | \$300             |                             |
|                                       | 4 - 7                   | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 0          | \$0          | \$0               |                             |
|                                       | 8 - 13                  | \$800     | 0          | \$0        | \$800     | 0          | \$0        | \$800     | 0          | \$0        | \$800     | 0          | \$0        | \$800     | 0          | \$0          | \$0               |                             |
|                                       | 14 - 21                 | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$0               |                             |
|                                       | 22 - 35                 | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$0               |                             |
|                                       | 36 +                    | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0        | \$1,800   | 0          | \$0          | \$0               |                             |
| Activity Total(s)                     |                         |           | 1          | \$300      |           | 0          | \$0        |           | 0          | \$0        |           | 0          | \$0        |           | 0          | \$0          | \$300             |                             |
| Tree Removal & Stump Grinding         | 0 - 3                   | \$500     | 4          | \$2,000    | \$500     | 4          | \$2,000    | \$500     | 0          | \$0        | \$500     | 0          | \$0        | \$500     | 0          | \$0          | \$4,000           |                             |
|                                       | 4 - 7                   | \$500     | 2          | \$1,000    | \$500     | 0          | \$0        | \$500     | 0          | \$0        | \$500     | 0          | \$0        | \$500     | 0          | \$0          | \$1,000           |                             |
|                                       | 8 - 13                  | \$1,000   | 0          | \$0        | \$1,000   | 2          | \$2,000    | \$1,000   | 0          | \$0        | \$1,000   | 0          | \$0        | \$1,000   | 0          | \$0          | \$2,000           |                             |
|                                       | 14 - 21                 | \$2,200   | 1          | \$2,200    | \$2,200   | 5          | \$11,000   | \$2,200   | 0          | \$0        | \$2,200   | 0          | \$0        | \$2,200   | 0          | \$0          | \$13,200          |                             |
|                                       | 22 - 35                 | \$2,800   | 2          | \$5,600    | \$2,800   | 3          | \$8,400    | \$2,800   | 0          | \$0        | \$2,800   | 0          | \$0        | \$2,800   | 0          | \$0          | \$14,000          |                             |
|                                       | 36 +                    | \$2,800   | 1          | \$2,800    | \$2,800   | 1          | \$2,800    | \$2,800   | 0          | \$0        | \$2,800   | 0          | \$0        | \$2,800   | 0          | \$0          | \$5,600           |                             |
| Activity Total(s)                     |                         |           | 11         | \$13,900   |           | 15         | \$26,200   |           | 0          | \$0        |           | 0          | \$0        |           | 0          | \$0          | \$40,100          |                             |
| Program Administration                |                         |           |            |            |           |            |            |           |            |            |           |            |            |           |            |              |                   |                             |
| All Maintenance Activity Grand Total  | 376                     |           |            | 442        |           |            | 421        |           |            | 421        |           |            | 431        |           |            | 2,091        |                   |                             |
| Cost Grand Total                      | \$381,900               |           |            | \$527,100  |           |            | \$488,300  |           |            | \$490,100  |           |            | \$497,300  |           |            | \$2,384,700  |                   |                             |
|                                       |                         |           |            |            |           |            |            |           |            |            |           |            |            |           |            |              |                   |                             |
| Current Annual Maintenance Budget     | \$150,000               |           |            | \$150,000  |           |            | \$150,000  |           |            | \$150,000  |           |            | \$150,000  |           |            | \$750,000    |                   |                             |
| Shortfall/Gap                         | -\$231,900              |           |            | -\$377,100 |           |            | -\$338,300 |           |            | -\$340,100 |           |            | -\$347,300 |           |            | -\$1,634,700 |                   |                             |
|                                       |                         |           |            |            |           |            |            |           |            |            |           |            |            |           |            |              |                   |                             |

<sup>8</sup> Routine pruning includes trees with no maintenance specified



TABLE 9: STREET TREE PLANTING PLAN

| Estimated Costs for Each Activity |                                | Year 1    |            |            | Year 2    |            |            | Year 3    |            |            | Year 4    |            |            | Year 5    |            |            | Total 5-Year Cost |
|-----------------------------------|--------------------------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------|------------|-------------------|
|                                   |                                | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Cost/tree | # of Trees | Total Cost | Total 5-Year Cost |
| Tree Planting                     | Planting Identified Sites      | \$120     | 486        | \$58,320   | \$120     | 475        | \$57,000   | \$120     | 475        | \$57,000   | \$120     | 475        | \$57,000   | \$120     | 475        | \$57,000   | \$286,320         |
|                                   | Planting Replacement Trees     | \$120     | 275        | \$33,000   | \$120     | 275        | \$33,000   | \$120     | 275        | \$33,000   | \$120     | 275        | \$33,000   | \$120     | 275        | \$33,000   | \$165,000         |
|                                   | Structural Prune               | \$300     | 0          | \$0        | \$300     | 0          | \$0        | \$300     | 761        | \$228,300  | \$300     | 750        | \$225,000  | \$300     | 750        | \$225,000  | \$678,300         |
| Tree Planting Activity Total(s)   |                                |           | 761        | \$91,320   |           | 750        | \$90,000   |           | 1,511      | \$318,300  |           | 1,500      | \$315,000  |           | 1,500      | \$315,000  | \$1,129,620       |
| Program Administration            |                                |           |            |            |           |            |            |           |            |            |           |            |            |           |            |            |                   |
| Tree Planting Costs               | Cost Grand Total               |           |            | \$91,320   |           |            | \$90,000   |           |            | \$318,300  |           |            | \$315,000  |           |            | \$315,000  | \$1,129,620       |
|                                   | Current Annual Planting Budget |           |            | \$15,000   |           |            | \$15,000   |           |            | \$15,000   |           |            | \$15,000   |           |            | \$15,000   | \$75,000          |
|                                   | Shortfall/Gap                  |           |            | -\$76,320  |           |            | -\$75,000  |           |            | -\$303,300 |           |            | -\$300,000 |           |            | -\$300,000 | -\$1,054,620      |

TABLE 10: ADJACENT PROPERTY OWNER MAINTAINED STREET TREE WORK PLAN

|                                      | Year 1     | Year 2     | Year 3     | Year 4     | Year5      | 5-Year Total |
|--------------------------------------|------------|------------|------------|------------|------------|--------------|
| Maintenance Activity                 | # of Trees | # of Trees | # of Trees | # of Trees | # of Trees | # of Trees   |
| Routine Pruning <sup>9</sup>         | 1,548      | 1,536      | 1,536      | 1,536      | 1,794      | 7,950        |
| Priority Pruning                     | 246        | 0          | 0          | 0          | 0          | 246          |
| Structural Pruning                   | 13         | 0          | 0          | 0          | 0          | 13           |
| Tree Removal & Stump Grinding        | 280        | 176        | 0          | 0          | 0          | 456          |
| All Maintenance Activity Grand Total | 2,087      | 1,712      | 1,536      | 1,536      | 1,794      | 8,665        |

“The redwood is the glory of the Coast Range. It extends along the western slope, in a nearly continuous belt about ten miles wide, from beyond the Oregon boundary to the south of Santa Cruz, a distance of nearly four hundred miles, and in massive, sustained grandeur and closeness of growth surpasses all the other timber woods of the world.”

John Muir

<sup>9</sup> Routine pruning includes trees with no maintenance specified

Bottom: Newly planted London plane trees on Ocean Street



# Street Tree Master Plan—Goals and Actions

The goals and existing policies and actions proposed by the Street Tree Master Plan are organized by focus areas:

- 1. Street Tree Management
- 2. Urban Forest Policy and Regulation
- 3. Urban Forest Vision

Each area of focus is supported by measurable goals and specific actions that are intended to guide Santa Cruz’s street tree programming over the next 20 years, providing the foundation for annual work plans and budget forecasts. Many goals and actions support more than one focus area.

For each action, the STMP identifies a priority, a suggested timeframe for accomplishing the action, an estimated cost range, and potential partners. Priority is identified as:

- High—An action that is critical to protecting existing community assets, reducing/ managing risk, or requires minimal resources to accomplish
- Medium—An action that further aligns programming and resource improvements that have been identified as desirable by the community, partners, and/or urban forest managers, but that may require additional investment and financial resources over and above existing levels
- Low—An action that is visionary, represents an increase in current service levels, or requires significant investment

The estimated cost is categorized in the following ranges:

- \$ = less than \$25,000
- \$\$ = \$25,000 - \$100,000
- \$\$\$ = more than \$100,000

The STMP is intended to be a dynamic tool that can and should be adjusted in response to accomplishments, new information and/ or changes in community expectations, and available resources. In addition to serving as a day-to-day guide for planning and policy making, the STMP should be reviewed regularly for progress and to ensure that the actions and sub actions are integrated into the annual work plan.

With appropriate care and planning, street trees have the potential to increase in value over time. As young trees mature and their leaf surface and canopies grow, so too will the overall benefits and value from the community’s urban forest. The objectives and strategies of the STMP are intended to support this process, as well as provide overarching goals for the urban forest, in an appropriate manner that encourages the sustainable stewardship of community trees with consideration for safety, cost efficiency, and community values. The STMP includes strategies for measuring the success over time.

## Plan Focus Areas

The STMP identifies three focus areas and 22 supporting goals, which are intended to adequately manage the City’s street trees, enhancement of the tree resource and the environmental benefits provided by trees, and to provide a visionary framework for the overall urban forest. The STMP identifies three major focus areas:

- Street Tree Management
- Urban Forest Policy and Regulation
- Urban Forest Vision

### Focus Area: Street Tree Management

Street trees are significant contributors to the aesthetic and charm of the community. *Street Tree Management* is a focus area which has goals that aim to create consistent city-wide planting plans and species recommendations, increase the resources available to manage and expand the street tree resource. Proactive and consistent management of this resource will ensure sustainability, safety, and a stable flow of benefits now and for future generations.

## GOAL 1: Manage the street tree resource

With the completion of the 2020 tree inventory, proactive management of the street tree resource is imperative for staff’s ability to determine and prioritize tree care and tree planting and to address the needs of street trees in an efficient and timely manner.

Objectives for this goal feature the optimization of the use of the community tree inventory software management system to set pruning/maintenance cycles and establish tree planting/replacement plans.

## GOAL 2: Promote street tree health and good structure

When trees are well-maintained throughout their lifetimes, the risks trees pose to the public are reduced. Promoting tree health and good structure decreases the chances of having hazardous trees in the community.

Objectives for this goal include regular inspection of City-maintained street trees and enhanced care for street trees adjacent to private property.

**GOAL 3: Enhance resiliency with a comprehensive tree species palette**

Environmental changes and introduction of pests and pathogens are putting greater pressure on trees. Trees that are maladapted to the local climate and vulnerable to pests can be costly, both to manage or remove. With a comprehensive and consolidated tree species list that includes proven species that are adapted to local conditions, and species that demonstrate some resilience to pest and disease there is the potential for longer-lived trees.

The primary objective for this goal is to develop a Master Street Tree List and emphasize Right Tree Right Place philosophies.

**GOAL 4: Increase street tree planting efforts**

While maintaining existing trees is important for sustaining tree canopy cover, it is equally important to plant trees to account for the loss of tree canopy that results from removals. Increasing existing street tree planting efforts will enable the City to sustain the tree canopy for which it has direct responsibility and control over.

Objectives for this goal include developing planting plans and expanding opportunities for additional space and funds for tree planting.

**GOAL 5: Increase the environmental benefits resulting from street trees**

Street trees comprise a fraction of the urban forest, yet they provide benefits to the entire community. Striving to increase the benefits provided by street trees will result in greater equitable distribution of benefits to all.

Objectives for this goal are to collaborate with other City Departments to ensure the use of trees in designs, expand tree canopy in underserved areas, and enhance the use of trees to benefit wildlife and mediate the impacts of the urban environment.

**GOAL 6: Advocate for tree lined streets**

Trees enhance the aesthetics of the community and improve the urban environment for residents and visitors. Tree lined streets encourage greater economic development and business success.

Objectives for this goal include promoting the use of trees in landscapes and working with the Downtown Association to resolve concerns about trees.

**GOAL 7: Provide predictable and sustainable funding for the street tree resource**

Stable and predictable funding is critical to effective and efficient management of the street tree resource. Budget cuts have historically resulted in the loss of staff and decreased services provided to street trees.

Objectives for this goal focus on attaining adequate funding to ensure the care of all community trees.

**GOAL 8: Strive for optimal staffing levels**

The Urban Forestry Office is responsible for providing quality, efficient, and cost-effective services for street trees. This level of service is influenced by the number of staff, the workload, and the ability to engage in professional development.

Objectives for this goal include optimization of existing staff and consideration for additional staff to more effectively manage the current workload.

**Focus Area:  
Urban Forest Policy and Regulation**

The focus area *Urban Forest Policy and Regulation* recognizes that the tree resource is a publicly owned asset that provides critical benefits to health, economic, social, aesthetic, and quality of life for residents and visitors. The replacement value of the existing community tree resource (all public trees) is more than \$52 million. Annually the community tree resource provides \$50,118 in benefits each year (2020 Resource Analysis).

Protecting this resource ensures the community will continue to receive these benefits and more from the urban forest.

**GOAL 9: Encourage a culture of safety**

When all City Staff share core values and behaviors that promote safety, everyone, including the community, is safer.

**GOAL 10: Enhance risk management and public safety**

When trees are well-maintained throughout their lifetimes, the risks trees pose to the public are reduced. Promoting tree health and good structure decreases the chances of having hazardous trees in the community and decreases the demand for reactive and emergency tree care.

Objectives for this goal include providing proactive management of the community tree resource that aligns with industry standards and creating a risk management policy.

**GOAL 11: Promote tree protection**

This goal ensures an appropriate regulatory framework is in place to support the community’s vision for the urban forest.

Objectives for this goal focus on cost recovery for tree removals and improper maintenance, implementing protections for trees during construction, and revisiting Municipal Code.

**GOAL 12: Strive for uniformity between City plans, policies, guiding documents, and Departments**

Inconsistencies across City policies, documents, and departments can create confusion between departments and the community. Policy uniformity promotes strong and efficient policy that aligns with community expectations.

Objectives for this goal include furthering communication among City Departments and unifying guiding documents.



**GOAL 13: Create conditions that enhance tree establishment**

All trees, especially newly planted trees, need some level of water to thrive. Identifying efficient and cost-effective means for watering trees is critical for their health. Additionally, achieving this goal is imperative for meeting community expectations regarding efficiently managing this community asset.

Objectives for this goal include providing irrigation to establish trees and sustain existing trees and modifying planting sites to provide adequate soil volume.

**GOAL 14: Use trees to enhance the aesthetics and function of the urban landscape**

Considering trees during planning and design allows for further tree canopy to help mitigate the effects of urbanization and create more pleasing environments.

Objectives for this goal include planning for trees during development projects and using alternative designs to allow greater opportunities for tree planting.

**GOAL 15: Follow Integrated Pest Management (IPM) protocols and best management practices when addressing pests and diseases**

Pests and diseases will always be a threat to the urban forest and the City should continue following the IPM protocols.

The objective for this goal aims for the City to continue using best management practices when addressing tree pests and/or diseases.

**Focus Area:  
Urban Forest Vision**

The focus area *Urban Forest Vision* aims to foster a greater connection between the urban forest, managing partners, and the community.

**GOAL 16: Promote species diversity in the urban forest**

Currently, Santa Cruz is excelling and species diversity is much greater than the industry-accepted rule-of-thumb suggests that no community should have any one species represent more than 10% of the overall population and no genus should represent more than 20% of the population. Despite Santa Cruz’s success in this area, with a changing climate and potential pest threats, striving for even greater diversity will promote a more sustainable urban forest.

Objectives for this goal include setting species diversity goals for the community tree resource.

**GOAL 17: Expand canopy cover**

The amount and distribution of leaf surface area is the driving force behind the urban forest’s ability to produce benefits for the community (Clark et al, 1997). As canopy cover increases, so do the benefits contributed by leaf area. Santa Cruz’s current canopy cover is estimated to be 38.2%.

Objectives for this goal include further analysis of the extent and distribution of canopy cover, evaluating potential canopy goals, promoting equitable distribution of canopy, and facilitating tree planting on public and private property.

**GOAL 18: Celebrate the importance of urban trees**

Community designations and events surrounding the urban forest build awareness and excitement that encourage constituents to help build upon existing canopy.

Objectives for this goal include maintaining the Tree City USA designation and continuing to recognize the urban forest.

**GOAL 19: Partner with other city departments and other stakeholders to develop a cohesive city-wide Urban Forest Master Plan**

An Urban Forest Master Plan is a guiding document resulting from the coordinated efforts amongst stakeholders. It provides comprehensive information, community visions, recommendations, and timelines to guide for the efficient and safe management of a city’s tree canopy.

The objective for this goal is to develop an Urban Forest Master Plan.

**GOAL 20: Promote community engagement and stewardship of the urban forest**

This goal and supporting objectives supports the development of programs, activities, and materials that increase awareness and appreciation for the urban forest and trees in general.

Objectives for this goal include updating the website for urban forest to include outreach and education materials, enhancing citizen and volunteer engagement, and providing accessible and translated outreach materials.

**GOAL 21: Contribute to a fire safe community**

In the last decade, California has experienced catastrophic losses as a result of wildfire. With prolonged periods of drought and a changing climate, wildfire is likely to continue to be a threat to communities that neighbor the wildland urban interface. The risk of living in these areas can be reduced through numerous wildfire mitigation strategies.

The objective for this goal is critical for managing and reducing the risks that come with living in an area vulnerable to wildfire and the responsibility that comes with that exposure.

**GOAL 22: Repurpose woody materials whenever possible**

Using woody materials that result from tree removals reduces waste and allows managers to recover value from felled community trees. Repurposing woody material into wood products and mulch can provide revenue and prevent the need to purchase wood mulch used to care for the urban forest.

Objectives for this goal include developing a wood utilization program.



# Street Tree Management

## GOAL 1:

### Manage the street tree resource

#### PERFORMANCE MEASURE:

A known and planned duration between maintenance activities for City-maintained street trees.

#### RATIONALE:

Trees are an asset valued by the community. A high level of standard coupled with an up-to-date inventory allows staff to identify and track maintenance needs and provide excellent customer service.

#### RISK:

A lack of understanding of the age, structure, benefits, and maintenance needs of public trees makes the community tree resource vulnerable canopy cover loss. It also creates challenges in responding to pests and could increase the costs of managing such threats.

#### BENEFIT:

A better understanding of the street tree resource enables staff to prioritize tasks and improve efficiency.

#### OBJECTIVE:

Maintain a tree inventory that can be used to manage the street tree resource.

#### ACTIONS:

- Identify maintenance needs using the online tree inventory and work plans developed in the STMP
- Maintain and regularly update the street tree inventory as tree work occurs
  - Develop procedures and assign responsibilities for inventory maintenance
  - After trees are removed, convert sites to potential planting sites to guide future planting plans
  - Update diameter measurements and tree condition
  - Consider updating tree inventory data specification to include tree distance and direction from buildings in order to project energy benefits in a future Resource Analysis
- Train any new staff to manage the inventory
- Require contractors to regularly update inventory records as work is performed
- Use the street tree inventory and work plan to notify property owners about any tree maintenance needed

COST: \$

TIME FRAME: Ongoing

## GOAL 2:

### Promote street tree health and good structure

#### PERFORMANCE MEASURE:

Reductions in tree/limb failure and removal. Greater tree longevity and reduced risk.

#### RATIONALE:

Tree health improves and liability declines when timely maintenance is programmed and provided.

#### RISK:

Inexpensive and minor tree issues can develop into expensive and high-risk problems without proper maintenance.

#### BENEFIT:

An understanding of the condition, structure, and overall health allows managers to identify and address issues before they become critical, resulting in a healthier, longer living street tree resource.

#### OBJECTIVE:

Regularly inspect City-maintained street trees.

#### ACTIONS:

- Care for City-maintained street trees on a routine cycle
- Continue to maintain trees in the Downtown Area on a 2-year cycle
- Consider maintaining street trees on a 4-year cycle as presented in the 5-year work plan
- Ensure maintenance cycles include the following:
  - Scheduled maintenance and inspection at reasonable intervals
  - Avoid pruning trees that do not require maintenance
  - Adequate records of the inspection and activity via updates to the inventory software
  - Timely response to discovered defects (e.g. disease or decay)

- Timely response to complaints and concerns
- Stable funding

- Follow an annual work plan
- Identify 12-month goals and the resources necessary for their completion
  - Review STMP goals, actions, and timeline
- Develop an annual budget and justification for work plans

COST: \$

TIME FRAME: Ongoing/ Every 2 to 5 Years

#### OBJECTIVE:

Elevate the care of street trees maintained by adjacent property owners.

#### ACTIONS:

- Consider taking responsibility for the maintenance of street trees abutting private property
- Notify property owners of necessary maintenance tasks identified in the inventory
  - Use TreeKeeper® software to generate and organize mailing sheets that provide the specifics of the tree and explain the necessary priority maintenance
- Promote routine maintenance for adjacent property owner-maintained street trees
- Include a mailer on the estimated cost of the work
- Expand the Heritage Tree Grant Program to better ensure street trees maintained by adjacent property owners receive adequate care (Park Master Plan)

COST: \$ - \$\$\$

TIME FRAME: 10 Years

# Street Tree Management (continued)

## GOAL 3:

### Enhance resiliency with a comprehensive tree species palette

#### PERFORMANCE MEASURE:

An updated, City-approved Master Street Tree List.

#### RATIONALE:

Environmental changes can render some species maladapted while other species, including newly developed, resistant varieties and cultivars, may indicate better performance. Periodic updates will ensure the species list reflects current information.

#### RISK:

Using multiple, disjunct documents creates confusion and makes implementation difficult.

#### BENEFIT:

A single, comprehensive Master Street Tree List consolidates species selection and requirements, reduces redundancy, and supports efficient planning.

#### OBJECTIVE:

Create an updated Master Street Tree List.

#### ACTIONS:

- Update approved street tree list to serve as a comprehensive and overarching list of approved species for the rights-of-way (Santa Cruz Municipal Code 13.30)
- Consolidate Area Plan Street Tree Lists into the Master Tree List
  - Create sub-lists for Specific Areas with planting palettes and include distinctions for specific considerations, such as locations on the coastline where sea water intrusion is likely, or anticipated, as a result of climate change
  - Explore potential city analogs to determine species that may perform well under future climate conditions (e.g. Bastin et al. 2019)
  - As Area Plans are updated, reference a Master Tree List
- Expand the Approved Street Tree Planting List to

include:

- Tree selection of commercial, residential, medians, wide right of ways, narrow rights of ways, major boulevards, natural areas/zones (e.g. flood zones)
- Define sites the trees are most suitable for:
  - Rights-of-way
  - Parks/lawns
  - Near/under utilities
  - Parking lots
  - Flood zones
- Include planter space and soil volume recommendations
- Species that can thrive in recently developed or redeveloped areas
  - Species that tolerate heavy clay soils
  - Species that tolerate irrigation challenges
- Native (Local Coastal Program) or well-adapted tree species
  - Species that mitigate flooding issues
  - Species that are salt tolerant (Climate Adaptation)
  - Drought-tolerant species (Local Coastal Program)
  - Species able to withstand heat waves (Climate Adaptation)
  - Species and varieties that are pest and disease resistant and avoid planting species with similar vulnerabilities to existing trees
  - Species with minimal leaf drop and litter creation
  - Species that are attractive to wildlife
  - Species that are not hosts for major pests and diseases
- Indicate carbon sequestration potential of each

species on list

- Choose species that may be suitable for predicted future climatic conditions
  - Monitor and phase out species that are poorly adapted
  - Track species performance to determine which species succumb or withstand changes in climate or salt levels
    - Reach out to Urban Foresters and green industry members in the region for conversations on suitable trees to include in the planting palette
    - Reach out to Urban Foresters and green industry members areas with climates similar to what is expected for Santa Cruz under climate change projections
  - Plant experimental species for consideration in the street tree list
  - Diversify species palette based on climate expectations
- Make the Master Street Tree List available on the City website
  - Consider creation of a brochure with photos to synthesize data for working with adjacent property owners for planting/selection
    - Provide links to trees on the website
- Create a committee with various stakeholders and experts to review the planting list annually and update as needed (per Municipal Code)
  - Identify nurseries that can provide hard to obtain species
  - Work with a broker to locate desirable species or contract growing for hard-to-find species
- Develop species pallets based on diversity goals

COST: \$

TIME FRAME: Year 1/ 5 Year Updates

#### OBJECTIVE:

Set emphasis on the right tree in the right place.

#### ACTIONS:

- Consider tree stature and space limitations to reduce hardscape and utility conflicts
- Provide recommendations for small-stature tree species that can be planted under utility lines to prevent future conflicts
- Avoid planting species of trees that have historically resulted in hardscape damage (including species called out in the General Plan)
  - Continue to promote species that are integral to the community character in wide medians and other conducive planting spaces (e.g. redwoods)
- Avoid planting species that result in sidewalk slipping hazards
- Continue to coordinate with the Public Works Department to avoid and/or to identify solutions for conflicts between trees and other infrastructure (e.g. root pruning, root barriers, tree removal, etc.)
- Match tree species to soil and water conditions
- Consider mature crown spread
- Optimize shade and environmental benefits by planting large stature trees where feasible

COST: \$

TIME FRAME: Ongoing

Street Tree Management (continued)

GOAL 4:

Increase street tree planting efforts

PERFORMANCE MEASURE:

Number of planted and amount of tree canopy cover.

RATIONALE:

The benefits that the urban forest provides is directly related to the amount of tree canopy cover and leaf surface area.

RISK:

Reduction or stagnation of tree canopy cover may result in fewer benefits.

BENEFIT:

Expanded tree canopy increases the benefits provided by trees, and greater species diversity makes the urban forest more resilient.

OBJECTIVE:

Create a City-wide Street Tree Planting Plan (Municipal Code 13.30, General Plan).

ACTIONS:

- Increase street tree plantings (General Plan)
  - Recommend large canopy trees where there is space (e.g. medians and large planters)
- Expand the tree planting program (Park Master Plan)
  - Follow the tree planting plan outlined in the STMP
  - Continue to require permits for tree planting in the rights-of-way to track modifications to the street tree inventory
    - Track permitting metrics through the inventory
  - Continue to promote a diverse set of tree species to meet diversity standards and the various preferences of community members
  - Continue to strive for optimal age distribution for the street tree resource
- Consider direction and requirements from Area Plans when developing planting project plans
  - Eastside Business Improvement Area
    - Incorporate several street tree species to promote the species diversity standards
    - Create a street tree scheme
  - Western Drive
    - Incorporate species included in the Recommended Landscape Materials list
  - Downtown Plan
    - Incorporate the example street tree species mentioned in the Plan whenever possible
      - Avoid underperforming species or those

with known pest or pathogen problems

- San Lorenzo Urban River Plan
  - Encourage the use of native tree species whenever possible
- Seabright Area Plan
  - Incorporate the example street tree species mentioned in the Plan whenever possible
  - Follow the approved species list
- Ocean Street Area Plan
  - ncorporate the example street tree species mentioned in the Plan whenever possible
- Mission Street Area
  - Adhere to the Mission Street Urban Design Tree List
- Use street tree plantings to encourage equitable distribution of tree canopy throughout the community
- Encourage tree establishment through staking, watering, and mulching
- Check new tree plantings for establishment
- Consider the annual cost of maintenance prior to planting a tree

COST: \$

TIME FRAME: 5 Years

OBJECTIVE:

Expand opportunities for street tree planting.

ACTIONS:

- Collaborate with community groups to support tree planting and maintenance (Climate Action Program and Climate Action Plan 2030)
- Continue to allow property owners to choose

the species being planted in the rights-of-way adjacent to their property

- Continue to facilitate neighborhood and community tree planting events
- Maintain or increase the funding available through the Heritage Tree Grant to help private property owners pay for sidewalk repairs that are a result of tree root lifting and buckling
- Incorporate tree wells in development and redevelopment projects (General Plan)
- Continue to work with the Public Works Department and property owners to support the addition of sidewalk cutouts to incorporate trees
  - Consider the use of Heritage Tree Grant Funds or the Tree Trust Funds to pay for sidewalk cutouts for street tree planting sites adjacent to private property
- Continue to look for grant funding to increase street tree planting
- Consider conducting a comprehensive land cover assessment and planting priority analysis to determine potential rights-of-way sites that provide the maximum environmental benefit
  - Identify planting sites that would provide more equitable distribution of tree canopy cover
- Improve street tree planting details and standards
- Continue to implement bump-outs, re-route sidewalks, incorporate tree grates, and plant street trees at the back of the sidewalk
- Establish minimum street tree soil volume requirements
- Adapt existing planting spaces to ensure adequate soil volume

COST: \$ - \$\$\$

TIME FRAME: Ongoing

Street Tree Management (continued)

GOAL 5:

Increase the environmental benefits resulting from street trees

PERFORMANCE MEASURE:

Increase in the cumulative value in environmental services.

RATIONALE:

The City has direct influence over street trees and can therefore use them to provide environmental services to the community.

RISK:

Greater impacts from environmental stressors.

BENEFIT:

Environmental services provided by street trees benefit the whole community.

OBJECTIVE:

Increase carbon sequestration as a carbon neutrality strategy in coordination with Climate Action Plan 2030.

ACTIONS:

- Actively participate in the Climate Action Plan 2030 process in 2021
- Identify how street tree carbon sequestration will help the City achieve its 2030 climate goals
- Seek opportunities for carbon mitigation through street tree carbon sequestration as evaluated and recommended in the Climate Action Plan 2030

COST: \$

TIME FRAME: Ongoing

OBJECTIVE:

Retain large trees whenever possible.

ACTIONS:

- Collaborate with Planning to ensure alternative designs are explored to promote existing trees
- Continue to protect and preserve large trees, as they contribute the greatest amount of environmental benefits
- Celebrate the importance of large, iconic trees

COST: \$ - \$\$\$

TIME FRAME: Ongoing

OBJECTIVE:

Create additional opportunities for the incorporation of large (preferably California native species) into streetscapes.

ACTIONS:

- Collaborate with Planning to ensure large tree sites are included in designs
- Evaluate opportunities to plant street trees to better distribute environmental benefits throughout the community equitably
- Use street trees wherever possible to support stormwater and parking lot shading goals
- Minimize conflicts with wildlife and tree work by continuing to consider mating and nesting patterns
- Identify planting sites that would have the greatest impact of reducing urban heat islands and stormwater runoff
- Plant street trees to minimize heat island effect (General Plan, Park Master Plan)
- Plant trees to store carbon (Park Master Plan) and meet greenhouse gas reduction targets (Climate Action Plan)
- Plant trees that serve as wildlife habitat

COST: \$ - \$\$\$

TIME FRAME: Ongoing



# Street Tree Management (continued)

GOAL 6:

Advocate for tree lined streets

PERFORMANCE MEASURE:

Enhanced aesthetics through street tree plantings as measured through community values, perceived safety, or business activity and tourism levels.

RATIONALE:

Areas with sufficient canopy cover are valued by the community and result in increased activity, tourism, and instill a sense of pride.

RISK:

A lack of trees, which could have been avoided through alternative design.

BENEFIT:

Aesthetically pleasing atmospheres foster livelier and more engaged communities.

OBJECTIVE:

Encourage tree lined streets to enhance the well-being and aesthetics of the community.

ACTIONS:

- Promote street trees to enhance the character of the community (General Plan)
  - Consider equity in street tree planning, planting, and outreach efforts
  - Focus on overcoming barriers to street tree plantings in neighborhoods and corridors with low tree density
  - Identify and adapt plantings to reflect the values by different cultural neighborhoods within the City
- Continue to follow tree planting palettes identified for the Specific Areas in Santa Cruz to promote the desired sense of place for that area
  - Consider median plantings in new developments or areas undergoing significant reconstruction
- Continue to use engineering projects such as curb extensions and chokers to increase the amount of space available for street trees
- Use street trees to promote the use of pedestrian paths (General Plan)
- Promote tree lined streets as a traffic calming and pedestrian safety mechanism
- Work with the City's Green Business Program to incorporate street trees into the checklist of certification measures

COST: \$ - \$\$

TIME FRAME: Ongoing

OBJECTIVE:

Work with the Downtown Association to resolve conflicts with businesses visibility and signage.

ACTIONS:

- Ensure that canopy raising pruning is done correctly to promote good structure, and the corresponding strength
- Educate business owners about the benefits of trees and landscapes to retail sales and the time spent in an establishment
- Continue to promote trees with high, airy canopies to minimize conflicts with signage
- Resolve conflicts with signage policies and requirements
  - Encourage flexibility from the typical signage height (8 ft store front)
  - Promote sandwich boards where trees are causing conflict
  - Explore the use of map kiosks for areas where trees are causing conflict
  - Continue to promote species with high canopies in front of stores
- Ensure canopy raising pruning is done in a manner that does not negatively impact the long-term structure of the tree

COST: \$

TIME FRAME: 5 Years

Street Tree Management (continued)

GOAL 7:

Predictable and sustainable funding for the street tree resource

PERFORMANCE MEASURE:

Sustainable and adequate funding to sustain the street tree resource.

RATIONALE:

The amount of funding impacts the timing and opportunities for tree care. Funding for tree maintenance has continually decreased since the turn of the century. As a result, street tree maintenance is largely the responsibility of property owners adjacent to the rights-of-way, but the General Fund provides funding for a subset of City-maintained street trees.

RISK:

Inadequate funding can, and has, led to inadequate care of street trees. This will compromise the health of the urban forest and possibly increase risk and liability.

BENEFIT:

Sustainable street tree funding mechanisms provide stability in economic downturns and provide the street trees with regular care.

OBJECTIVE:

Explore the feasibility of the City taking responsibility for the maintenance of street trees adjacent to private property.

ACTIONS:

- Explore support for a Street Tree District overlay that would provide dedicated funding to maintenance of street trees currently cared for by adjacent property owners
- Conduct outreach campaigns to gauge constituent support for establishing a Street Tree District and the necessary Special Assessment
- Conduct a cost analysis to explore the feasibility of a Special Assessment to care for all trees
  - Organize maintenance areas by region to maximize cost savings
- Explore community support for Landscape Maintenance Districts in new developments

COST: \$\$\$

TIME FRAME: 10 Years

OBJECTIVE:

Secure funding for the care of City-maintained street trees.

ACTIONS:

- Identify sources for additional funding
- Continue to leverage with other Departments to provide care for street trees
- Coordinate with Economic Development, the Climate Action Program, and other stakeholders such as the Downtown Association to engage with state and elected officials to identify and access funding for multi-dimensional, collaborative projects that meet multiple goals
- Continue to actively apply for grant funding
  - Consider hiring a grant writer or partnering with other Departments to pursue grants
- Collaborate with City leadership to evaluate:
  - Appraisal fees for trees damaged in vehicular accidents
  - Larger in-lieu fees for mitigation
  - Larger fines for malicious damage to public trees
  - Explore the potential of a gas tax (see Yuba City)
  - Explore impact fees, allocation of roadway project dollars towards forestry, or donations
  - Explore bond measures to help fund City maintenance of street trees
- Continue to contribute mitigation fees to the Tree Trust Fund
- Secure sufficient fiscal resources to drive a phased implementation of the STMP

COST: \$\$\$

TIME FRAME: 10 Years

# Street Tree Management (continued)

## GOAL 8:

### Strive for optimal staffing levels

#### PERFORMANCE MEASURE:

Work plan and load are aligned with available resources and funding

#### RATIONALE:

Additional staff would allow the Urban Forestry Office to perform the current administrative and outreach workload.

#### RISK:

Inability to complete the necessary tasks.

#### BENEFIT:

Inventory management, permitting, enforcement, and cost recovery can be performed at a more optimal level.

#### OBJECTIVE:

Optimize the Urban Forestry Office’s ability to manage the current workload.

#### ACTIONS:

- Continue to keep a full-time Urban Forester position, but consider reallocation of duties
  - Transition non-tree canopy, collateral duties to other Offices where appropriate
  - Reallocate duties to allow time for grant applications and administration
  - Reallocate duties to allow time for inventory management
- Consider increasing staffing levels to handle the current workload
  - Assistant arborist
    - Consider ISA certification for this position
    - Scheduling maintenance workers, posting notices/picking up notices, coordinating emergency response

- Facilitating permits
- Monitor mitigation trees and enforce replanting if trees die (currently, this is not done)
- TreeKeeper maintenance (this is a new task)
- 1 additional full-time maintenance worker
- 0.5 Administrator
  - Permitting paperwork
  - Cost recovery
  - Outreach and education (online and in person)
- Explore the use of fellows from programs such as Climate Corps or Civicspark to add capacity

COST: \$

TIME FRAME: Years

#### OBJECTIVE:

Encourage employees to engage in professional development.

#### ACTIONS:

- Continue to promote, support, and incentivize employee ISA certified arborist credentials and other professional development opportunities

COST: \$ - \$\$

TIME FRAME: 10 Years

# Urban Forest Policy and Regulation

## GOAL 9:

### Encourage a culture of safety

#### PERFORMANCE MEASURE:

Promoting a culture of safety results in reduced workplace accidents, less down-time, and greater productivity.

#### RATIONALE:

Staff occasionally use equipment that requires continual maintenance inspections and safety checks. With every staff member engaging in safe behaviors, everyone (even the community) is safer.

#### RISK:

Tree work is dangerous, this risk is exacerbated when unsafe practices are used, or there is a lack of understanding of safety policies.

#### BENEFIT:

Fewer accidents and claims against the City, resulting from improved public safety.

#### OBJECTIVE:

Implement policies and procedures that make that tree work as safe as possible.

#### ACTIONS:

- Encourage supervisors to keep complete and updated records of safety tailgates
- Ensure trainings occur on a regular basis
  - Continue the use of certified consultants for specialized trainings
  - Provide in-house training for staff to help recognize/report hazards, along with basic pruning/proper maintenance
- Provide updated materials in safety trainings

COST: \$

TIME FRAME: Ongoing



# Urban Forest Policy and Regulation (continued)

## GOAL 10:

### Enhance risk management and public safety

#### PERFORMANCE MEASURE:

Number of claims against the City.

#### RATIONALE:

When the minimum level of care is met for all community trees, the potential for all the trees to reach maturity increases, as does the benefits provided by those trees.

#### RISK:

The street tree resource and the greater urban forest could suffer significant losses to tree canopy cover as a result of removals due to lack of maintenance.

#### BENEFIT:

Regular maintenance and inspection of the community tree resource promotes better tree health and structure, which reduces the number of removals, branch and tree failures as a result of poor structure, and increases the benefits provided to the community.

#### OBJECTIVE:

Establish a risk management policy.

#### ACTIONS:

- Work with Risk Management to set risk tolerance thresholds for trees where the risk cannot be mitigated
- Consider having a Certified Arborist with a Tree Risk Assessment Qualification (TRAQ) assess risk and recommend mitigation measures
- Coordinate inspection of all trees with pruning cycles
  - Update inventory accordingly
- Train staff on how to complete limited visual assessments
  - Familiarize staff on tree defects and conditions that affect likelihood of failure
  - Establish a reporting protocol for staff to report recognized and observed hazards
- Implement mitigation options based on level of risk and conditions present
  - Removals should be prioritized and performed as soon as possible
  - Consider moving targets (e.g., tables, benches, etc.) to reduce risk
  - Consider diverting use around trees identified with risk
  - Install structural support systems where recommended
  - Retain and monitor trees identified for moderate to low risk

**COST:** \$

**TIME FRAME:** 1 Year



“Street trees are a valuable resource in reducing urban runoff.”

**Public Works  
Department Partner,  
City of Santa Cruz**

Right: Marina madrone trees on Center Street



Urban Forest Policy and Regulation (continued)

GOAL 11:

Promote tree protection

PERFORMANCE MEASURE:

Increased cost recovery for tree losses.

RATIONALE:

Trees take a long time to grow. Preserving and protecting existing trees ensures that the stream of benefits provided by community trees is not lost or disrupted and has the opportunity to increase the stream of benefits.

RISK:

Loss of tree canopy cover and associated environmental benefits.

BENEFIT:

Preservation of community trees ensures the environmental benefits are sustained and trees that have been preserved and protected have the potential to provide even more benefits to the community over the course of their lifetimes.

OBJECTIVE:

Enhance methods for cost recovery in the case of tree damage, traffic incidents, unapproved tree removals, or improper tree maintenance.

ACTIONS:

- Enhanced enforcement and mitigation measures for trees that are removed
  - Explore adding this to the Heritage Tree Ordinance
- Explore an alternative tree removal appraisal value process
- Explore altering the fee increments
- Explore fees for delaying maintenance until emergency permits are necessary

COST: \$

TIME FRAME: 5 Years

OBJECTIVE:

Continue to implement tree protection during construction.

ACTIONS:

- Enforce tree protection zones
- Follow ANSI standards and ISA Best Management Practices for root management

COST: \$

TIME FRAME: Ongoing

OBJECTIVE:

Explore revising and amending Municipal Code to promote the protection of community trees.

ACTIONS:

- Consider revising Municipal Code 13.30
  - Require contractors to be ISA certified and adhere to ANSI Standards and Best Management Practices for tree care
    - A certified arborist should direct work
    - Provide exception for tree removal and stump grinding, certification not required
- Consider updates to enforcement measures that will aid in cost recovery
- Specify requirements for utility maintenance
  - ANSI A-300 – Part 7: Integrated Vegetation Management (most current revision)
- Review/revise planting standards for current industry recommendations
  - ANSI A-300 – Part 6: Planting and Transplanting (most current revision)

- Review/revise development standards
  - Include options and recommendations for designs that increase below-grade soil volume
- Consider revising Municipal Code 9.56
  - Require contractors to be ISA certified and adhere to ANSI Standards and Best Management Practices for tree care
    - A certified arborist should direct work
    - Provide exception for tree removal and stump grinding, certification not required
- Explore enhancing protection policies around non heritage trees (trees <14" dbh)
  - Community engagement is required

COST: \$

TIME FRAME: 5 Years

# Urban Forest Policy and Regulation (continued)

## GOAL 12:

Strive for uniformity between City plans, policies, guiding documents, and departments

**PERFORMANCE MEASURE:**

Number of policies, documents, and departments that cross reference the STMP and BMPs for tree care.

**RATIONALE:**

Uniform policies reduce confusion between departments and community members and transcends departmental changes.

**RISK:**

When policies have inconsistencies, setting a high standard of care is difficult.

**BENEFIT:**

Strong and efficient policy that aligns expectations.

**OBJECTIVE:**

Continue to communicate and coordinate with other departments.

**ACTIONS:**

- Continue to designate trees as green infrastructure (trees are recognized as infrastructure in the General Plan and Climate Adaptation Plan)
- Collaborate with the Department of Public Works and other City Departments to update the tree planting detail
- Continue to consider street trees and the urban forest in other guiding and planning documents
- Reference the STMP as guiding documents are developed
- Promote trees as an essential tool for City initiatives toward climate change goals
- Incorporate progress reporting on the STMP to the annual Climate Action Plan update
  - Add STMP "State of the Urban Forest Report" as part of the Climate Action Plan reporting and annual update
  - Tie STMP with the Climate Action Plan and scheduled updates

**COST:** \$

**TIME FRAME:** Ongoing

## GOAL 13:

Create conditions that enhance tree establishment

**PERFORMANCE MEASURE:**

Reduced tree mortality.

**RATIONALE:**

Tree planting efforts are only successful if a tree lives past the initial planting to live long enough to provide the intended benefits.

**RISK:**

The community never realizes the benefits provided by trees if they never become established.

**BENEFIT**

Reduced tree mortality rates will ensure more efficient use of available funds for tree planting, as more trees will reach maturity and provide the expected benefits to the community.

**OBJECTIVE:**

Provide water to trees efficiently and sustainably.

**ACTIONS:**

- Promote water-wise plants (Climate Action Plan)
- Implement drip irrigation systems
- Explore the use of tree water bags and other water-efficient systems
- Encourage residents to water trees
  - Provide education and outreach to residents on the importance of watering trees
  - Calculate and educate the community on the estimated cost of watering a tree
- Use mulch around establishing street trees

**COST:** \$ - \$\$

**TIME FRAME:** 5 Years / Ongoing

**OBJECTIVE:**

Upgrade existing and planned planting sites to encourage root establishment.

**ACTIONS:**

- Modify planting sites to provide adequate soil volume for the establishment of extensive root systems wherever possible
- Evaluate planter and pavement design options to reduce conflicts between trees and infrastructure

**COST:** \$ - \$\$

**TIME FRAME:** Ongoing

Urban Forest Policy and Regulation (continued)

GOAL 14:

Use trees to enhance the aesthetics and function of the urban landscape

PERFORMANCE MEASURE:

Inclusion of trees infrastructure.

RATIONALE:

Considering trees as a key element in cityscapes and an important part of design allows for their incorporation while minimizing conflicts with other infrastructure.

RISK:

Trees conflicting with other infrastructure can initiate expensive repairs or cause the need for tree removals.

BENEFIT:

Planning for trees limits the need to mitigate conflicts between trees and other infrastructure and promotes tree longevity through decreased removals.

OBJECTIVE:

Emphasize incorporating trees in development and redevelopment projects.

ACTIONS:

- Encourage the incorporation of parkways and tree wells in designs whenever possible
- Use trees as traffic calming features and to promote pedestrian safety Implement innovative structure and designs that allow for the growth and success of large-statured street trees in areas typically considered too difficult to plant trees or with limited space
- Explore below ground modifications to increase soil volume
- Require infill development and development projects that plan to incorporate street trees
- Revisit the Specific Area Plans to evaluate progress on the recommendations that relate to the urban forest

COST: \$

TIME FRAME: Ongoing

OBJECTIVE:

Collaborate with Planning and Public Works Departments to find practical solutions to allow for trees in areas with hardscape limitations.

- Work with Public Works to create revised planting details
- Support land use and planning that increases connectivity between parks, urban centers, and neighborhoods to decrease habitat fragmentation and promote canopy connectivity and wildlife corridors
  - Develop tree planting initiatives for areas with low canopy or fragmented forest areas.

- Consider the use of shared neighborhood solar gardens to allow for greater tree planting on individual parcels and prevent conflicts with street trees

COST: \$

TIME FRAME: Ongoing

OBJECTIVE:

Develop policies around parking lot shade.

ACTIONS:

- Collaborate with the Planning Department to develop requirements for parking lot shade standards in future planning documents
  - Allow for trees
  - Consider parking lot canopies as potential community solar locations

COST: \$

TIME FRAME: 5 Years

OBJECTIVE:

Incorporate trees into stormwater management systems to improve stormwater capture.

ACTIONS:

- Expand the use of trees in storm water infrastructure
- Retrofit, enhance, or supplement existing stormwater management systems with trees wherever possible
- Explore integrating tree planting into storm water management requirements
- Promote the incorporation of trees in green storm water infrastructure such as curb cuts

COST: \$

TIME FRAME: Ongoing



# Urban Forest Policy and Regulation (continued)

GOAL 15:

## Follow Integrated Pest Management (IPM) protocols and best management practices when addressing pests and diseases

PERFORMANCE MEASURE:

Reduced impact from pests and pathogens.

RATIONALE:

When managing and preventing pests, there is not a “one size fits all” approach. Using comprehensive information about pests in combination with pest control methods promotes economical management of pests and disease.

RISK:

Undesirable species may become established and threaten the urban forest.

BENEFIT:

Using comprehensive information and best management strategies can lessen the detrimental effects if pests and pathogens become established.

OBJECTIVE:

Continue to address pests and diseases using best management practices.

ACTIONS:

- Continue to follow the City of Santa Cruz Integrated Pest Management (IPM) Guidance Manual (or updated policy guidance)
  - Use cultural practices and physical and biological controls as appropriate
- Establish procedures and protocols for the response and management of an introduced pest or pathogen
  - Coordinate with UC Cooperative Extension, County Ag., CAL FIRE Forest Health staff for testing and identification
- Promote cultural practices that limit the movement of tree materials that may be harboring pests or pathogens (e.g., untreated logs, firewood, wood chips, etc.)
- Prevent the spread of *Phytophthora*, a threatening disease that impacts native tree species (Park Master Plan)
- Complete training and licensing for the proper use of pesticides, herbicides, and fungicides as permitted under the City of Santa Cruz IPM Guidance Manual (or updated policy guidance)
- Diversify the tree resource to promote greater resiliency to pests and pathogens, particularly reducing reliance on common genera
- Site and plant trees appropriately to limit tree stress in the urban environment

COST: \$

TIME FRAME: Ongoing

Right: Crape myrtles on Mission Street





# Urban Forest Vision

## GOAL 16:

### Promote species diversity in the urban forest

#### PERFORMANCE MEASURE:

Increased tree diversity at the cultivar, species, and genus levels.

#### RATIONALE:

Increasing genus and species diversity in new and replacement tree plantings will reduce reliance on abundant groups and make the urban forest more resilient to changes in the climate or pest and disease pressures.

#### RISK:

A high reliance on certain species or genera creates challenges in responding to pests and pathogens and likely increases the costs and implications.

#### BENEFIT:

Diversity allows for greater adaptability and response to changes in the environment, increasing the chances of sustaining the current tree resource.

#### OBJECTIVE:

Promote species diversity to build a more sustainable urban forest.

#### ACTIONS:

- Continue to meet tree diversity standards
  - Strive for no species representing more than 5% of the overall diversity
  - Encourage tree diversity at the genus and family level
  - Reduce monoculture plantings in neighborhoods and along main corridors
    - In areas where a uniform row of trees is desired, select a variety of trees with similar stature and form
    - Use alternative design elements to provide a cohesive character
- Experimentally plant species that are predicted to perform well in the area (e.g. McBride and Lacan, 2018)
- Review the Biodiversity technical memo during the Climate Action Plan 2030 development process
- Promote tree species that provide habitat for wildlife (Local Coastal Program, Park Master Plan)
- Avoid planting species of trees with similar vulnerabilities to pests and disease as current species

COST: \$

TIME FRAME: Ongoing

## GOAL 17:

### Expand tree canopy cover

#### PERFORMANCE MEASURE:

Increased tree canopy cover.

#### RATIONALE:

The benefits that the urban forest provides are directly related to the amount of tree canopy cover and leaf surface area.

#### RISK:

Reduction or stagnation of tree canopy cover may result in fewer benefits.

#### BENEFIT:

Expanded tree canopy increases the benefits provided by trees.

#### OBJECTIVE:

Increase tree canopy throughout the community.

#### ACTIONS:

- Explore setting a canopy goal for the urban forest
  - Involve the community
  - Set a canopy goal for street trees
  - Set a canopy goal in the Climate Action Plan 2030
- Continue to promote an ideal age distribution
- Conduct a Planting Priority Analysis to identify areas that could support additional tree plantings on both public and private property
  - Use strategic tree plantings to reduce energy consumption, and mitigate the effects of the heat island
  - Prioritize plantings for stormwater management
    - Consider areas expected to experience brackish conditions
- Develop a planting plan based on the areas identified in the Planting Priority Analysis as high and very-high priority

- Promote equitable distribution of canopy throughout the community
  - Use land cover mapping to determine canopy cover by areas of interest, such as neighborhood and census tract
  - Evaluate distribution of tree canopy by socioeconomics, including median income, race, and education
  - Further analyze canopy cover by ownership or maintenance jurisdiction
- Continue to facilitate tree plantings with community groups on public property
- Promote tree planting on private property
  - Increase programming to support tree planting on private property (much of the City property is planted out)
  - Support tree planting at schools
  - Increase neighborhood tree planting (Park Master Plan)
- Continue to coordinate with schools to promote tree plantings on school campuses

COST: \$

TIME FRAME: Ongoing

# Urban Forest Vision (continued)

## GOAL 18:

### Celebrate the importance of urban trees

**PERFORMANCE MEASURE:**

Recognition as a Tree City USA and hosting Arbor Day activities/celebrations.

**RATIONALE:**

Observing and recognizing the benefits provided by the urban forest encourages community engagement and promotes appreciation for trees.

**RISK:**

When community members are unaware of the benefits of the urban forest, they are likely to be less supportive of programming and the resources needed to care for it.

**BENEFIT:**

Community awareness and appreciation of the urban forest promotes support for the necessary resources to maintain it.

**OBJECTIVE:**

**Maintain the Tree City USA designation.**

**ACTIONS:**

- Continue to meet all requirements to maintain the Tree City USA designation
  - Continue to follow the Tree Ordinance
  - Continue to spend more than \$2/capita on the urban forestry department
  - Continue to provide information about Arbor Day on the City website
- Celebrate Arbor Day (Park Master Plan)
- Plant a tree or trees in a prominent location to memorialize the adoption of the Climate Action Plan 2030 as was done in 2012 with the Climate Action Plan 2020
- Consider expanding the annual tree walk program to visit different neighborhoods

**COST:** \$

**TIME FRAME:** Ongoing

## GOAL 19:

### Partner with other city departments and other stakeholders to develop a cohesive city-wide Urban Forest Master Plan

**PERFORMANCE MEASURE:**

A cohesive document guiding the management of the urban forest.

**RATIONALE:**

Street trees represent a fraction of the urban forest; therefore, it is important to work with community members and other City Departments to develop a cohesive urban forest master plan to promote a shared vision for the future of Santa Cruz’s urban forest.

**RISK:**

Lack of a uniform direction for urban forest management.

**BENEFIT:**

A visionary document that identifies opportunities for enhancing the urban forest.

**OBJECTIVE:**

**Create a city-wide Urban Forest Master Plan.**

**ACTIONS:**

- Consider potential updates to Municipal Code relating to the urban forest
- Pursue funding for an Urban Forest Master Plan
  - Conduct a resource analysis of community trees to review the composition of public trees and quantify the benefits they provide
- Encourage community involvement in the vision for the urban forest

**COST:** \$\$\$

**TIME FRAME:** 10 Years

Urban Forest Vision (continued)

GOAL 20:

Promote community engagement and stewardship of the urban forest

PERFORMANCE MEASURE:

Participation in forestry programming.

RATIONALE:

An educated and engaged community is more likely to support and advocate for the urban forest.

RISK:

Apathy towards the urban forest may result in loss of benefits provided by the urban forest to the community.

BENEFIT:

A community that supports the urban forest is more apt to care for its trees and sustain the benefits it provides.

OBJECTIVE:

Update the Parks and Recreation Department webpage to include information on tree care.

ACTIONS:

- Incorporate online tree-related information on the City website
- Create a main website landing page for answering tree-related questions and facts about trees in Santa Cruz
  - Communicate care and maintenance requirements/standards for street trees
  - Identify and share (or develop if necessary) educational materials in multiple different languages on various tree topics including:
    - how to plant a tree
    - how to prune a tree
    - how to fertilize and mulch
    - how to irrigate
    - how to hire an arborist or tree care company
    - Right Tree Right Place practices
    - planting for energy conservation

- common pests

- Provide a public access to TreeKeeper® to provide species and benefit information to the community
- Share the Street Tree Master Plan through the web page

COST: \$

TIME FRAME: 1 Year

OBJECTIVE:

Enhance citizen and volunteer engagement in care for street trees.

ACTIONS:

- Increase private property owner maintenance of street trees
  - Use targeted outreach to increase private property owner awareness of responsibilities for street trees
- Identify and seek to overcome barriers to street tree maintenance by private property owners
- Increase volunteer engagement in care for street trees
  - Explore strategic partnership with non-profit entities (existing, new local branch of a state or national organization, or new) to promote development and maintenance of the urban forest
  - Partner with nonprofit organizations to implement plantings of fruit trees and orchards
  - Consider creation of a TreeTenders or similar community forestry volunteer program

COST: \$

TIME FRAME: Ongoing

OBJECTIVE:

Continue to use multiple methods of accessible and translated outreach to engage a greater proportion of the community.

ACTIONS:

- Work with groups such as California ReLeaf, California Urban Forests Council (CUFC) and the CUFC Central Coast Regional Council to discuss the creation of a dedicated urban forestry nonprofit group
- Encourage community educational programs to promote and celebrate the urban forest (General Plan)
  - Continue to sponsor and promote tree-related events, significant trees, the benefits of trees, and the importance of tree care
  - Use the following outlets
    - social media
    - online surveys
    - pop-up events in numerous parts of the City, and Earth Day and Arbor Day events
  - Include tree-related information in the Parks and Recreation Department’s social media presence
- Partner with Public Works to incorporate trees in their outreach and education through radio blasts and school outreach related to the benefits of trees to stormwater management, including runoff reduction and improved water quality
- Where flooding occurs (saltwater/freshwater) educate about leaching following storm events
- Send PSA reminders about timely tree care
- Consider implementing a Tree Smarts Campaign
- Identify funding sources (e.g., grants) for development of engagement/education

materials

- Consider engaging with non-traditional, highly visible partners to convey messages (e.g., tech companies, sports teams, local celebrities or popular businesses)
- Partner with local schools to provide students with opportunities to learn about the urban forest and tree care
- Promote student participation in tree planting and stewardship activities

COST: \$

TIME FRAME: Ongoing

# Urban Forest Vision (continued)

## GOAL 21:

### Contribute to a fire safe community

**PERFORMANCE MEASURE:**

Reduction in ladder fuels and implementation of the Santa Cruz Community Wildfire Protection Plan.

**RATIONALE:**

Santa Cruz is vulnerable to wildfires.

**RISK:**

Wildfires can result in the staggering loss of property and life. Recovery from wildfires can have negative economic impacts for years to come.

**BENEFIT:**

Reduced likelihood of losses to property and life.

**OBJECTIVE:**

Mitigate the risks of wildfire.

**ACTIONS:**

- Continue to collaborate with Mitigating the risks of fire other City Departments, the Fire Safe Council of Santa Cruz County, and community members to mitigate fire hazards
- Continue to participate in the Neighborhood FireWise Council
- Continue to implement shaded fuel breaks and reduce ladder fuels in the wildland urban interface
- Continue to ensure access to fire hydrants and water mains and meters
- Collaborate with the County to implement the Santa Cruz Community Wildfire Protection Plan
  - Continue to identify and mitigate known risks
  - Continue to promote fire-resistant building materials
  - Continue to provide educational materials on creating a fire safe home

**COST:** \$

**TIME FRAME:** Ongoing

## GOAL 22:

### Repurpose woody materials whenever possible

**PERFORMANCE MEASURE:**

Reduced amount of woody material entering the landfill.

**RATIONALE:**

Tree removals result in woody materials that are chipped and used at city dog parks and medians, but any material larger than 15 inches in diameter is taken to the landfill. Alternatively, woody materials can be repurposed into wood products.

**RISK:**

Tree removals generate a substantial amount of woody material that could be treated as waste.

**BENEFIT:**

Repurposing felled trees is one way to recover the costs of removal and divert woody material from the landfill and reduce greenhouse gas footprints in finished wood products.

**OBJECTIVE:**

Identify a wood reutilization policy.

**ACTIONS:**

- Determine wood utilization needs
- Encourage removed trees are used in the most beneficial manner
  - Partner with contracting arborists, artisans, woodworkers and others to help facilitate proper removal, transportation, storage and sale of raw materials
- Where practical, mill lumber to provide materials for park improvement projects
- Continue to partner with the Tannery Arts Center and others to repurpose large redwood trees
- Explore reusing trees as part of living shoreline features
- Expand the practice of generating and using wood chips from tree removals
  - Partner with Resource Recovery staff to create consistently high-quality mulch for use in tree plantings and park maintenance
- Provide the community with an opportunity to pick up wood chips for landscaping needs
  - Determine the locations and capacities for wood mulch storage
  - Explore partnerships for wood mulch storage
- Explore opportunities with CAL FIRE’s Urban Wood Utilization Grants, the Urban Wood Network, or other efforts currently underway

**COST:** \$

**TIME FRAME:** 5 Years



# Appendix A: Resources

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**Bottom:** Tulip magnolia at City Hall on Center Street





City of Santa Cruz Area Plans and Planning Documents

These lists are current as of December 2020. Documents are subject to revision outside of and independent of the STMP.

AREA PLANS

Beach and South of Laurel Area Plan 1998

Downtown Plan 2017

Eastside Business Improvement Plan 1996

Mission Street Urban Design Plan 2002

Ocean Street Area Plan 2014

San Lorenzo Urban River Plan 2003

Seabright Area Plan 1981

Western Drive Master Plan 1980

ADDITIONAL PLANNING DOCUMENTS

2030 General Plan 2012

City of Santa Cruz Municipal Code, Sections 9.56 and 13.30

Public Works Sidewalk Program and Tree Planting Detail

Climate Action Plan 2012

Top Left: Chilean wine palm and Bunya Bunya  
Bottom Left: Washington Street  
Right: Dawn redwood in Harvey West Park

City of Santa Cruz Tree Planting Lists

This list is current as of December 2020. Documents are subject to revision outside of and independent of the STMP.

Approved Street Trees of Santa Cruz 2001

Western Drive Master Plan- Recommended Landscape Materials 1980

Mission Street Urban Design Plan- Mission Street Urban Design Tree List 2002

Local Hazard Mitigation Plan 2017

Other Resources

Tree Care Industry Standards

ANSI Z133 Safety Standard 2017

ANSI A300 Standards

ANSI Z60.1 Nursery Stock Standard 2014

International Society of Arboriculture Best Management Practices



Santa Cruz Has Two 'Mysterious' Trees From Long, Long Ago

By Margaret Koch  
Sentinel Staff Writer

Santa Cruz has two of what may be the most mysterious trees in the state.

The living fossil, **Dawn Redwood** (*Metasequoia*), is thriving here: one tree where busy shoppers pass it daily in a downtown parking lot without knowing it is unusual, the other recently discovered in a local backyard garden and transplanted into Harvey West park.

But to start at the beginning: The tree is called **Dawn Redwood** because it is a living fossil, a leafy left-over of the Age of Reptiles, reaching back almost to the dawn of time.

A fabulous history lies back of the **Dawn Redwood** and its entry into this country. Telling part of the story this past week was Donly Gray, nurseryman and rancher near Sacramento who was visiting in **Santa Cruz**. While he was here he also paid a visit to one of his **Dawn Redwood** seedlings which is now about 15 feet tall.

In 1949, according to Gray, a Japanese paleobotanist was reviewing fossils of the Arctic circle. He found one, a forerunner of present-day *Sequoias*, and named it *Metasequoia*. There were no known living trees at that time.

A few years later in China, a forester collecting trees in the back country found a strange new tree in a remote spot passed only by caravans from Outer Mongolia.

A sample was taken in University of Chung King and there was identified as the fossil tree *Metasequoia*. News of the find flashed around the world.

Dr. Ralph Chaney, head of The University of California Paleobotanical department and president of the Save-The-Redwood-League, flew at once to China. He organized a caravan, arranged for guides and located the **Dawn Redwood**. He was able to bring about 100 seeds back to the United States, according to Gray. These he shared with Gray, who is a former UC student. Each man planted about 300 seeds.

Tender loving care paid off. The seeds grew and became tiny trees. At once Gray found himself besieged by people who offered as much as \$50 for a single seedling. Gray began distributing the trees to universities, arboretums, colleges, civic organizations and parks, with the understanding that when planted, they were to be dedicated to the California pioneers.

**Santa Cruz** received two to be planted at the entrance to Harvey West park. They were planted and dedicated but several years later they were gone, with no one knowing exactly what had happened to them.

However, and recently, Harvey West has acquired another **Dawn Redwood**—the gift of retired Professor L. D. Rhoades of 880-28th avenue. Dr. Rhoades moved here two years ago from North Dakota where he headed the chemistry department at North Dakota State for 40 years.

In his garden here he noticed a **15 to 20** year old tree about which he made inquiry. It was a **Dawn Redwood**—where it came from, he has no idea. The former residents of the house had not planted it.

"I bet this tree should be in spot where it could be seen by the public," he announced.

He contacted Carl Bengtson of the **Santa Cruz** parks and recreation department. The tree, which is about 15 feet tall, was moved to Harvey West.

Gray claims the parking lot tree, next to The **Sentinel**, is one of his batch of seedlings.

"It's the right size," he said. "But how did it get here?"

He has no idea where the 36th avenue forest tree came from.

The mysterious "living fossil" tree is still causing mysteries.

shown looking at the new leaves beginning to come. The trees are deciduous. Losing their leaves each fall.





Parks and Recreation Department Approved Street Trees List



City of Santa Cruz - Parks Division

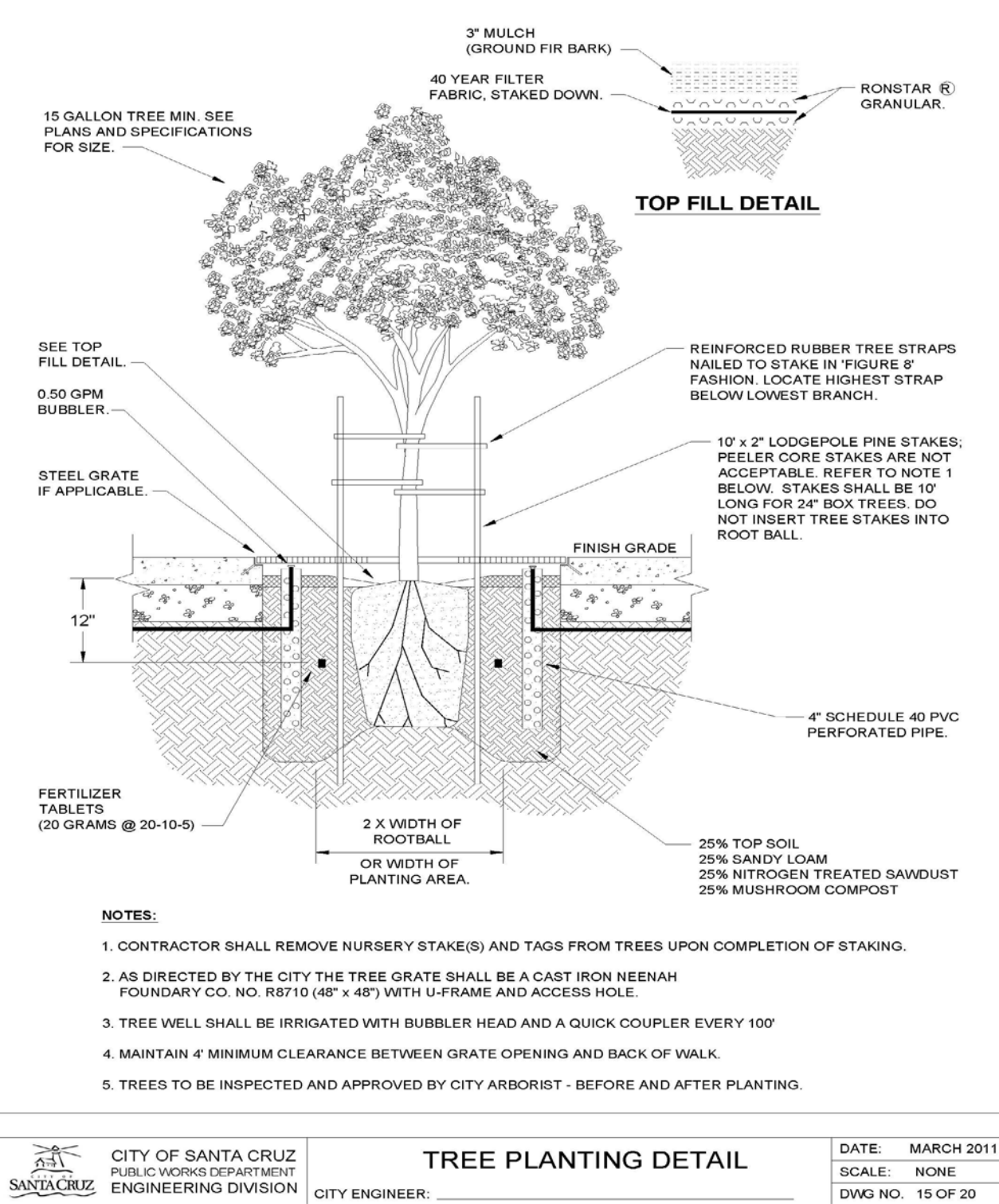
Leslie Keedy City Urban Forester/Arborist  
323 Church Street, Santa Cruz, CA 95060  
Telephone: (831) 420-5246 Fax: (831) 420-5361

Approved Street Trees of Santa Cruz



| LATIN NAME  | COMMON NAME          | TREE WIDTH | TREE HEIGHT | DECIDIOUS | EVERGREEN | FLOWERING | FALL COLOR | SPECIAL INFORMATION                              |
|---|----------------------|------------|-------------|-----------|-----------|-----------|------------|--|
| Aesculus x carnea 'Briotii'                           | Red Horsechestnut    | 40         | 35          | Y         | N         | Y         | Y          |  |
| Arbutus 'Marina'                                      | Marina Madrone       | 20         | 25          | N         | Y         | Y         | N          |  |
| Betula jacquemontii                                   | White Birch          | 10         | 25          | y         | N         | N         | Y          | Requires regular watering and care               |
| Cercis canadensis                                     | Eastern Redbud       | 20         | 25          | Y         | N         | Y         | Y          |  |
| Cinnamonium camphora                                  | Camphor              | 45         | 50          | N         | Y         | N         | N          | Wide park strips only                            |
| Fraxinus americana 'Autumn Purple'                    | Autumn Purple Ash    | 40         | 50          | Y         | N         | N         | Y          |  |
| Jacaranda mimosifolia                                 | Jacaranda            | 35         | 30          | Y         | N         | Y         | Y          | Late to leaf out in spring                       |
| Lagerstroemia indica 'Natchez' 'Tuscarora' 'Muskogee' | Crepe Myrtle         | 20         | 20          | Y         | N         | Y         | Y          | Available in Light pink, dark pink and white     |
| Laurus 'Saratoga'                                     | Saratoga Grecian Bay | 20         | 20          | N         | Y         | N         | N          | Medium to slow growth rate, good cooking herb    |
| Maytenus boaria                                       | Mayten Tree          | 20         | 20          | N         | Y         | N         | N          |  |
| Melaleuca linariifolia                                | Flaxleaf Paperbark   | 25         | 25          | N         | Y         | Y         | N          |  |
| Melaleuca stypheliodes                                | Prickly Paperbark    | 35         | 30          | N         | Y         | Y         | N          |  |
| Melaleuca quinquenervia                               | Cajeput Tree         | 45         | 30          | N         | Y         | Y         | N          |  |
| Nyssa sylvatica                                       | Tupelo Gum           | 40         | 35          | Y         | N         | N         | Y          | Excellent fall color                             |
| Pistachia chinensis                                   | Chinese Pistache     | 45         | 40          | Y         | N         | N         | Y          | Excellent fall color                             |
| Platanus acerifolia 'Columbia' or 'Yarwood'           | London Plane         | 50         | 40          | Y         | N         | N         | Y          | 'Columbia' has a better branching structure      |
| Pyrus calleryana 'Chanticleer'                        | Chanticleer Pear     | 30         | 20          | Y         | N         | Y         | Y          | Columner form                                    |
| Pyrus calleryana 'Aristocrat'                         | Aristocrat Pear      | 30         | 25          | Y         | N         | Y         | Y          | Open form  |
| Quercus agrifolia                                     | Coast Live Oak       | 50         | 50          | N         | Y         | N         | N          | Requires wide planting strip                     |
| Quercus frainetto 'Forest Green'                      | Hungarian Oak        | 40         | 30          | Y         | N         | N         | Y          |  |
| Quercus lobata  | Valley Oak           | 50         | 50          | Y         | N         | N         | Y          | requires wide planting strip                     |
| Quercus macrocarpa                                    | Bur or Mossy Cup Oak | 50         | 50          | Y         | N         | N         | Y          | Interesting Acorns, requires wide planting strip |
| Quercus rober   | English Oak          | 40         | 40          | Y         | N         | N         | Y          | 'Fastigiata' is an upright form                  |
| Quercus rubra   | Red Oak              | 40         | 40          | Y         | N         | N         | Y          |  |
| Quercus suber   | Cork Oak             | 50         | 50          | N         | Y         | N         | N          | Interesting bark                                 |
| Quercus shumardii                                     | Shumard Oak          | 50         | 50          | Y         | N         | N         | Y          | Requires wide planting strip                     |
| Quercus virginiana                                    | Southern Live Oak    | 40         | 40          | N         | Y         | N         | N          | Irrigation and Lawn tolerant                     |
| Sophora japonica 'Regent'                             | Regent Scholar Tree  | 30         | 30          | Y         | N         | Y         | Y          | White wisteria-like blossoms                     |
| Syagrus romanzoffianum                                | Queen Palm           | 45         | 15          | N         | Y         | N         | N          | Tropical accent palm                             |
| Tilia americana 'Redmond'                             | American Linden      | 45         | 30          | Y         | N         | Y         | Y          | Excellent smelling blossoms                      |
| Tristania laurina 'Elegant'                           | Yellow Tristania     | 15         | 10          | N         | Y         | N         | N          | 'Elegant' has larger leaves and a redish tint    |
| Ulmus parvifolia 'Drake'                              | Drake Chinese Elm    | 40         | 40          | Y         | N         | N         | N          | Anthraxnose resistant                            |
| Washingtonia filifera                                 | CA Fan Palm          | 50         | 15          | N         | Y         | N         | N          | Thicker and stouter than the Mexican relative    |
| Washingtonia robusta                                  | Mexican fan Palm     | 60         | 15          | N         | Y         | N         | N          | Tall thin trunk                                  |

Public Works Department Tree Planting Detail



Public Works Department Tree Sidewalk Program Policy

**DEPARTMENT OF PUBLIC WORKS**  
809 Center Street, Room 201  
Santa Cruz CA 95060  
Phone (831) 420-5160  
FAX (831) 420-5161

### Public Works Requirements for Tree Sidewalk Program

Property owners seeking to receive trees as part of the Parks and Recreation Street Tree Sidewalk Program shall be aware of the following requirements and responsibilities. While the Parks and Recreation Department is concerned with the tree itself, the space it occupies falls under the jurisdiction of the Public Works Department. These requirements are intended to ensure that adequate sidewalk access is maintained, that any sidewalk work is done properly by licensed professionals, and that the trees are not planted in a location that is likely to cause damage to existing public and private utilities.

Please review the following information and have all necessary documents prepared for your contractor *before* they come into the Public Works office to apply for a permit.

Requirements:

- Sidewalk shall be a minimum 7 feet wide.
- Tree well is a minimum 3'x3' cutout in sidewalk.
- Sidewalk shall maintain a passable width of minimum 48" (sidewalk widening is possible if conditions allow) and remain in accordance with the City's Standard Details for sidewalk, curb, and gutter. Per Public Works standard detail, a tree grate can be used (Neenah Foundry Co. No. R8710) to make up for American with Disabilities Act (ADA) width.
- Street trees shall be located a minimum 5 feet from the gas service line, water meter, driveway aprons, and fire hydrants and 10 feet from street lights and sewer laterals. It is the responsibility of the property owner to call 811 (Underground Service Alert) and have utilities located prior to permit application. There is no cost for this utility location service.
- Tree well cutout and any resulting additional concrete work (e.g. sidewalk widening) shall be done by a General A or C8 licensed contractor. The contractor will be required to pull a Street Opening Permit or Concrete Permit from the Public Works. Permits for work related to the Street Tree Sidewalk Program are available at a discounted rate of \$50 (normally \$336-\$339)
- A schematic drawing of the work to be done (showing all pertinent dimensions and locations of nearby utilities) must be submitted to and approved by Public Works prior to a permit being issued.
- Condition of the sidewalk along the entire frontage of the property to be served must be up to current City standards (i.e. no broken or crumbling sections of sidewalk, curb, or gutter, and no tripping hazards due raised sidewalk squares)

By planting a tree in the landscape strip in front of their property, the property owner shall be aware of and accept the following potential risks:

- Damage to sidewalk, curb, or gutter caused by the uplift from tree roots for which the property owner is responsible (Titles 13.30 & 15.20)
- Damage to sewer lateral or water line caused by roots

Feel free to contact our front counter staff to discuss these requirements or ask any additional questions. We can be reached at (831) 420-5160.

Sincerely,  
Public Works

6/17/2018





**Santa Cruz Municipal Code (current through Ordinance 2020-27, passed December 8, 2020)**

**Chapter 9.56**

**PRESERVATION OF HERITAGE TREES AND HERITAGE SHRUBS**

**9.56.010 DEFINITIONS.**

For the purpose of this chapter, the following words shall have the meaning ascribed to them in this section:

- (a) “City” shall mean the city of Santa Cruz, acting by and through its authorized representatives.
- (b) “Commission” shall mean the city of Santa Cruz parks and recreation commission.
- (c) “Council” shall mean the city council of the city of Santa Cruz.
- (d) “Damage” shall mean any action undertaken which alters the existing state of any heritage tree or heritage shrub in any way. This shall include, but is not limited to, the cutting, topping, girdling, or poisoning of any heritage tree or heritage shrub, any trenching or excavating near any heritage tree or shrub, or any action which may cause death, destruction or injury to any heritage tree or heritage shrub, or which places any heritage tree or heritage shrub in a hazardous condition or in an irreversible state of decline.
- (e) “Department” shall mean the city of Santa Cruz parks and recreation department.
- (f) “Director” shall mean the director of parks and recreation of the city of Santa Cruz, or his/her designee.

(g) “Heritage shrub” shall mean any perennial woody plant or group of woody plants growing on public or private property, of relatively low height, distinguished from a tree by height and by having several stems, and meeting criteria set forth in Section 9.56.040.

(h) “Heritage tree” shall mean any perennial plant or grove of perennial plants growing on public or private property, having a self-supporting woody main stem or trunk usually characterized by the ability to grow to considerable height and size and the development of woody branches at some distance above the ground, and meeting criteria set forth in Section 9.56.040. “Heritage tree” shall not include trees planted for agricultural crops such as fruit or nut trees.

(i) “Owner” shall mean the owner of real property as shown on the most recent county assessor’s roll.

(j) “Person” shall mean any individual, firm, business, partnership, association, public utility, corporation, legal entity, and/or agent, employee or representative thereof.

(k) “Private property” shall mean all property within the boundaries of the city of Santa Cruz, as shown on the most recent county assessor’s roll to be owned by persons, firms or corporations other than the city of Santa Cruz or another public agency.

(l) “Prune” shall mean the cutting, trimming, detaching, separating or removing of any part of a heritage tree or heritage shrub.

(m) “Public property” shall include all property owned by any governmental agency, except those legally exempt from this chapter,

within the boundaries of the city of Santa Cruz including those noncontiguous areas incorporated by the city of Santa Cruz.

(n) “Removal” shall mean the physical removal of any heritage tree or heritage shrub, or causing the death or destruction of any heritage tree or heritage shrub, through damaging, poisoning or other direct or indirect action.

(o) “Significant work” shall mean the pruning, root pruning, trimming, cutting off, removal or any action altering the physical structure or condition of any heritage tree or heritage shrub.

(p) “State tree care license” shall mean either a specialty license for performing tree maintenance on trees over fifteen feet tall, or a landscape contractor’s license, both issued by the state of California.

(q) “Urban forest” shall mean a tree or group of trees, or shrub or group of shrubs, including but not limited to street trees, growing on public or private property within the city limits of the city of Santa Cruz.

(r) “Utility” shall mean a public utility or private utility and includes any pipeline corporation, gas corporation, electrical corporation, telephone, telegraph or other communications corporation, water corporation, sewer system or heat corporation the services of which are performed for, or the commodity delivered to, the general public or any portion thereof.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.020 DIRECTOR POWERS AND DUTIES.**

The director of parks and recreation shall be responsible for administering and enforcing this chapter. The director shall have the following powers and duties:

- (a) Grant or deny permit applications pursuant to Section 9.56.060, except in the coastal zone, where the zoning administrator shall determine the disposition of applications pursuant to Title 24, the Zoning Ordinance;
- (b) Provide technical information to assist owners in maintaining heritage trees and heritage shrubs on private property;
- (c) Abate public nuisances pursuant to Chapter 13.30;
- (d) Review all development and construction plans for the purpose of determining their negative impact on the urban forest;
- (e) Order the alteration or removal of hazardous trees and shrubs when they are found to pose a threat to other trees or shrubs or to the community in general, pursuant to the criteria and standards adopted by city council resolution;
- (f) Make recommendations to the parks and recreation commission pertaining to the management of the city’s urban forest;
- (g) Determine mitigation requirements for approved and unapproved alterations, damage or removals of heritage trees or heritage shrubs pursuant to the mitigation requirements established by city council resolution.

(Ord. 2016-05 § 1 (part), 2016: Ord. 95-30 § 1, 1995: Ord. 94-01 § 2, 1994).

**9.56.030 COMMISSION POWERS AND DUTIES.**

The parks and recreation commission shall have the following powers and duties:

- (a) Make recommendations to the city council concerning policies, programs and decisions relating to the city’s urban forest;
- (b) Grant or deny permit applications on appeal pursuant to Section 9.56.070.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.040 HERITAGE TREE AND HERITAGE SHRUB DESIGNATION.**

Any tree, grove of trees, shrub or group of shrubs, growing on public or private property within the city limits of the city of Santa Cruz which meet(s) the following criteria shall have the “heritage” designation:

- (a) Any tree which has a trunk with a circumference of forty-four inches (approximately fourteen inches in diameter or more), measured at fifty-four inches above existing grade;
- (b) Any tree, grove of trees, shrub or group of shrubs which have historical significance, including but not limited to those which were/ are:
  - (1) Planted as a commemorative;
  - (2) Planted during a particularly significant historical era; or
  - (3) Marking the spot of an historical event.
- (c) Any tree, grove of trees, shrub or group of shrubs which have horticultural significance, including but not limited to those which are:

- (1) Unusually beautiful or distinctive;
- (2) Old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city);
- (3) Distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city);
- (4) A rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city);
- (5) Providing a valuable habitat; or
- (6) Identified by the city council as having significant arboricultural value to the citizens of the city.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.050 PROTECTION OF HERITAGE TREES AND HERITAGE SHRUBS.**

No person shall allow to exist any condition, including but not limited to any one of the following conditions, which may be harmful to any heritage tree or heritage shrub:

- (a) Existence of any tree or shrub, heritage or otherwise, within the city limits that is irretrievably infested or infected with insects, scale or disease detrimental to the health of any heritage tree or heritage shrub;
- (b) Filling up the ground area around any heritage tree or heritage shrub so as to shut off air, light or water from its roots;
- (c) Piling building materials, parking equipment and/or pouring any substance which may be

- detrimental to the health of any heritage tree or heritage shrub;
- (d) Posting any sign, poster, notice or similar device on any heritage tree or heritage shrub;
- (e) Driving metal stakes into the heritage tree, heritage shrub, or their root area for any purpose other than supporting the heritage tree or heritage shrub;
- (f) Causing a fire to burn near any heritage tree or heritage shrub.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.060 PERMITS REQUIRED FOR WORK SIGNIFICANTLY AFFECTING HERITAGE TREES AND/OR HERITAGE SHRUBS.**

- (a) No person shall prune, trim, cut off, or perform any work, on a single occasion or cumulatively, over a three-year period, affecting twenty-five percent or more of the crown of any heritage tree or heritage shrub without first obtaining a permit pursuant to this section. No person shall root prune, relocate or remove any heritage tree or heritage shrub without first obtaining a permit pursuant to this section.
- (b) All persons, utilities and any department or agency located in the city of Santa Cruz shall submit a permit application, together with the appropriate fee as set forth by city council resolution, to the department prior to the permit application to be done.
- (c) An authorized representative of the department shall inspect the tree or shrub which is the subject of the application. Pursuant to that inspection, the authorized representative shall file with the director written findings.



(d) If, upon said inspection, it is determined that the tree or shrub which is the subject of the permit application meets none of the criteria set forth in Section 9.56.040, no further action on the part of the director or the permit applicant is necessary.

(e) If the tree or shrub which is the subject of the permit application meets any of the criteria set forth in Section 9.56.040 based upon a review of the permit application and the inspection report, then the director shall make findings of fact upon which he/she shall grant the permit, conditionally grant the permit specifying mitigation requirements, deny the permit or allow a portion of the proposed work outlined in the permit application to be done.

(f) Where three or more heritage trees or three or more heritage shrubs are the subject of any proposed work to be performed, the director shall require that the applicant sign an agreement for preparation and submission of a consulting arborist report. As part of said agreement, the applicant shall be required to deposit with the department an amount of money equal to the estimated cost of preparing the report, as contained in said agreement.

(g) The decision of the director shall be final unless appealed to the commission by the permit applicant or any other aggrieved person pursuant to Section 9.56.070.

(h) The director shall issue any permit granted pursuant to this section, which permit shall be conspicuously posted near the subject(s) of the permit.

(i) Unless appealed, the permit shall take effect ten calendar days after it is issued, except where the tenth day occurs on a Saturday, Sunday or

holiday, in which case the effective date shall be extended to the next following business day.

(j) All work performed on any designated heritage tree or heritage shrub pursuant to a permit as provided in this section shall be completed within forty-five days from the effective date of the permit, or within such longer period as the director may specify.

(k) There shall be no fees or costs charged for permits which are limited in scope to the maintenance and repair work specified by Sections 13.30.060(b) and 15.20.210(c).

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-60 § 1, 1995: Ord. 94-01 § 2, 1994).

**9.56.070 RIGHT OF APPEAL.**

(a) Decision or Action of Director. Any person, public agency or utility aggrieved or affected by any decision or action taken pursuant to the authority of this chapter by the director may appeal that decision or action to the commission according to the following rules and regulations:

(1) A written notice of appeal, together with the appropriate fee as set forth by city council resolution, must be received by the secretary of the commission not later than ten calendar days following the date of the decision or action from which such appeal is being taken. If the final day for filing an appeal occurs on a weekend day or holiday, the final filing date shall be extended to the next following business day.

(2) The appellant shall state the basis for the appeal and shall specifically cite which provision of this chapter is relied upon to support the appellant's contention that the director of parks and recreation acted in

error. Any reports which may be submitted by the applicant, appellant or staff are advisory only and shall not be deemed conclusive or binding on the commission's findings. The appeal must be signed by the appellant or appellant's representative, and must set forth the mailing address to which the secretary of the commission may direct notice of a hearing.

(3) Upon receipt of the appeal the secretary of the commission shall schedule the matter for a public hearing at the next regularly scheduled business meeting, but not sooner than ten business days after receipt. The commission shall complete its action within thirty days from the date the matter is first scheduled for public hearing, unless appellant and appellee mutually agree to extend said thirty-day period.

(4) Notice of the public hearing shall be sent by first class mail to the permit applicant and appellant at least five calendar days prior to the meeting.

(5) Notice of the public hearing shall be conspicuously posted by the director near the heritage tree(s) or heritage shrub(s) in question, at least ten calendar days prior to the meeting.

(6) All notices shall include:

(A) The time, place and date of the public hearing;

(B) A brief description of the matter to be considered including a concise description of the heritage tree or heritage shrub in question, its location and scope of work being proposed;

(C) A brief description of the general procedure for submission of comments;

(D) The date of the filing of the permit application and the name of the applicant.

(7) The commission shall make findings of fact on which it bases its action. The commission may conditionally grant the permit specifying mitigations, deny the permit or allow a portion of the proposed work outlined in the permit application to be done.

(8) The commission shall direct the director to issue any permit granted by the commission pursuant to this section, which permit shall be conspicuously posted near the subject(s) of the permit, and maintained at the reference desk of the central branch of the Santa Cruz City/County Library.

(9) The decision of the commission shall be final unless appealed to the city council by the permit applicant or any other aggrieved person.

(10) Unless appealed, the permit shall take effect ten calendar days after it is issued, except if the tenth day occurs on a weekend day or holiday, in which case the effective date shall be extended to the next following business day.

(11) All work performed on any designated heritage shrub pursuant to a permit as provided in this section shall be completed within forty-five days from the effective date of the permit, or within such longer period as the commission may specify.

(b) Decision or Action of Commission. Any person, public agency or utility aggrieved or

affected by any decision or action taken pursuant to the authority of this chapter by the commission may appeal that decision or action to the city council. All such appeals shall be made pursuant to Chapter 1.16.

- (1) Members of the city council shall be exempt from the appeal fee specified in Chapter 1.16 when acting in their official capacity.
- (2) The city council shall determine all questions raised on appeal pursuant to Chapter 1.16, and the decision of the city council shall be final.
- (3) Permit applications denied by the city council on appeal shall not be considered for reapplication for a period of one year from the date of the city council’s decision, unless:
  - (A) There is a significant decline in the health of the subject heritage tree or heritage shrub as certified by a licensed arborist; and
  - (B) Said decline in health has not been caused by the applicant or any person associated with the applicant.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.080 EMERGENCIES.**

In the event of an emergency whereby immediate action is required because of disease or because of danger to life or property, a heritage tree or heritage shrub may be pruned, altered or removed by order of the director, or by order of a responsible member of the police, fire or public works department. If not the director, the person ordering the pruning,

alteration or removal shall file a comprehensive report immediately thereafter with the director. The director shall prepare the report if he or she orders the pruning, alteration or removal. The director shall forward copies of the report to the commission and council for their information.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.090 STATE TREE CARE LICENSE REQUIRED.**

- (a) Except as set forth in subsection (b) of this section, no person shall perform any pruning, maintenance, care or removal of any heritage tree or heritage shrub for hire within the city limits of the city of Santa Cruz without a valid state tree care license issued by the state of California.
- (b) Any person who is the owner of property in the city of Santa Cruz where a heritage tree or shrub needing pruning, maintenance, care or removal is located shall be exempted from the requirements of this section requiring a state tree care license if said owner of property intends to personally perform, and subsequently does personally perform, himself or herself said needed pruning, maintenance, care or removal of said heritage tree or shrub. Said owner shall comply with all other provisions of this chapter.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.100 MITIGATION REQUIREMENTS FOR APPROVED AND UNAPPROVED REMOVALS OF HERITAGE TREES OR HERITAGE SHRUBS.**

- (a) Any person who has obtained an approved conditional tree removal permit shall be

required to mitigate said removal pursuant to the approved heritage tree and heritage shrub removal mitigation requirement chart adopted by city council resolution. Prior to commencing any work on a heritage tree(s) or heritage shrub(s) pursuant to an approved conditional tree removal permit, the applicant shall deposit with the city in cash or bond all funds required pursuant to the approved heritage tree and heritage shrub removal mitigation requirement chart.

- (b) Any person who alters, damages, destroys or removes any heritage tree or heritage shrub on public or private property without an approved permit issued pursuant to this chapter shall be liable to the city for the cost of replacement of said heritage tree or shrub pursuant to the unapproved heritage tree and heritage shrub alteration, damage or removal mitigation requirement chart adopted by city council resolution. In addition, all violations are subject to the penalties prescribed by Section 9.56.110.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994).

**9.56.110 PENALTY PROVISION.**

Any person who personally, or through an agent, employee or representative, violates any provision of this chapter shall be guilty of a separate offense for each and every act constituting a violation of this chapter. The city attorney shall have the discretion to prosecute any violation of this chapter as either a misdemeanor or an infraction punishable by a fine of not less than five hundred dollars for a first offense and in doubling increments for each successive offense. Each person is guilty

of a separate offense for each and every day during any portion of which such violation is committed, continued or permitted by such person and shall be punished accordingly. In addition, the damage, destruction or removal of any heritage tree or heritage shrub without a permit issued pursuant to this chapter shall render the owner and/or person performing the work liable for the damages set forth in Section 9.56.100(b). The remedies and penalties provided for herein shall be in addition to any other remedies and penalties provided by law, including the remedies and penalties provided for in Title 4.

(Ord. 2016-05 § 1 (part), 2016: Ord. 94-01 § 2, 1994)

**Below: Arana Gulch**



Chapter 13.30

TREES

13.30.010 SHORT TITLE.

This chapter shall be known as the “Tree Ordinance of the City of Santa Cruz.”

(Ord. 85-29 § 2 (part), 1985).

13.30.020 PURPOSE.

The city council finds that planting and preserving trees enhances the natural beauty of Santa Cruz, promotes the city’s ecological balance, and is in the public interest.

(Ord. 85-29 § 2 (part), 1985).

13.30.030 DEFINITIONS.

For the purposes of this chapter, the following words have the meaning given in this section:

- (a) “Median area” means a planting area lying within a traffic median or traffic island in the public right-of-way.
- (b) “Parkway” means that portion of the public right-of-way between the curb and the sidewalk.
- (c) “Street tree” means any woody perennial in a city-owned right-of-way capable of reaching ten feet in height.

(Ord. 85-29 § 2 (part), 1985).

13.30.040 DIRECTOR – POWERS AND DUTIES.

a) The director of parks and recreation shall be responsible for administering and enforcing this chapter. The director of parks and recreation shall have the following powers and duties in addition to those created elsewhere in this chapter:

- (1) Issue permits pursuant to Section 13.30.100;
- (2) Maintain a list of street trees approved by the parks and recreation commission;
- (3) Abate public nuisances as hereinafter provided;
- (4) Order removal of dead or diseased trees on private property when found to pose a threat to public safety, property or other trees in the vicinity.

(b) The director shall have the power to perform the following services to aid landowners in maintaining parkways as required by this code and, in his or her discretion, take any measures necessary to prevent or eliminate hazards when said maintenance has not been performed:

- (1) Provide technical assistance and information to assist landowners in maintaining street trees;
- (2) Inspect and maintain street trees;
- (3) Assist in the maintenance, removal and replacement of street trees on public property;
- (4) Prune street tree limbs or roots causing or threatening to cause a hazard to public safety or property or damage to street improvements, sidewalks, curbs, gutters, sewers or other public improvements, or interfering with their use;
- (5) Inspect, trim, prune, root prune, spray, replace, or otherwise maintain any tree planted on public property within the city of Santa Cruz. No maintenance service shall be provided by the city to any tree standing on private property beyond the parkway or

street right-of-way.

(c) Any action taken by the director pursuant to this section or any other section of this code to maintain the parkways or street trees thereon is discretionary. Neither this section nor any other section of this code shall be construed as creating a duty or obligation on behalf of the city to maintain parkways and/or street trees. The city shall not incur any liability, either to the adjacent landowner or to the public, arising out of its alleged failure to maintain, or failure to properly maintain, parkways and/or street trees.

(Ord. 94-61 § 1, 1995: Ord. 85-29 § 2 (part), 1985).

13.30.050 PARKS AND RECREATION COMMISSION – POWERS AND DUTIES.

The parks and recreation commission shall have the following powers and duties:

- (a) Hear appeals from persons aggrieved by any decision of the director of parks and recreation relating to trees;
- (b) Make recommendations to the city council concerning policies, programs and decisions relating to trees.

(Ord. 85-29 § 2 (part), 1985).

13.30.060 PROPERTY OWNER MAINTENANCE RESPONSIBILITIES – DUTIES AND LIABILITIES.

(a) All duties, obligations and liabilities of property owners specified by Sections 15.20.210 and 15.20.220 of this code apply to maintenance of parkways and street trees. Specifically, a property owner obligated by Section 15.20.210 to maintain a sidewalk area must prune and trim all trees, tree roots, shrubs, hedges and ground cover, and weed, clear and otherwise maintain

all included parkways so as to make the area safe and convenient for public use. A property owner who fails to so maintain a street tree or a parkway adjoining his property is liable under Section 15.20.220 of this code for any injury or damage suffered by a member of the public which is caused by said failure.

Maintenance of parkways, as required by this section, includes maintenance of all trees and other vegetation contained in planters located on parkways and in traffic diverters adjacent to parkways.

(b) Maintenance required under Section 15.20.210 of this code shall include, but not be limited to the following acts:

- (1) Watering as necessary;
- (2) Removing any material which would be injurious to street trees, such as wire, rope, and signs;
- (3) Notifying the director of any diseased tree or hazard posed by trees;
- (4) Maintaining street trees so that there is adequate vertical pedestrian clearance from the top of the sidewalk and adequate vertical vehicular clearance from the top of the curb, to any part of a street tree;
- (5) Pest control and fertilizing, as needed;
- (6) Pruning and trimming trees, shrubs and other vegetation to allow for adequate clearance of street signs, traffic-control devices, utility lines and other stationary equipment;
- (7) Pruning street tree roots causing or threatening to cause damage to street improvements, sidewalks, curbs, gutters, sewers or other public improvements;



(8) Pruning and trimming trees and shrubs as needed or as requested by the director for their well being, to standards set by the city.

(c) Before any tree is pruned, trimmed, root pruned or removed under this section, all permits required by Section 13.30.100 of this code must first be obtained. All permits shall be displayed at the worksite.

All maintenance activities contemplated by this section shall be performed in conformity with guidelines, standards and recommendations of the department.

In order to enforce maintenance of street trees and parkways under this chapter, all relevant provisions and procedures delineated in Section 15.20.210 of this code and Chapter 22 of Division 7, Part 3, of the Streets and Highways Code and related provisions will be applied.

(Ord. 94-61 § 2, 1995; Ord. 85-29 § 2 (part), 1985).

**13.30.065 HARMING STREET TREES FORBIDDEN.**

No person shall injure any street tree by any means, including but not limited to the following:

- (a) Cutting to expose business signs or buildings or for any other purpose except as provided herein;
- (b) Exposing the tree to deleterious substances;
- (c) Allowing fire to burn so near a tree as to cause damage;
- (d) Allowing wires to constrict any part of a tree;
- (e) Constructing a sidewalk or structure injurious to a tree;
- (f) Disfiguring a tree by any means of graffiti; or

(g) Nailing or tacking a sign into a tree.

(Ord. 94-61 § 3, 1995).

**13.30.070 DUTIES OF PUBLIC UTILITIES.**

It shall be the duty and responsibility of any public utility installing or maintaining any overhead wire or underground pipes or conduit in the vicinity of a parkway strip, to obtain permission from the director before performing any maintenance on said wires, pipes or conduits, which would cause injury to street trees. Such public utilities shall in no way injure, cut roots, deface, prune, or scar any street tree until their plans and procedures have been approved by the director.

(Ord. 85-29 § 2 (part), 1985).

**13.30.080 MASTER STREET TREE LIST.**

(a) The director of parks and recreation shall prepare and maintain a master street tree list enumerating the species of shade and ornamental trees permitted to be planted on public property. The master street tree list shall be submitted to the parks and recreation commission which shall make a final recommendation to the city council. When approved by the city council, the master street tree list shall be made available to the public through the department of parks and recreation. The master street tree list shall be reviewed annually by the director and the parks and recreation commission.

(b) Trees planted in a public right-of-way must comply with the master street tree list unless a permit is obtained from the director of parks and recreation to plant a tree that does not appear on the list, or to plant a tree in a location that is

contrary to the list.

(Ord. 85-29 § 2 (part), 1985).

**13.30.090 MASTER STREET TREE PLANTING PLAN.**

The director shall prepare a master street tree planting plan for the city. This plan shall identify tree species and areas within the city appropriate for their use. The plan shall be submitted to the parks and recreation commission for recommendation to the city council. When approved by the city council, the plan shall be made available to the public through the parks and recreation department and the department of planning and community development.

(Ord. 85-29 § 2 (part), 1985).

**13.30.100 PERMITS REQUIRED.**

(a) Planting Street Trees. A permit shall be obtained from the director by any person proposing to plant or set out any tree on any parkway or street right-of-way.

- (1) The application required herein shall state the number of trees to be planted or set out the location, grade and variety of each tree, the method of planting, and such other information as the director may require.
- (2) The director shall issue the permit upon finding that the proposed species, location, and method of planting are consistent with the requirements of this chapter and will not be injurious to the curbs, gutters and sidewalks, or to the surrounding neighborhood.

(b) Trimming and Removal. No person shall root prune, transplant or remove any tree on

public property or within the city right-of-way without first filing an application and procuring a permit to do so from the director. No person shall prune or trim, cut off, or perform any work on a single occasion or cumulatively over a three-year period, affecting twenty-five percent or more of the crown of any tree on public property or within the city right-of-way, without first filing an application and procuring a permit to do so from the director.

- (1) The application required herein shall state the number of trees affected, the location, grade and variety of each tree, the work proposed, and such further information as the director may require.
- (2) The director shall issue the permit upon finding that the proposed action is necessary to protect the curb, gutter or sidewalk or to protect the public health and safety, and that the proposed method is satisfactory. The director may issue the permit if the proposed removal or trimming is found to be consistent with the purposes of this chapter. The director may condition any permit for removal of a street tree, granted pursuant to this section, so as to require the permittee to replace the street tree.

(c) Time of Performance. All work performed on street trees pursuant to a permit issued by the director under this section shall be done within thirty days from the issuance of said permit, or within such longer period as the director shall specify.

(d) The permit requirement proposed by this section is not satisfied by approval of other city departments, or under city contracts.



(e) The director may invalidate any permit issued under this section upon finding that the terms and conditions of such permit have been violated.

(f) The director may issue permits to public utilities not to exceed one year for work undertaken by the utility pursuant to a comprehensive program of related activities approved by the director.

(Ord. 2013-19 § 1, 2013; Ord. 94-61 § 4, 1995: Ord. 85-29 § 2 (part), 1985).

**13.30.110 PROHIBITED VEGETATION – NUISANCE.**

No person shall allow to exist any of the following, on property either owned by that person or property for which the person is responsible, as specified by Chapters 13.30 and 15.20 of this code:

(a) Any tree or shrub on a sidewalk area, street, planting strip, as defined in Chapter 15.08, or on any private property immediately adjacent to any street which is impairing or otherwise interfering with any street improvements, sidewalk areas, curbs, approved street trees, gutters, sewers, or other public improvement;

(b) Within the twenty-five-foot triangle of property at the intersection of any streets improved for vehicular traffic, any tree limb, shrub or plant reaching a height more than thirty inches above the curb grade adjacent thereto, except tree trunks having no limbs lower than eight feet above curb grade;

(c) Vines or climbing plants growing into or over any street trees, or any public hydrant, pole, electrolier or sidewalk area;

(d) Existence of any tree within the city limits that is irretrievably infested, dead or infected with objectionable insects, scales, fungus or growth injurious to plant material;

(e) The existence of any branches or foliage which interfere with visibility on, or use of, or access to, any portion of any street improved for vehicular or pedestrian travel;

(f) Hedges or dense thorny shrubs and plants on any street or part thereof.

(Ord. 2007-01 § 1, 2007: Ord. 85-29 § 2 (part), 1985).

**13.30.120 ABATEMENT OF PUBLIC NUISANCES.**

When any public nuisance as defined herein exists, the owner or occupant shall be served with notice in accordance with Section 4.03.010 of this code, describing the condition, stating the work necessary to remove the condition, and the time within which such work must be completed. Such time for compliance shall not exceed ninety days after the date of service of said notice. The notice shall also state that the required work will be performed by city forces or by others under the supervision of the director if it has not been performed within the period stated in the notice. The notice shall state further that any cost incurred by the city will be billed to the person subject to the notice and payable to the city within 60 days. Any failure to pay the city for the cost incurred by the city may also constitute a charge against the real property of the person subject to the notice to be collected in accordance with the provisions for liens and their enforcement in this chapter.

(Ord. 2007-01 § 2, 2007: Ord. 85-29 § 2 (part), 1985).

**13.30.130 CHARGES AGAINST PROPERTY OWNERS OR OTHER PERSONS PURSUANT TO THIS CHAPTER.**

The cost of the abatement of any public nuisance sought to be charged against the owner of the adjacent private property in accordance with the terms of this chapter may be assessed by the city council against the parcel of private property owned by such person as follows:

(a) A notice of proposed assessment of charges against such person for failure to comply with said order shall be served personally upon said owner stating:

(1) The date of the order affecting such person and requiring compliance with the terms of this chapter;

(2) Notice of the failure of the owner to complete the work, as specified by the order, within the time therein specified;

(3) The dates of performance of the work as specified by the order, by the city of Santa Cruz or such persons or contractors as it may retain to undertake the work;

(4) The charge incurred by the city of Santa Cruz for performance in accordance with said order;

(5) The date and place of hearing of the report of the director before the city council requesting a resolution of the city council authorizing the city clerk to prepare, execute and file a lien against the real property owned by such person in the office of the recorder of Santa Cruz County.

(b) On the date and hour specified in said notice, the city council shall review the report of the director and authorize the preparation, execution and filing of a notice of lien, as provided in this chapter, for all or such portion of the charges reported by the director for the compliance with the order.

(c) The notice of lien shall be filed in the office of the county recorder for Santa Cruz County and shall be in the form of a certificate substantially in the following form:

**NOTICE OF LIEN**

Pursuant to the authority of Chapter 13.30 of the Santa Cruz Municipal Code, and as duly authorized by the City Council of the City of Santa Cruz on the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_, by Resolution No. \_\_\_\_\_, the City of Santa Cruz does hereby claim a lien upon the property hereinafter described for the charges duly assessed by the Council of the City of Santa Cruz as the cost incurred by the City of Santa Cruz for \_\_\_\_\_ pursuant to order of the Director of Parks and Recreation for the City of Santa Cruz dated \_\_\_\_\_, the same has not been paid nor any part thereof, and the same shall be a lien upon said real property until the said sum, with interest at the rate of 10% per annum, from the day of \_\_\_\_\_, 19\_\_, (insert date of confirmation of assessment by City Council), has been paid in full and discharged of record.

The real property hereinbefore mentioned and upon which a lien is claimed is that certain piece or parcel of land lying and being in the City of Santa Cruz, County of Santa Cruz, State of California, and more particularly described as follows:

(Legal description of the property, either by metes and bounds or by subdivision number. Assessor’s parcel number cannot be used for this type of lien.)

(Ord. 85-29 § 2 (part), 1985).

**13.30.140 RECOVERY OF DAMAGES FOR LOSS OF TREES.**

Any person who damages or destroys a tree on public property is liable to the city for the cost of the tree’s repair or replacement. Recovery of monetary damages and/or replacement of trees and shrubs shall be in accordance with the current plant appraisal formula prepared by the International Society of Arboriculture.

(a) Replacement value up to eight-inch trunk caliper size shall be based upon the current retail price of a comparable tree up to eight-inch trunk caliper measured at four and one-half feet from the top of the container soil level or the existing soil grade at the site of a damaged tree. Replacement value shall include the cost of replanting or removing a tree.

(b) Replacement trees shall be chosen in accordance with the master street tree planting plan or a species selected by the director.

(c) For trees larger than eight inches in trunk caliper, the monetary value shall be determined on the basis of the current value per square inch of the tree trunk cross-section measured at four and one-half feet above grade in accordance with the formula prepared by the International Society of Arboriculture.

(d) A twenty-percent deduction may be applied to any tree found by the director to be in poor condition prior to its damage or destruction.

(e) When injury has occurred during work on any structure, collision with any motor vehicle, an act of vandalism, or house moving, the responsible party shall not be released from liability until the director has determined that the tree(s) has fully recovered.

(Ord. 85-29 § 2 (part), 1985).

**13.30.150 INFRACTION.**

Any person who violates the provisions of Section 13.30.100 shall be guilty of an infraction punishable by a fine of not less than one hundred dollars for a first offense and in doubling increments for each successive offense. Each such person is guilty of a separate offense for each and every day during any portion of which any such violation is committed, continued or permitted by such person and shall be punished accordingly.

(Ord. 85-29 § 2 (part), 1985).

**13.30.160 RIGHT OF APPEAL.**

Any person who considers an action taken under the provision of this chapter by any official or advisory body to have been improper, may appeal such action or decision.

(Ord. 85-29 § 2 (part), 1985).

**13.30.170 WHERE TO FILE APPEAL.**

(a) Appeals from the decision of the director, or any other administrative office in taking any actions authorized by this chapter shall be made to the city parks and recreation commission.

(b) Appeals from the decision of the parks and recreation commission in taking any actions authorized by this chapter shall be made to the city council through the city clerk.

(Ord. 85-29 § 2 (part), 1985).

**13.30.180 PROCEDURE FOR APPEALS.**

(a) All appeals shall be made in writing and shall state the nature of the application and the basis upon which the decision of the official or body is considered to be in error.

(b) Such appeals, to be effective, must be received by the secretary to the parks and recreation commission or by the city clerk not less than ten calendar days following the date of the action from which such appeal is being taken.

(Ord. 85-29 § 2 (part), 1985).

**13.30.190 STAY, PENDING APPEAL.**

The receipt of a written appeal shall stay all actions, or put in abeyance all approvals or permits which may have been granted, pending the decision of the parks and recreation commission or of the city council on such appeal.

(Ord. 85-29 § 2 (part), 1985).

**13.30.200 HEARING ON APPEAL.**

(a) The secretary to the parks and recreation commission shall schedule the appeal for consideration by the commission at the earliest next regular meeting, consistent with agenda preparation procedures and schedules for parks and recreation commission meetings. Appeals for consideration by the city council shall be scheduled by the city clerk at the earliest next regular meeting consistent with city council agenda preparation and meeting schedules.

(b) Unless otherwise required in this chapter, neither the parks and recreation commission,

nor the city council need hold public hearings in considering matters on appeal.

(Ord. 85-29 § 2 (part), 1985).

**13.30.210 LIABILITY.**

Nothing in this chapter shall be deemed to impose any liability upon the city of Santa Cruz, or any of its officers, agents, or employees, nor to relieve the owner or occupant of any private property from the duty to keep their private property, sidewalks, and parkway strip on such private property in a safe condition so as not to be hazardous to public use.

(Ord. 85-29 § 2 (part), 1985).

**13.30.220 HOUSE MOVING.**

Where a structure is to be moved over a route which may entail damage to street trees, the city may require the person moving the structure to post a bond or other security to cover the cost of anticipated damage to street trees.

(Ord. 85-29 § 2 (part), 1985).



**Right: The Hinds House behind Rincon Park**

# Appendix B: Definitions

## AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

A Federation of United States industry sectors (e.g. businesses, professional societies and trade associations, standards developers, government agencies, institutes, and consumer / labor interest groups) that coordinates the development of the voluntary consensus standards system.

## AMERICAN PUBLIC WORKS ASSOCIATION (APWA)

An organization that supports professionals who operate, improve, or maintain public works infrastructure by advocating to increase awareness, and providing education, credentialing, as well as other professional development opportunities.

## ARBORIST

A person that specializes in the cultivation and management of trees.

## ARBORICULTURE

The science, art, technology, and business of tree care.

## BEST MANAGEMENT PRACTICES (BMP)

Management practices and processes used when conducting forestry operations, implemented to promote environmental integrity.

## CAPITAL IMPROVEMENT PROJECTS (CIP)

Infrastructure projects and equipment purchases identified by a government in order to maintain or improve public resources. Projects such as (1) constructing a facility, (2) expanding, renovating, replacing, or rehabilitating an existing facility, or (3) purchasing major equipment are identified, and then purchasing plans and development schedules are developed.

## CLIMATE ACTION PLAN (CAP)

Governments lead initiatives to decrease greenhouse gas emissions and prepare for the impacts of climate change.

## COMMUNITY URBAN FOREST

The collection of publicly owned trees within an urban area, including street trees and trees in parks and other public facilities.

## DRIP LINE AREA

The area measured from the trunk of the tree outward to a point at the perimeter of the outermost branch structure of the tree.

## DUTCH ELM DISEASE (DED)

A wilt disease of elm trees caused by plant pathogenic fungi. The disease is either spread by bark beetles or tree root grafts.

## EMERALD ASH BORER (EAB)

The common name for Agrilus planipennis, an emerald green wood boring beetle native to northeastern Asia and invasive to North America. It feeds on all species of ash.

## FORESTER

A profession, where a person manages a forest resource.

## GREENHOUSE GAS (GHG)

A gas that traps heat in Earth’s atmosphere.

## GEOGRAPHIC INFORMATION SYSTEM (GIS)

Computer-based tools designed to increase the organization and understanding of spatial or geographic data. Many different kinds of data can be displayed on one map for visualization and interpretation.

## HERITAGE TREE GRANT

A fund used to assist property owners in maintaining any heritage trees on their property and for street tree maintenance (e.g., pruning, cabling) and sidewalk repairs in the rights-of-way.

## INTEGRATED PEST MANAGEMENT (IPM)

Using pest and environmental information to determine if pest control actions are warranted. Pest control methods (e.g. biological control, habitat manipulation, cultural control, plant resistance, and chemical control) are chosen based on economic and safety considerations.

## i-TREE

A computer program with tools used to determine the costs and benefits of urban trees based on inventory data, operations costs, and other factors.

## INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA)

An international nonprofit organization that supports professionals in the field of arboriculture by providing professional development opportunities, disseminating applicable research findings, and promoting the profession.

## INVENTORIED TREES

Includes all public trees collected in the inventory as well as trees that have since been collected by city staff.

**LIABILITY FUND**

A City of Santa Cruz fund directed toward risk management.

**MAJOR MAINTENANCE**

Includes major pruning or cabling and any other similar act, which promotes the life, growth, health or beauty of trees, except watering and minor pruning.

**MAJOR TRIMMING AND PRUNING**

The removal of branches of three inches in diameter or greater.

**MIGRATORY BIRD TREATY ACT (MBTA)**

A United States federal law adopted to protect migratory birds.

**NATURAL AREA**

A defined area where native trees and vegetation are allowed to grow and reproduce naturally with little or no management except for control of undesirable and invasive species.

**OPEN SPACE**

A defined area of undeveloped land that is open to the public. The land can include native or naturalized trees and vegetation.

**PLANT HEALTH CARE (PHC)**

A program that consists of (1) routinely monitoring landscape plant health and (2) individualized plant management recommendations in order to maintain or improve the vitality, appearance, and safety of trees and other plants.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Equipment worn to enhance workplace safety and minimize the risk of physical hazards (e.g. gloves, hard hats, bodysuits, and foot, eye, or ear protection).

**PRIVATE TREE**

Any tree located on private property, including residential and commercial parcels.

**PUBLIC TREE**

Any tree located in the public ROW, city park, and/or city facility.

**RIGHT TREE RIGHT PLACE**

The practice of installing the optimal species for a particular planting site. Considerations include existing and planned utilities and other infrastructure, planter size, soil characteristics, water needs as well as the intended role and characteristics of the species.

**STREET TREE**

Any tree growing within the tree maintenance strip whether or not planted by the city.

**STREET TREE MANAGEMENT PLAN (STMP)**

A document that provides comprehensive information, recommendations, and timelines to guide for the efficient and safe management of a city’s street tree resource.

**STRUCTURAL AND TRAINING PRUNING**

Pruning to develop a sound and desirable scaffold branch structure in a tree and to reduce the likelihood of branch failure.

**TREE**

Any live woody plant having one or more well-defined perennial stems with a diameter at maturity of six inches or more measured at fifty-four inches above ground level (breast height).

**TREE CANOPY**

The layer of leaves, branches, and stems of trees that cover the ground when viewed from above.

**TREE CITY USA**

A national recognition program through the Arbor Day Foundation that advocates for green urban areas through enhanced tree planting and care. Any incorporated municipality is eligible, as long as it meets the program's standards to have a (1) tree board or department, (2) tree care ordinance, (3) budget over \$2 per capita, and (4) proclamation and observance of Arbor Day.

**TREE TRUST FUND**

A fund used to plant street trees, it is generated through private donations and revenue from citations and mitigation fees.

**TREE IN PROXIMITY TO TRAILS/FACILITIES**

A tree that, as a result of size and location, has the potential to impact or interfere with the use, safety, and/or condition of a defined trail, structure, or facility (e.g., picnic table, bench, parking area, etc.)

**TREEKEEPER\***

A tree inventory software program that aids urban forest managers in planning and tracking work and calculating the benefits of the tree inventory



TREE RISK ASSESSMENT  
QUALIFIED (TRAQ)

An International Society of Arboriculture qualification. Upon completion of this training, tree care professionals demonstrate proficiency in assessing tree risk.

URBAN FOREST

The collection of privately owned and publicly owned trees and woody shrubs that grow within an urban area.

URBAN FOREST  
MANAGEMENT PLAN (UFMP)

A document that provides comprehensive information, recommendations, and timelines to guide for the efficient and safe management of a city’s tree canopy. The Plan uses an adaptive management model to provide reasoned and transparent calls to action from an inventory of existing resources.

URBAN FORESTRY

The cultivation and management of native or introduced trees and related vegetation in urban areas for their present and potential contribution to the economic, physiological, sociological, and ecological well-being of urban society.

URBAN TREE CANOPY  
ASSESSMENT (UTC)

A document based off of GIS mapping data that provides a birds-eye view of the entire urban forest and establishes a tree canopy baseline of known accuracy. The UTC helps managers understand the quantity and distribution of existing tree canopy, potential impacts of tree planting and removal, quantified annual benefits trees provide to the community, and benchmark canopy percent values.

WILDFIRE URBAN INTERFACE  
(WUI)

A transition zone where homes are located on the edge of fire prone areas and are at an increased risk of personal injury or property damage resulting from a wildfire.



**Top:** Camphor tree  
**Bottom Right:** Morrissey Blvd  
**Bottom Left:** Junipers





# Appendix C: Methodology

## i-Tree Canopy

In this assessment, iTree *Canopy* (v7.0) was used. This program, in conjunction with 2020 Landsat / Copernicus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency and 2,000 points of reference, mapped land cover in Santa Cruz.

Annual benefit estimates are based on the following: carbon monoxide (CO) 0.450 T/mi<sup>2</sup>/yr valued at \$1,333.50, nitrogen dioxide (NO<sub>2</sub>) 0.694 T/mi<sup>2</sup>/yr valued at \$478.88, ozone (O<sub>3</sub>) 15.122 T/mi<sup>2</sup>/yr valued at \$4,344.87, PM2.5-10 (particulate matter between 2.5 and 10 micrometers in diameter) 4.750 T/mi<sup>2</sup>/yr valued at \$6,268.44, PM2.5 (particulate matter less than 2.5 micrometers in diameter) 0.469 T/mi<sup>2</sup>/yr valued at \$155,399.87, sulfur dioxide (SO<sub>2</sub>) 0.432 T/mi<sup>2</sup>/yr valued at \$150.92, sequestered carbon dioxide (CO<sub>2</sub>) 0.874 kT/mi<sup>2</sup>/yr valued at \$23,256.92, avoided runoff 6.896 Mgal/mi<sup>2</sup>/yr valued at \$8,936.00. Further stormwater benefits, without estimated values, follow: evaporation 36.069 Mgal/mi<sup>2</sup>/yr, interception 36.257 Mgal/mi<sup>2</sup>/yr, transpiration 60.221 Mgal/mi<sup>2</sup>/yr, potential evaporation 289.676 Mgal/mi<sup>2</sup>/yr, potential evapotranspiration 248.177 Mgal/mi<sup>2</sup>/yr.

## Inventory Collection

### Methods of Inspection

Assessment of the trees was limited to visual inspection at ground level. Diameter to the nearest inch, and average canopy height to the nearest foot, were collected. All of the trees onsite were evaluated for condition and maintenance recommendations.

## LIMITED VISUAL ASSESSMENT

Many factors can limit collecting specific and accurate data when performing only visual evaluations of trees. Future tree performance, potential response to treatments, responses to site disturbances or pruning, and responses to weather events cannot be predicted when performing visual assessments.

All observations were made from the ground (Level 2), and no root collar excavations or aerial inspections were requested or performed. No Resistograph®, ground-penetrating radar or other technologies were utilized during the inspection. The recommendations presented here are based on current data, photographs, and conditions that existed at the time of the evaluation and cannot be a predictor of the ultimate outcome for the trees in the future. The assumption of risk is the responsibility of the tree owner and risk reduction measures should include consideration of the level of risk the tree owner is willing to assume.

## TECHNOLOGY

Trees were mapped on a pen tablet computer running ROVER™, a DRG developed Geographic Information System (GIS) data collection tool and edited/updated for this survey. Using basemaps, such as digital aerial photos, trees were plotted with approximate locations and referenced to Global Positioning System coordinates for accuracy. During the assessment, condition, maintenance need/ priority, and observable defects were updated and are defined as follows:

## CONDITION

The trees were individually rated based on a classification system developed by the International Society of Arboriculture (ISA). Condition indicates the current state of a tree’s health, structural soundness, overall shape, and growth rate. Symptoms of poor condition include discoloration, decay, dieback, decreased internodal length, and/or disfigured or necrotic stems or roots. To some extent, condition class is also a reflection of the life expectancy of the tree. Crown development, trunk condition, major branch structure, twig growth rate, insects/ diseases, and root condition are all considered. Classes are described below:

### Excellent 100% condition class

The tree is nearly perfect in condition, vigor, and form. This rarely used category is generally applicable to small diameter trees that have been recently transplanted and are well established.

### Very Good 90% condition class

Overall, the tree is healthy and satisfactory in condition, vigor, and form. The tree has no major structural problems, no mechanical damage, and may only have insignificant aesthetic, insect, disease, or structure problems.

### Good 80% condition class

The tree has no major structural problems, no significant mechanical damage, may have only minor aesthetic insect, disease, or structure problems, and yet is in good health.

### Fair 60% condition class

The tree may exhibit the following characteristics: minor structural problems and/ or mechanical damage, significant damage from non-fatal or disfiguring diseases, minor crown imbalance or thin crown, or stunted growth compared to adjacent trees. This condition also includes trees that have been topped but show reasonable vitality and show no obvious signs of decay.

### Poor 40% condition class

The tree appears unhealthy and may have structural defects such as codominant stems, severe included bark, or severe trunk and/ or limb decay. A tree in this category may also have severe mechanical damage, crown dieback, or poor vigor threatening its ability to thrive. Trees in poor condition may respond to appropriate maintenance procedures, although these procedures may be cost-prohibitive to undertake.

### Critical 20% condition class

The tree has a major structural problem that presents an unacceptable risk, has very little vigor, and/or has an insect or disease problem that is fatal and may threaten other trees on the property.

### Dead 0% condition class

This category refers only to dead trees.

MAINTENANCE RECOMMENDATIONS

Maintenance recommendations were recorded in classes based on conditions observed in the individual trees. Structure, vigor and environment all contribute to the maintenance need.

Details of the classification system are below:

Priority 1 Removal

These trees have defects that cannot be cost-effectively or practically treated, have a high amount of deadwood, and pose an immediate hazard to property or person. The arborist recommends they be removed as soon as possible.

Priority 2 and 3 Removal

These trees are not as great a liability as priority 1 Removals, being smaller and/or far less hazardous, although they are also recommended for removal. Smaller dead trees and failed transplants are in this category. Large trees in this category are generally poorly sited, of inferior quality, and pose little to no threat to the community. Priority 2 Removals should be removed prior to Priority 3 removals.

Priority 1 Pruning

Trees in this category need pruning to remove hazardous deadwood limbs greater than four inches in diameter and/or have broken, hanging, or diseased scaffold limbs.

Priority 2 Pruning

These trees need pruning to remove hazardous deadwood limbs greater than two, but less than four inches in diameter.

Large Tree Routine Prune

These trees require routine horticultural pruning to correct structural problems or growth patterns that would eventually obstruct traffic or interfere with signs or buildings. Trees in this category are large enough to require bucket truck access or manual climbing.

Small Tree Routine Prune

These trees require routine horticultural pruning to correct structural problems or growth patterns that would eventually obstruct traffic or interfere with utility wires or buildings. These trees are small growing, mature trees that can usually be evaluated and pruned from the ground.

Structural Prune

Trees in this category are young trees that require pruning to aid in the development of proper structure and form.

Stump Removal

These sites have stumps which need to be removed before a new tree can be planted.

Plant Tree

These sites are currently vacancies that would support the growth of a tree.

Plant

The size of the site is designated as small, medium, or large (indicating the ultimate size that the tree will attain), depending on the growing space available and the presence of overhead wires.

Further Inspection Required

Tree requires further inspection that is outside the scope of inventory collection.

Observations

In addition to prioritizing workloads for tree maintenance, observations were made at the discretion of the inventory arborist for each inventoried tree.

Site Observations

- The collection included information on the following site observations:
- City Planted
  - Clearance Required (from building, signs, and roads)
  - Hardscape Damage–Damage to sidewalks and curbs by tree roots are noted
  - Overhead Utilities–Trees whose crown is within ten feet of primary distribution lines and/or have been previously pruned away from the primary distribution lines

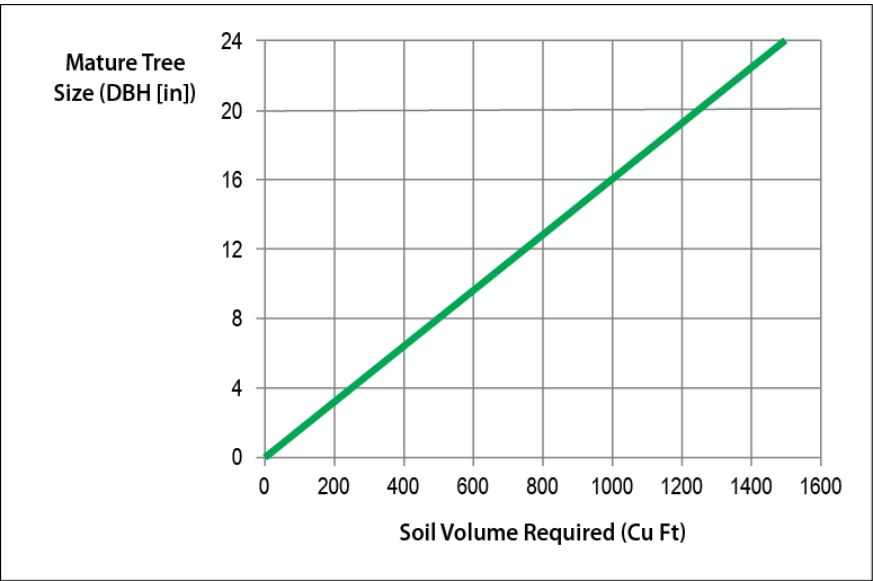
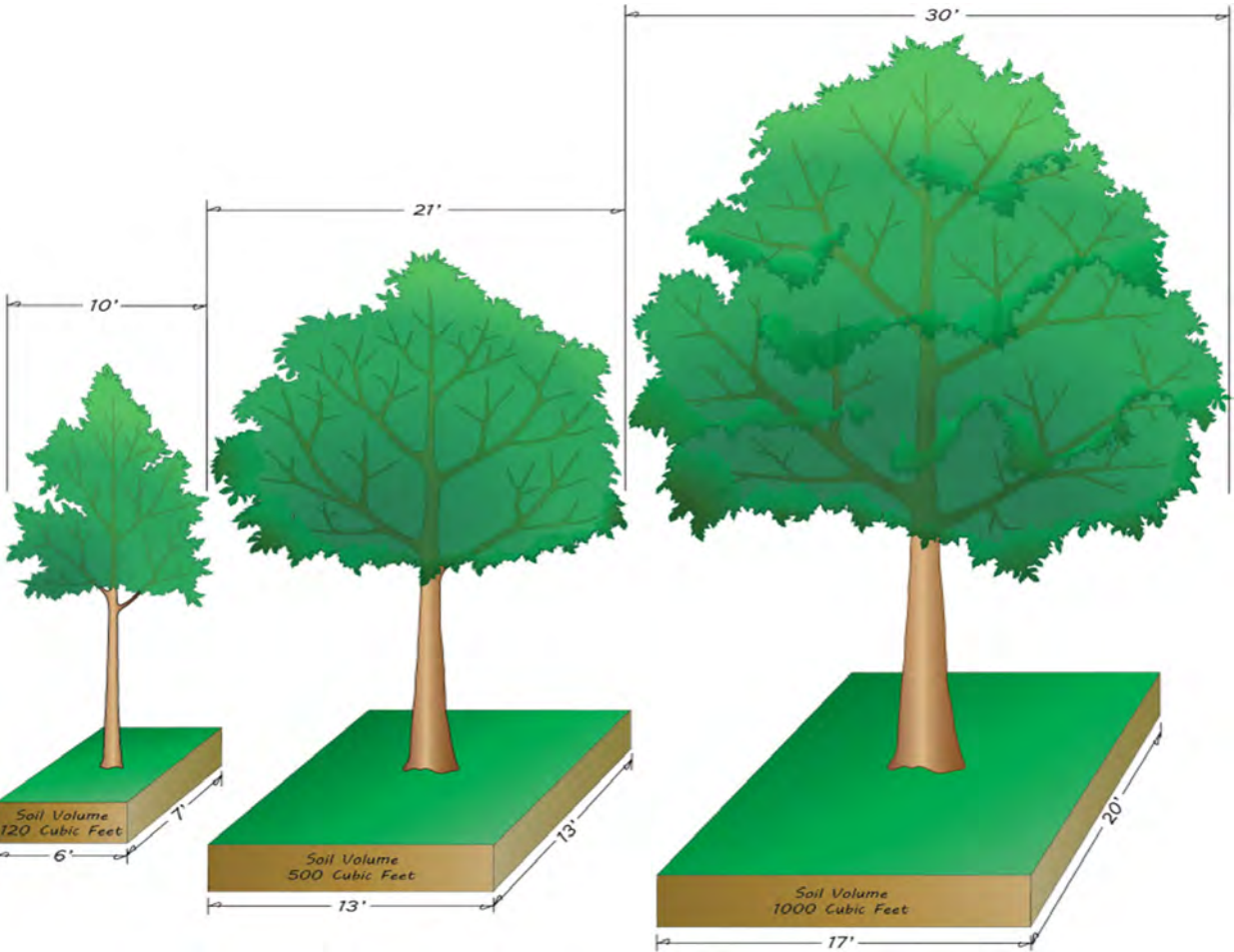
Bottom: Chinese pistache on Center Street





## Appendix D: Soil Volume and Tree Stature

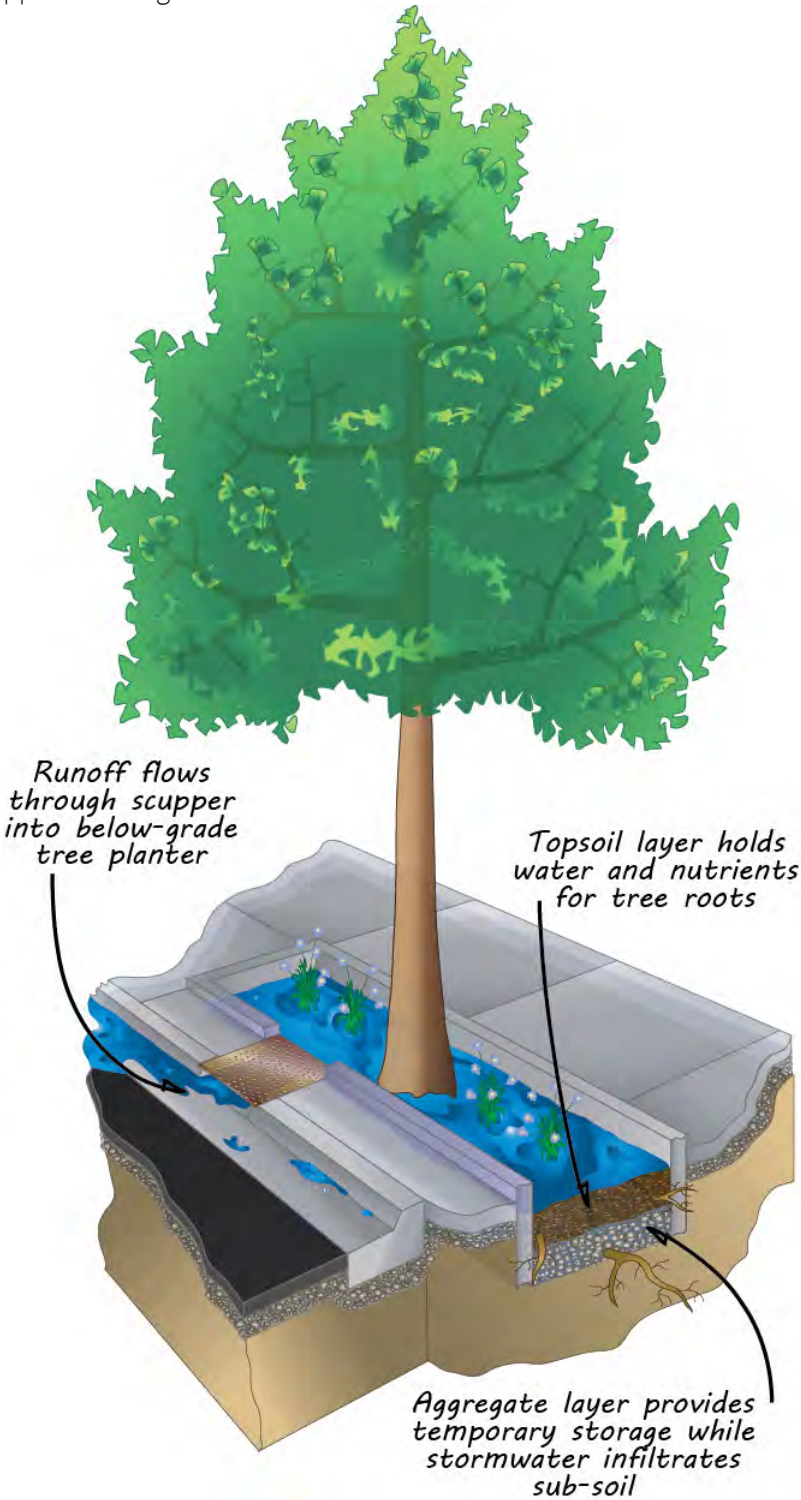
Tree growth is limited by soil volume. Larger stature trees require larger volumes of uncompacted soil to reach mature size and canopy spread (Casey Trees, 2008).



## Appendix E: Alternative Planter Designs

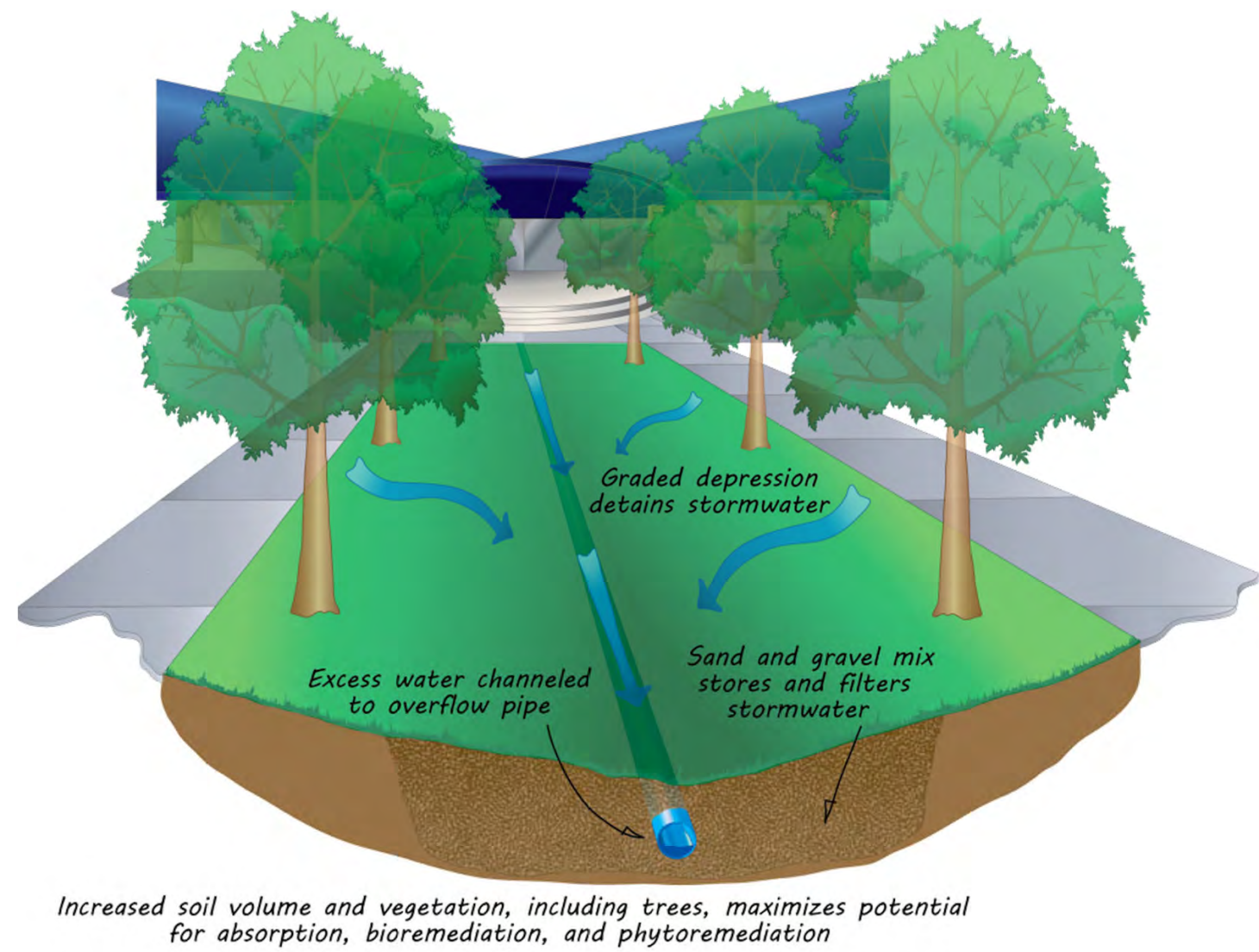
Content developed by DRG

Stormwater tree pits are designed to collect runoff from streets, parking lots, and other impervious areas. Stormwater is directed into scuppers that flow into below-grade planters that then allow stormwater to infiltrate soils to supplement irrigation.

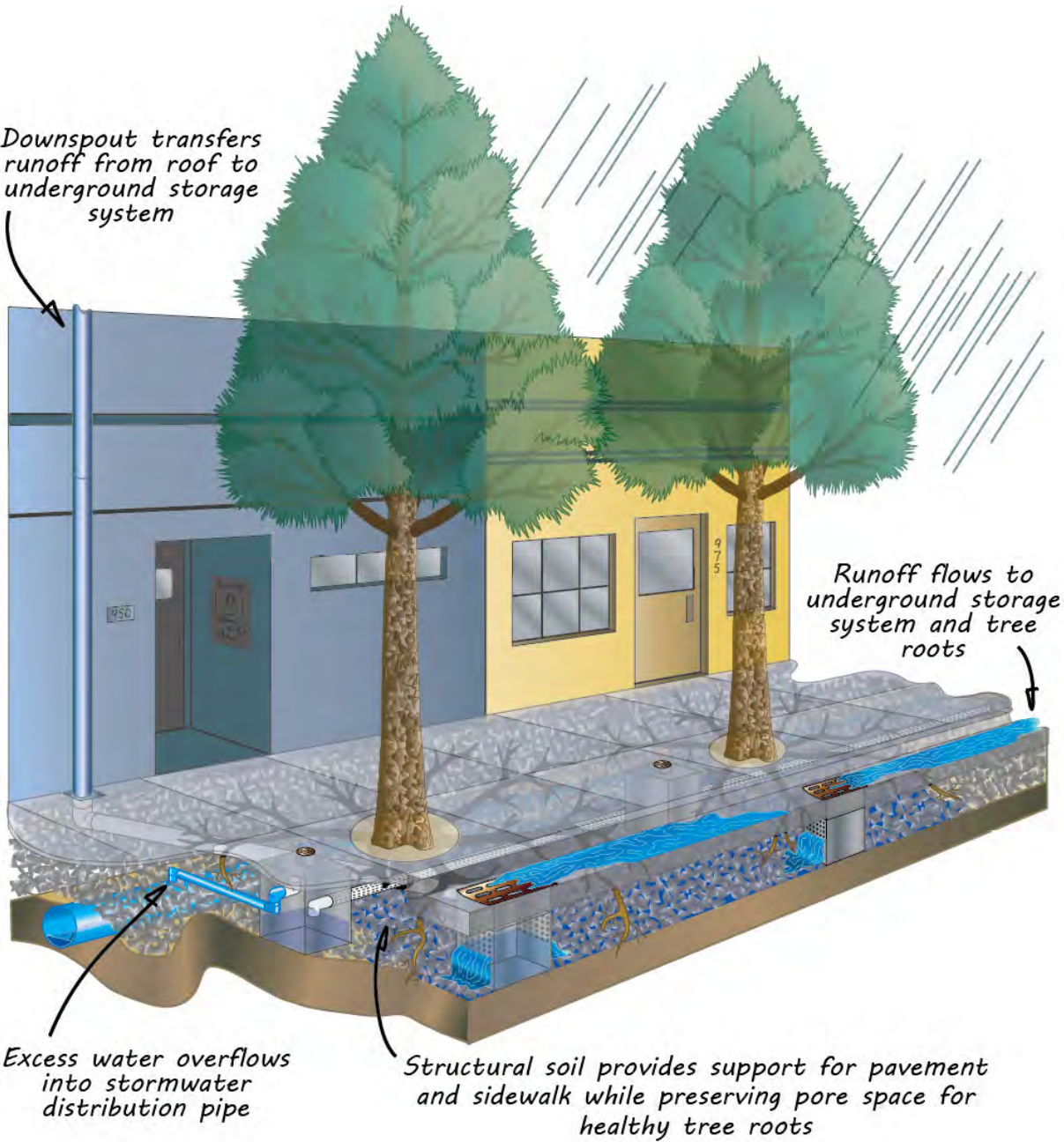




Bioswales are landscaped drainage areas with gently sloped sides designed to provide temporary storage while runoff infiltrates the soil. They reduce off-site runoff and trap pollutants and silt.

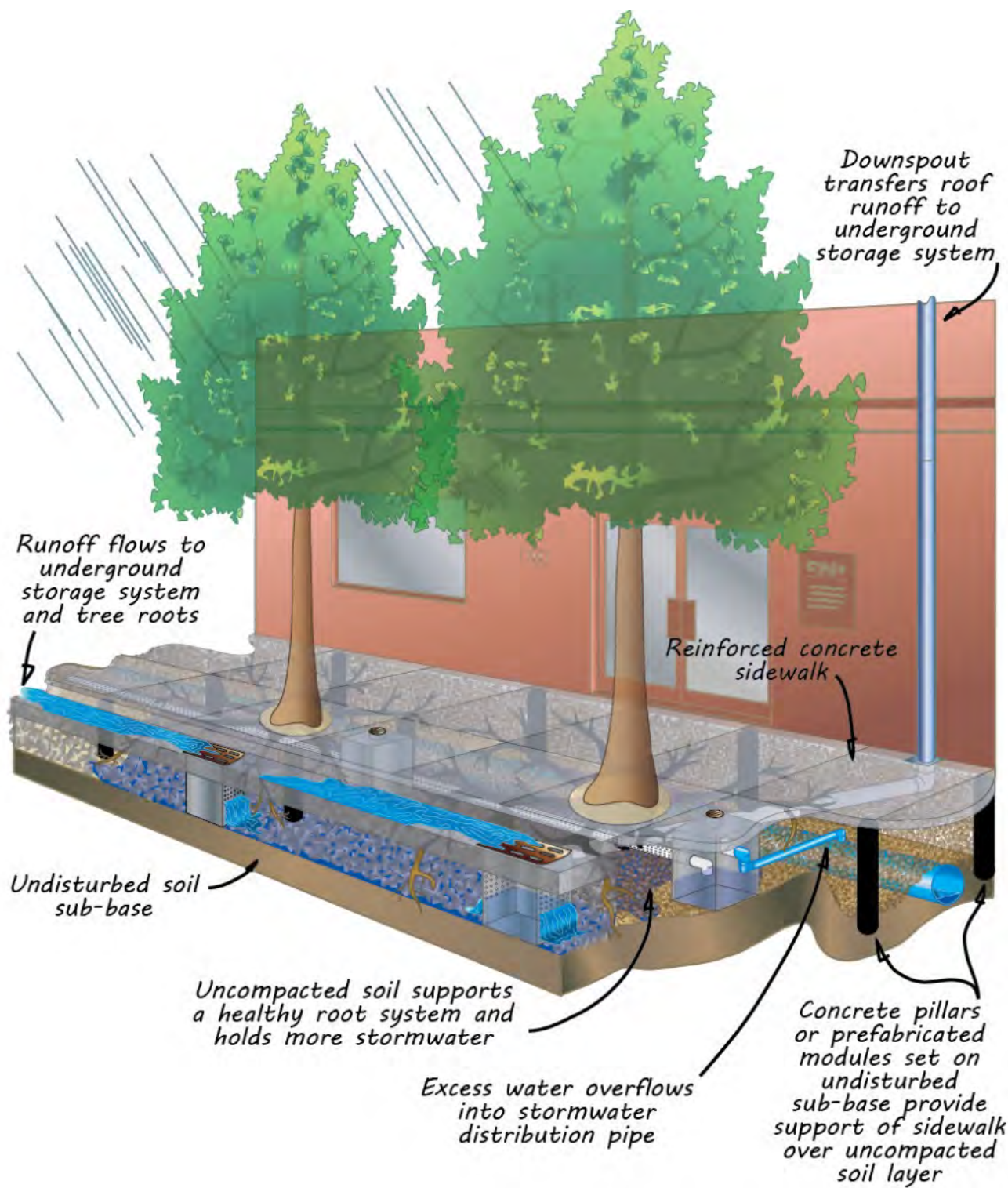


Structural soil is a highly porous, engineered aggregate mix, designed for use under asphalt and concrete as a load-bearing and leveling layer. The created spaces allow for water infiltration and storage, in addition to root growth.

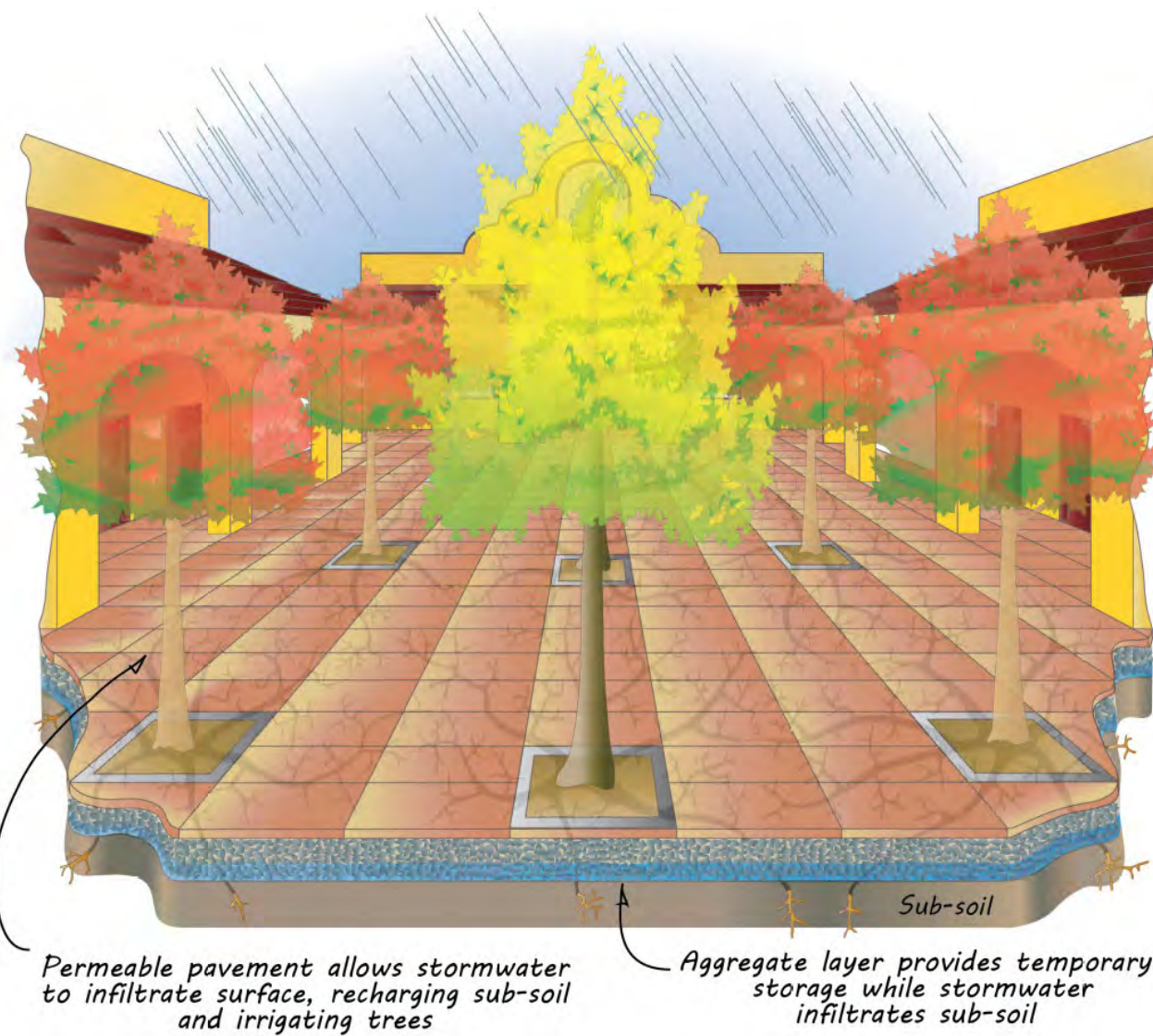




Suspended sidewalks use pillars or structured cell systems to support reinforced concrete, increasing the volume of uncompacted soil in subsurface planting areas and enhancing both root growth and stormwater storage.



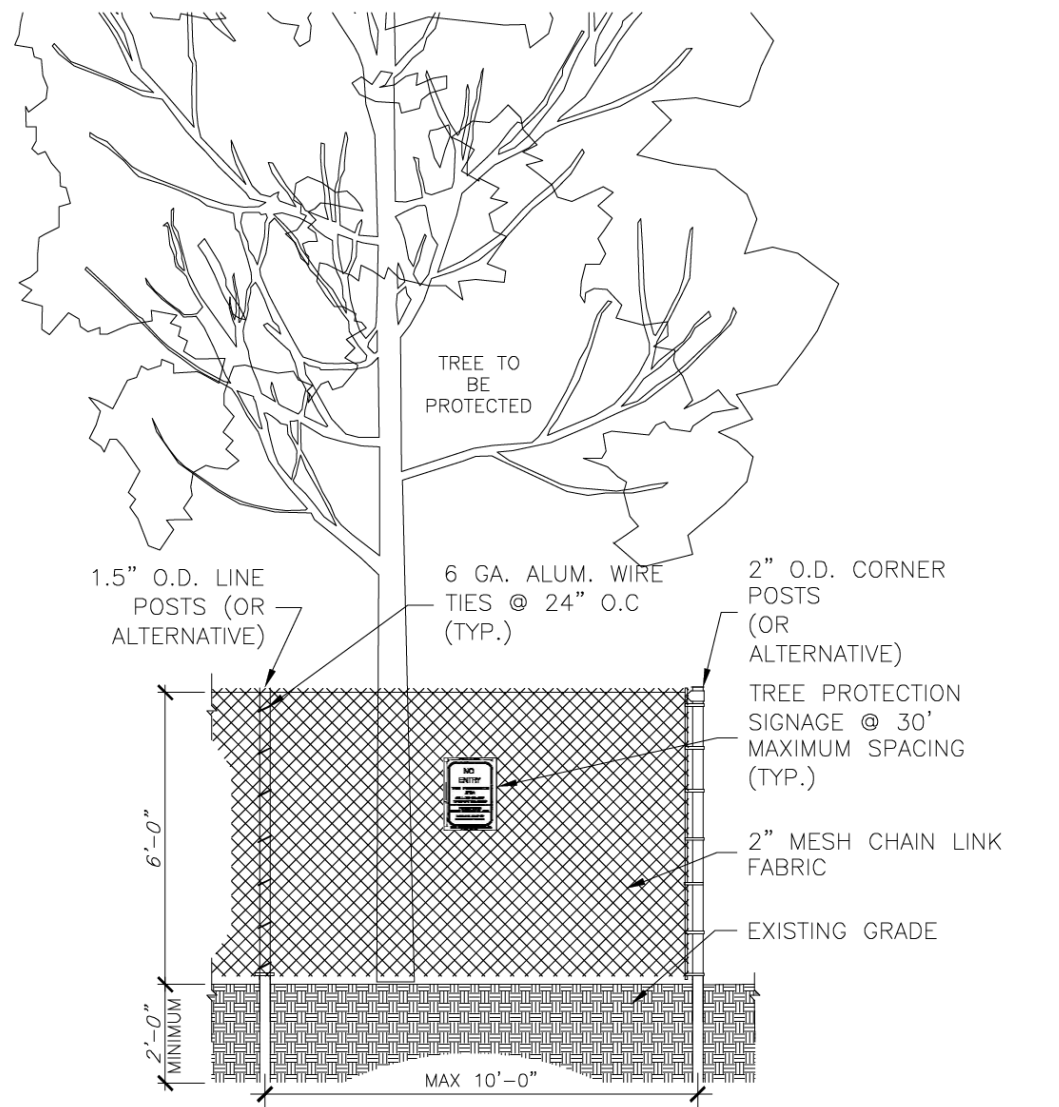
Permeable pavements allow stormwater and oxygen to infiltrate the surface, promoting tree health and groundwater recharge.





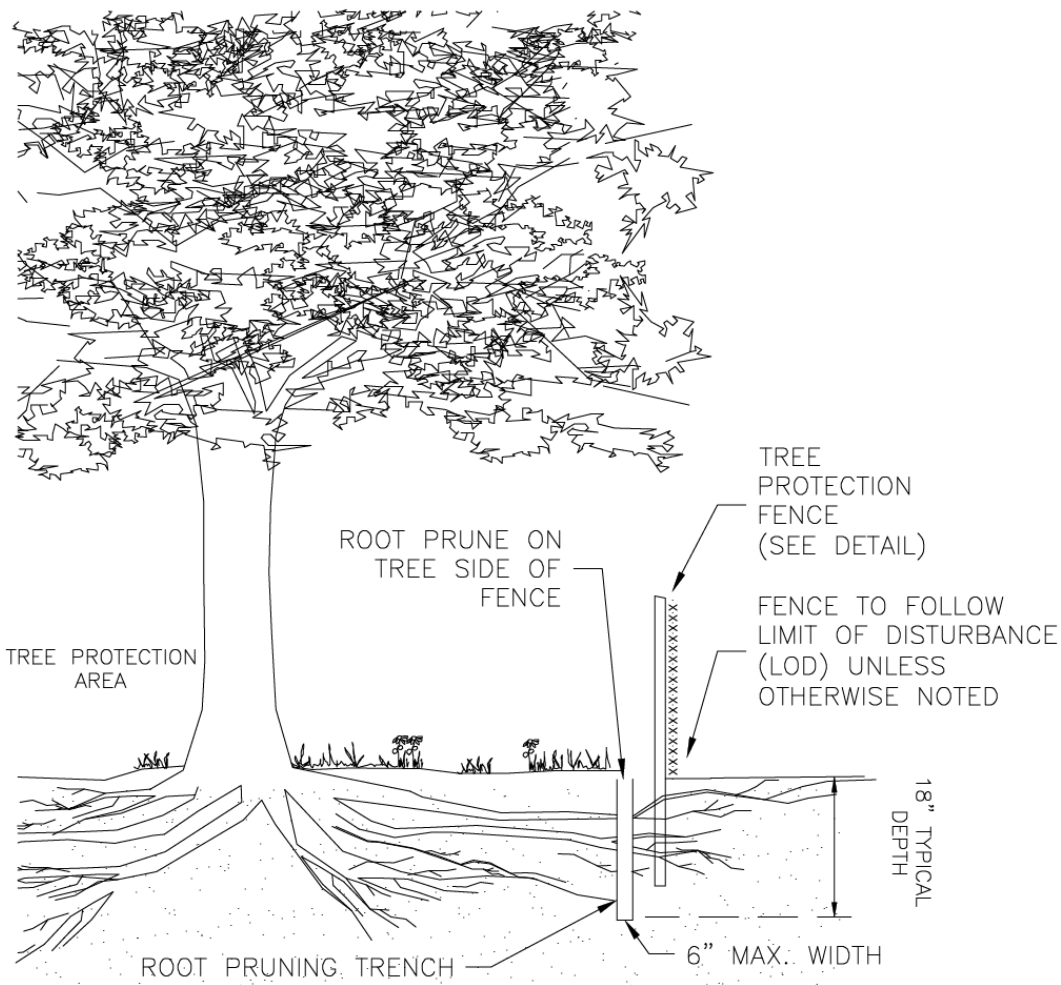
# Appendix F: Guidelines for Tree Preservation

Content developed by DRG



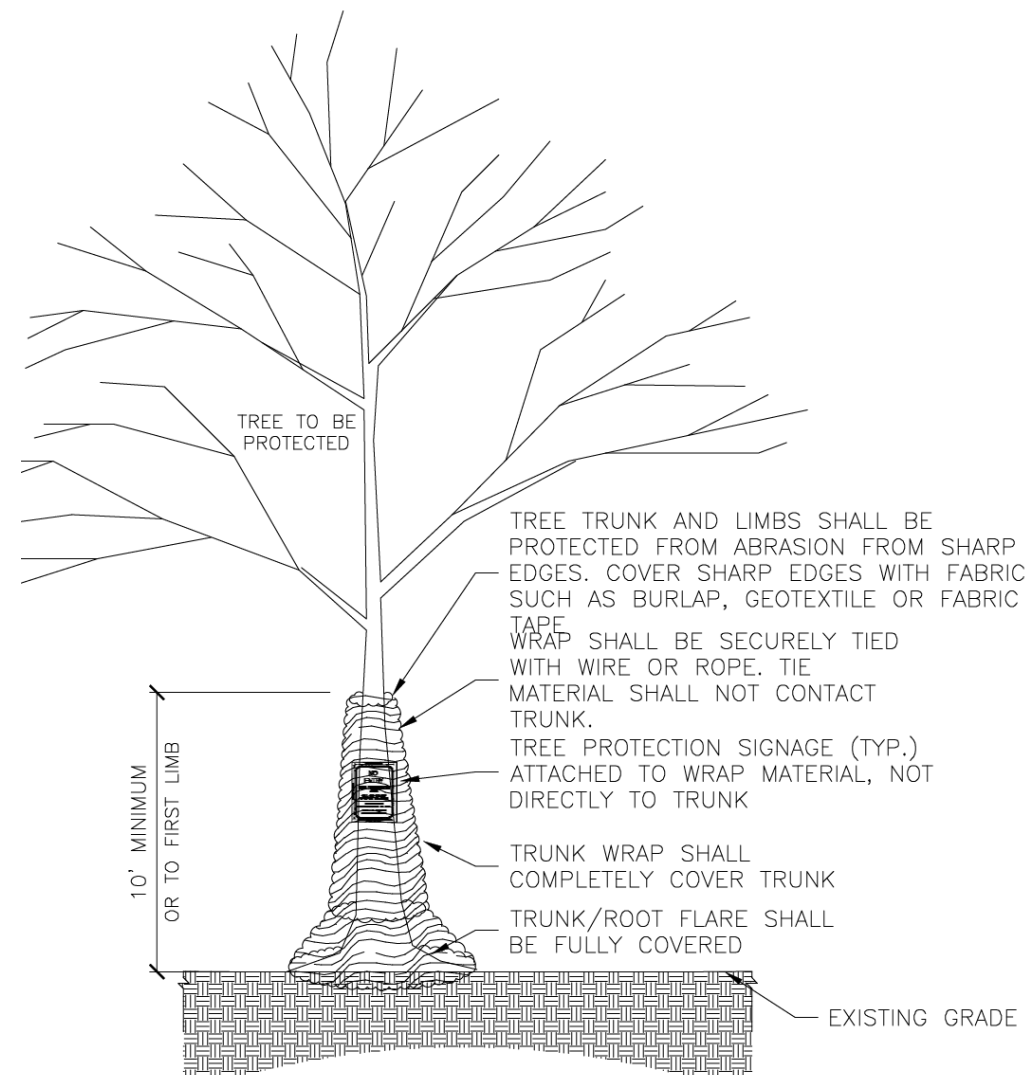
- NOTES:
- 1. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
  - 2. SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS.
  - 3. TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED.

1 CHAIN LINK TREE PROTECTION FENCE (TYPICAL)  
TP1 SCALE: NTS



- NOTES:
- 1. TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FIELD BY PROJECT ARBORIST.
  - 2. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
  - 3. TRENCH SHOULD BE BACKFILLED IMMEDIATELY OR INCORPORATED WITH SILT FENCE INSTALLATION.
  - 4. ROOTS SHOULD BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.5" DIAMETER SHOULD BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

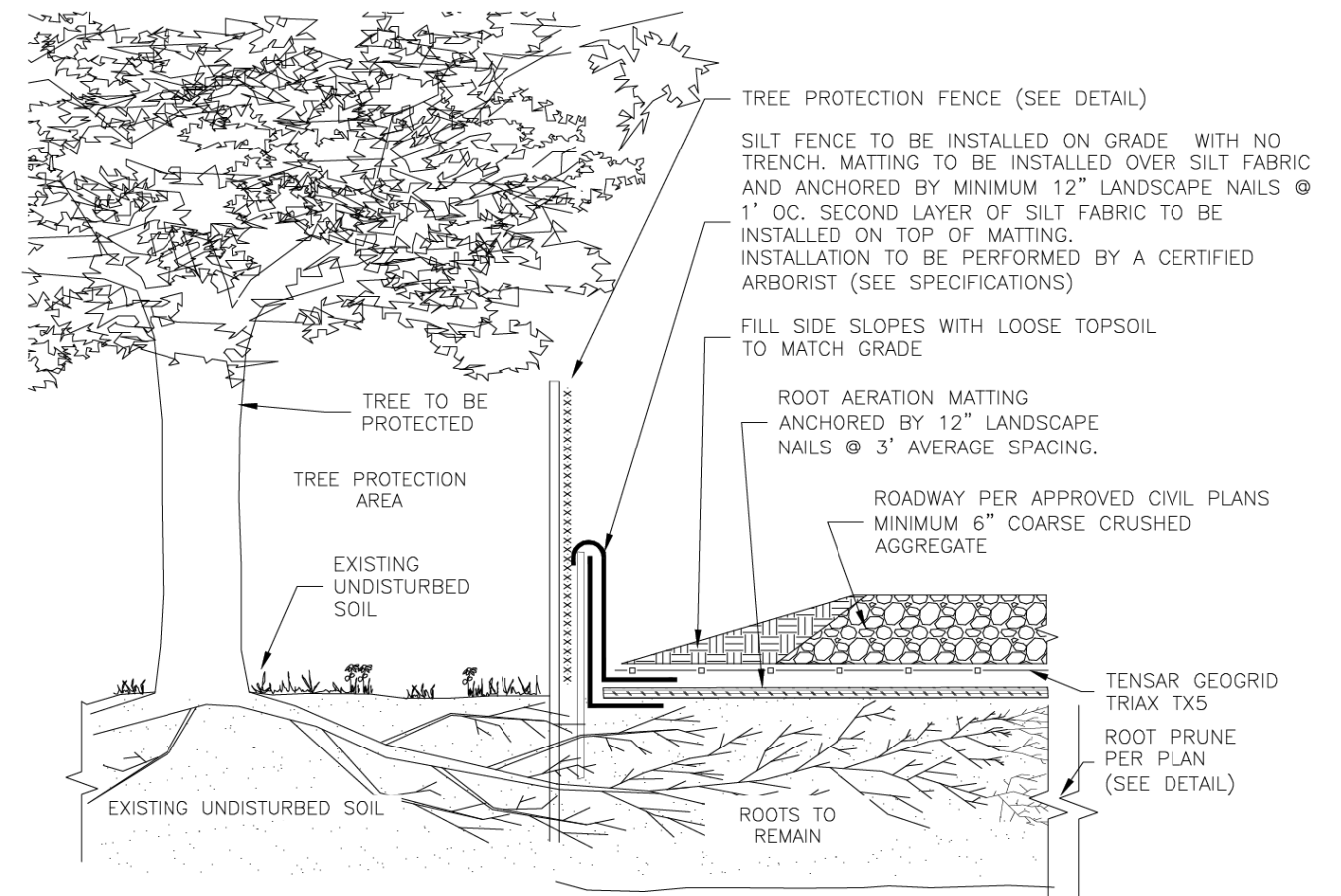
2 ROOT PRUNING (TYPICAL)  
TP1 SCALE: NTS



**NOTES:**

1. TRUNK WRAP MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENAX TENDRAIN 770/2) OR EQUIVALENT.
2. WRAP SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
3. WRAP SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
4. WRAP SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE WRAP ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED.
5. WRAP SHALL BE REMOVED PROMPTLY AFTER CONSTRUCTION.
6. MAJOR SCAFFOLD LIMBS MAY ALSO REQUIRE THIS PROTECTION AS DIRECTED BY THE PROJECT ARBORIST.

3 TREE TRUNK & LIMB PROTECTION WRAP (TYP)  
TP1 SCALE: NTS

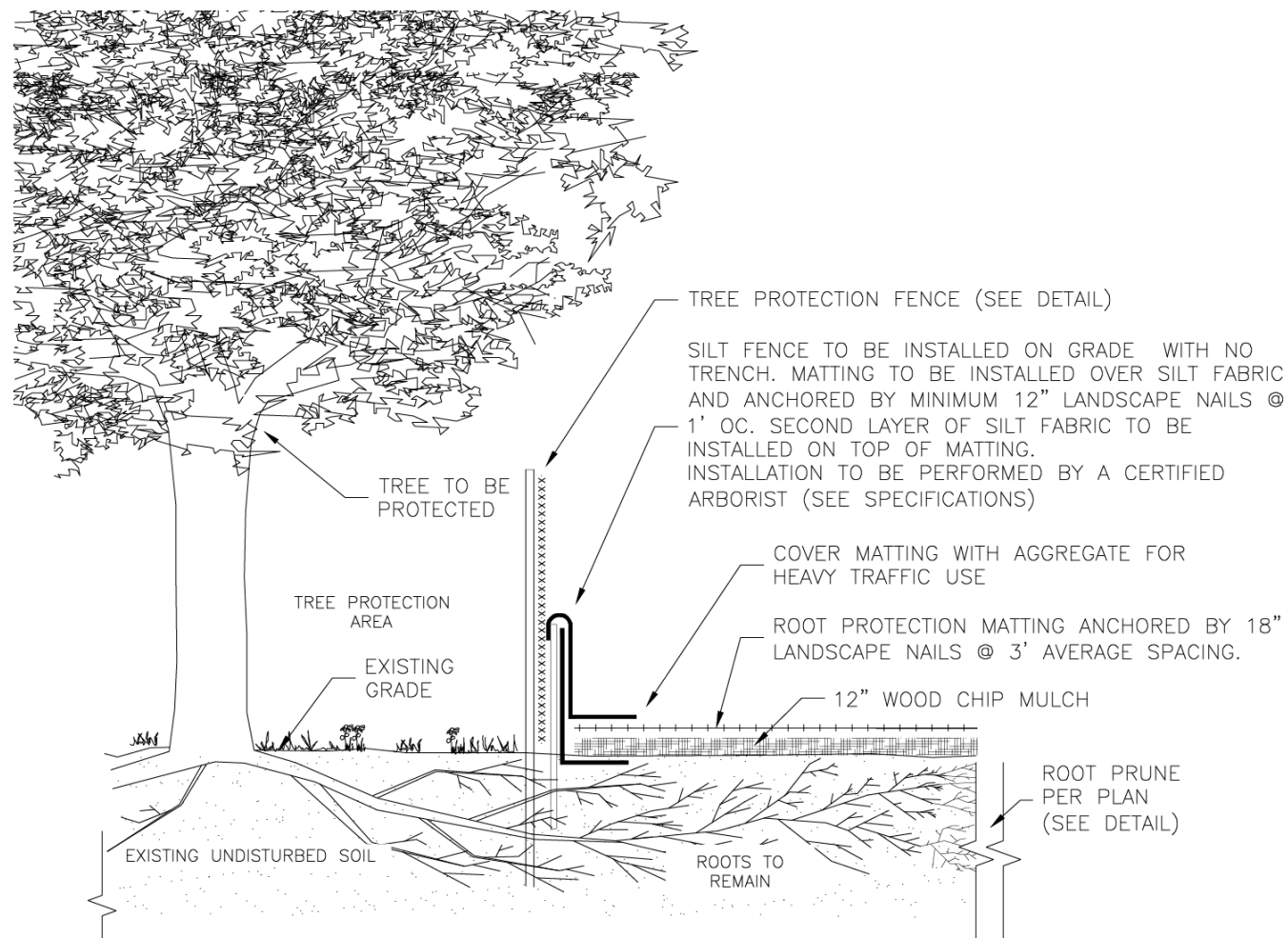


**NOTES:**

1. MATTING MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENAX TENDRAIN 770/2) OR APPROVED EQUIVALENT.
2. RAM SHALL BE ANCHORED BY 12" LANDSCAPE NAILS @ 3' AVERAGE SPACING.
3. RAM SHALL BE INSTALLED BY A CERTIFIED ARBORIST EXPERIENCED WITH THESE SYSTEMS.
4. ANY REQUIRED SITE PREPARATION/GRADING TO BE DONE USING SSAT TO MINIMIZE ROOT DAMAGE.
5. ALL ADJACENT WORK SHALL BE SUPERVISED BY CERTIFIED ARBORIST
6. GEOGRID SHALL BE TENSAR TRIAX TX5 OR APPROVED SUPERIOR.
7. AGGREGATE FILL SHALL BE TAPERED TO MATCH EXISTING GRADE WHOLLY ON RAM MATERIAL.
8. GEOGRID AND RAM PLACEMENTS SHALL BE OVERLAPPED BY 2'.
9. TOPSOIL MAY BE PLACED LOOSELY ON SIDE SLOPES AS REQUIRED TO MATCH GRADE. TOPSOIL SHALL NOT BE COMPACTED. RAM MUST EXTEND TO DAYLIGHT AND MAY BE TRIMMED AT FINAL TOE OF SLOPE.
10. SILT FENCE SHALL NOT BE TRENCHED AND MUST BE COORDINATED WITH ARBORIST FOR INSTALLATION.
11. EQUIPMENT/TRAFFIC SHALL NOT TRAVEL DIRECTLY ON RAM/GEOGRID. TRAFFIC MAY TRAVEL ON FINAL FILL ONLY.

4 ROOT AERATION MATTING WITH GEOGRID FOR ROADWAY (TYP)  
TP1 SCALE: NTS

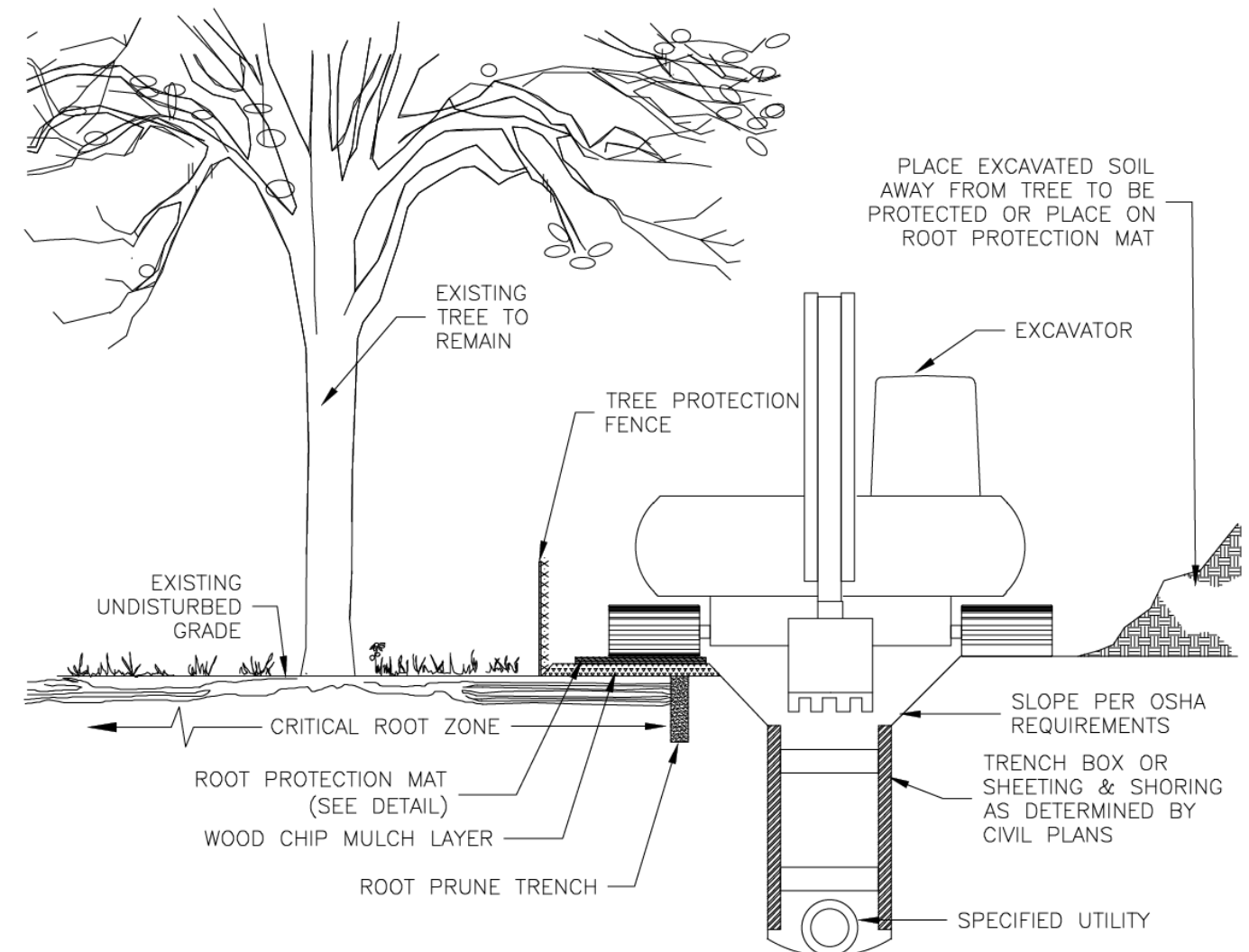




**NOTES:**

1. MATTING MATERIAL SHALL BE DOUBLE SIDED GEOCOMPOSITE, GEONET CORE WITH NON-WOVEN COVERING (SUCH AS TENAX TENDRAIN 770/2) OR APPROVED EQUIVALENT.
2. RPM SHALL BE INSTALLED BY A CERTIFIED ARBORIST.
3. TO BE USED FOR DESIGNATED TEMPORARY CONSTRUCTION ACCESS AND STOCKPILE AREAS.
4. MATTING SHALL BE PLACED ON 12" WOOD CHIP MULCH UNLESS OTHERWISE DIRECTED.
5. FOR HEAVY TRAFFIC AREAS, MATTING SHALL BE COVERED WITH 6-8" WELL GRADED CRUSHED AGGREGATE. ADDITIONAL LAYERS OF GEOTEXTILE MAY BE NEEDED.

5 TEMPORARY ROOT PROTECTION MATTING (TYPICAL)  
TP1 SCALE: NTS



**NOTE:**

1. EXACT RPM DIMENSIONS TO BE DETERMINED BY PROJECT ARBORIST
2. ARBORIST TO COORDINATE WITH SITE SUPERINTENDENT FOR PIPE LAYOUT, DEPTH, SIZE OF EQUIPMENT, WIDTH OF TRENCH, AND OVERDIG TO DETERMINE LOCATION AND LAYOUT OF TREE PROTECTION.
3. ARBORIST TO COORDINATE WITH SITE SUPERINTENDENT FOR OVERHEAD CLEARANCE ISSUES. MAY REQUIRE SELECT PRUNING OR TEMPORARY GUYING.
4. ARBORIST TO MONITOR BACK FILL AND RESTORATION ADJACENT TO PROTECTED TREES.

6 TREE PROTECTION FOR UNDERGROUND UTILITY (TYP)  
TP1 SCALE: NTS



### Construction Site Management

Preservation of existing mature trees before, during, and after new construction and redevelopment is beneficial for a number of reasons, including:

- To sustain both the function and value of existing trees and tree canopy.
- To promote public safety and reduce liability by carefully maintaining the health of preserved trees.
- To contain costs associated with site restoration.
- To reduce or avoid soil compaction and degradation and preserve soil volume.
- To avoid physical injury to existing trees.
- To avoid root injury to trees.
- To protect soils and the hydraulic integrity of the entire site.
- To protect existing irrigation, utilities and underground drainage.
- To prevent sediment-laden and/or polluted runoff from entering drainage systems and water bodies (streams, wetlands, lakes, bays).

### Best Management Practices

#### Pre-construction

- The Project Manager shall know and understand the development and building regulations concerning trees and vegetation in the area.

Left: Mexican fan palms at Cowell Beach

- The Project Manager shall ensure that irrigation and drainage systems are operable and adequate.
- The Project Manager shall ensure all temporary erosion sediment control measures are in place prior to groundbreaking.
- The Project Arborist will be responsible for decisions related to vegetation on site before, during, and after construction.
- The Project Arborist shall perform a site inventory of all existing trees in order to record the variety, location, size, and health of each tree. Site inventory includes determining size, species, numbers, and numbers of trees/plants on site.
- Trees that require removal or pruning to accommodate future structures and construction equipment should also be identified.
- The Project Arborist shall submit a Tree Protection Plan (TPP) that identifies all significant trees that will remain on the project site.
- The TPP will indicate the Tree Protection Zone (TPZ) for each tree as (at a minimum) the greater of: 6-feet, or by multiplying each tree's diameter at 4.5-feet above existing grade (DBH) by a factor of one to determine the diameter, in feet, of the area above and below ground to be protected.
- The TPZ may exceed the Critical Root Zone (CRZ), which is not less than half the distance between the trunk and the outer edge of the tree's canopy, or drip line, but the TPZ may not be smaller than the CRZ.
- The TPP will contain the expected tree protection techniques that will be used on the project.
- The TPP will also list a timetable for project meetings with the Project Team including a pre-construction meeting and the schedule for the Project Arborist monitoring.
- Prior to approval of the TPP, the City shall collect an assurance device in the form of a deposit equal to the tree appraisal value of all protected trees as determined under the methods established by the Council of Trees & Landscape Appraisers Guide for Plant Appraisal (9th Edition or most current).

### Construction site preparation

- Staging areas for equipment shall be established far enough from existing trees to ensure adequate protection of the root zone.
- Entry and exit routes shall be established and fenced off with chain link or construction fencing. When planning routes, avoid utility access corridors.
- Irrigation and drainage systems shall be protected from damage unless plans call for renovation of such systems.
- Prior to beginning construction activities, the Project Arborist will supervise and verify the following tree protection measures are in place and comply with the approved TPP:
  - A 6-inch layer of coarse mulch or wood chips is to be installed within the TPZ of protected trees. Mulch shall be kept 12-inches away from the trunk.



- Trunks of trees shall be protected with a single wrap of Geocomposite. Geocomposite shall be double sided, Geonet core with non-woven covering (such as Tenax Tendrain 770/2), or equivalent. Tree trunks will be protected with wrap.
- Trees that have been identified in the site inventory as posing a health or safety risk may be removed or pruned by no more than one-third, subject to approval of the required permit by the Planning Division. Pruning of existing limbs and roots shall only occur under the direction of the Project Arborist.
- A protective barrier shall be installed around the Tree Protection Zone (TPZ). The Fence shall be construction of a 6-foot high chain link. Posts shall be 2-inches in diameter, driven 2-feet into the ground. The distance between posts shall be not more than 10-feet. The enclosed area is the TPZ and shall have a warning sign displayed prominently at 20-foot (maximum) intervals along the fence. The warning sign shall be a minimum 8.5-inches x 11-inches and clearly state the following: “WARNING - Tree Protection Zone”. Fencing may be moved within the TPZ if authorized by the Project Arborist and City Staff but not closer than the drip line from the trunk of any tree.
- Movable barriers of chain link fencing secured to cement blocks may be substituted for “fixed” fencing if the Project Arborist and City Staff agree that the fencing will need to be moved to accommodate

- certain phases of construction. Moving TPZ fencing shall be prohibited without authorization from the Project Arborist and City Staff.
- Should temporary access into the TPZ be approved, an additional layer of approved tree matting shall be placed over the Critical Root Zone (CRZ).
  - Tree Growth Regulators may be used as approved by the Project Arborist and City Staff. Paclobutrazol soil applied tree growth regulator (Cambistat® or equivalent) shall be applied to indicated trees by a qualified applicator. Applications shall follow manufacturer’s label and applicable laws. TGR reduces canopy growth and increases fibrous root system growth over 2 to 3-years. This can increase tolerance to drought, stress and improve absorption of nutrients and moisture during the stress recovery period.

**DURING CONSTRUCTION**

During the Construction phase, the Project Arborist should inspect the site on a regular basis to ensure the TPP is being adhered to and report any conflicts or deviations to the City Planner or City Representative. The Project Arborist also needs to be available at the site to monitor construction activities that require encroachment within the TPZ, such as grading or trenching. It may also be necessary to have other key project team members available to monitor these activities.

The Project Arborist shall specify to construction personnel that the following conditions shall be avoided:

- Allowing run off or spillage of damaging materials into the area below any tree canopy.
  - Storing construction materials or portable toilets, stockpiling of soil, or parking or driving vehicles within the TPZ.
  - Cutting, breaking, skinning, or bruising roots, branches, or trunks without first obtaining authorization from the Project Arborist.
  - Allowing fires under and adjacent to trees.
  - Discharging exhaust into foliage.
  - Securing cable, chain, or rope to trees or shrubs.
  - Trenching, digging, or otherwise excavating within the CRZ or TPZ of the tree(s) without first obtaining authorization from the Project Arborist.
  - Applying soil sterilizers under pavement near existing trees.
- The Project Arborist shall provide periodic inspections during construction. 4-week intervals should be sufficient to access and monitor the effectiveness of the TPP and to provide recommendations for any additional care or treatment. Inspections that are more frequent may also be required based on the approved TPP.
- The following activities should be observed and inspected by the Project Arborist during the construction phase to ensure compliance with the approved TPP:
- Only excavation by hand or compressed air shall be allowed within the TPZ of trees. Machine trenching shall not be allowed.

- In order to avoid injury to tree roots, when a trenching machine is being used outside of the TPZ of trees, and roots are encountered smaller than 2-inches, the wall of the trench adjacent to the trees shall be hand-trimmed, making clear, clean cuts through the roots. All damaged, torn, and cut roots shall be given a clean cut to remove ragged edges, which promote decay. Trenches shall be filled within 24-hours; where this is not possible, the side of the trench adjacent to the trees shall be kept shaded with four layers of dampened, untreated burlap, watered as frequently as necessary to keep the burlap wet. Roots 2-inches or larger, when encountered, shall be reported immediately to the Project Arborist, who will decide whether the Contractor may cut the root as mentioned above or shall excavate by hand or with compressed air under the root. All exposed roots are to be protected with dampened burlap.
- Where possible, route pipes outside of the TPZ of a protected tree to avoid conflict with roots.
- Where it is not possible to reroute pipes or trenches, the contractor shall bore or tunnel beneath the TPZ of the tree. The boring shall take place not less than 3-feet below the surface of the soil in order to avoid encountering “feeder” roots. All boring equipment must be staged outside of the TPZ.
- All grade changes adjacent to the TPZ of a significant tree shall be supervised by the

Project Arborist. Cuts or fills of soil adjacent to the TPZ will have a retaining wall system installed as approved by the Project Arborist and City Staff.

- Any damage due to activities shall be reported to the Project Arborist and City Staff within 6-hours so that remedial action can be taken.
- The Project Arborist shall be responsible for the preservation of the designated trees. Should the builder fail to follow the tree protection specifications, it shall be the responsibility of the Project Arborist to report the matter to City Staff as an issue of non-compliance.

Additionally, it is the responsibility of the Project Manager to ensure compliance with the following activities:

- Construction shall be monitored regularly to ensure compliance with specifications. Work shall be stopped if construction site management BMPs are not being followed by the contractor.
- Cement washout pits and chemical holding areas shall be located away from tree protection areas, streams, and wetlands.
- Contractor parking and material storage shall be limited to already impacted areas away from tree roots.
- Site offices and equipment shall not encroach into tree protection areas.
- Refueling and maintenance areas shall be kept away from trees, native soils, water bodies and drainage systems. Fuel spills will not be tolerated on construction sites.

- To the extent possible, construction equipment shall be kept away from all on-site vegetation, especially those within designated protection areas.

**POST-CONSTRUCTION**

The post-construction phase does not end when the equipment leaves and the new tenants move in. Important follow-up monitoring of the protected trees will help ensure their survival and identify signs of early stress.

The applicant shall arrange with the Project Arborist for the long-term care and monitoring of preserved trees by complying with the following conditions:

- Complete post-construction tree maintenance, including pruning, mulching, fertilization, irrigation, and soil aeration where necessary.
- Remove, by hand, all soil and root protection material such as wood chips, gravel, and plywood.
- Provide for remediation of compacted soil by methods such as aeration or vertical mulching.
- In the absence of adequate rainfall, apply at least 1-inch of water per week in the CRZ by deep watering.
- Fertilize trees with slow release phosphorus, potassium, calcium, magnesium, and other macro- and micro-nutrients as indicated by a soil test, but wait at least 1-year to apply any nitrogen.

- Fertilize lightly with slow-release nitrogen after 1-year, and then make annual light nitrogen applications for the next 3 to 5-years.
- Inspect trees annually for at least 3 to 5-years after construction to look for changes in condition and signs of insects or disease and to determine maintenance needs.
- Remove trees that are badly damaged or are in irreversible decline as determined by the Project Arborist and City Staff.
- Continue to protect not only the large, established trees on the site but also those newly planted in the landscape.
- Maintain TPP during the installation of new landscaping.
- Provide annual inspection reports to the City.
- Review TPP prior to the installation of landscaping and walkways/sidewalks.

**Mitigating Tree and Infrastructure Conflicts**

Conflicts may occur when tree roots grow adjacent to paving, foundations, sidewalks, or curbs (hardscape). Improper or careless extraction of these elements can cause severe injury to the roots and instability or even death of the trees. The following alternatives must first be considered before root pruning within the TPZ of a tree.

**Removal of Pavement or Sidewalk**

Removal of existing pavement over tree roots shall include the following precautions: break hardscape into manageable pieces with a jackhammer or pick and hand-load the pieces onto a loader. The loader must remain outside the TPZ on undisturbed pavement or off exposed roots. Do not remove base rock that has been exploited by established absorbing roots. Apply untreated wood chips over the exposed area within 1-hour, then wet the chips and base rock and keep moist until the overlay surface is applied.

**Replacement of Pavement or Sidewalk**

An alternative to the severance of roots greater than 2-inches in diameter should be considered before cutting roots. If an alternative is not feasible, remove the sidewalk, as stated above, cut roots with a sharp, clean saw, as approved by the Project Manager or Project Arborist and replace sidewalk using #3 dowels at the expansion joint if within 10-feet of a protected tree. Use wire mesh reinforcement if within 10-feet of the trunk of a tree.

**Alternative Methods to Reduce Root Pruning**

- Grinding a raised sidewalk edge.
- Ramping the walking surface over the roots or lifted slab with pliable paving.
- Routing the sidewalk around the tree roots.
- Install boardwalk, flexible paving, or rubberized sections.



New sidewalk or driveway design should consider alternatives to conventional pavement and sidewalk materials. Substitute permeable materials for typical asphalt or concrete overlay, sub-base or footings to consider are permeable paving materials (such as ECO-Stone or RIMA pavers), interlocking pavers, flexible paving, wooden walkways, and brick or flagstone walkways on sand foundations.

**Avoid tree and infrastructure conflicts and associated costs by the following planting practices:**

- Plant deep rooting trees that are proven to be non- or minimally invasive.
- Over soil that shrinks and swells, install a sidewalk with higher strength that has wire mesh and/or expansion slip joint dowel reinforcement.
- Fracture soil with an air spade and backfill with sand prior to planting to promote deep rooting and improved drainage.
- Install root barrier only along the hardscape area of the tree and allow roots to use open lawn or planter strip areas.
- Dedicate at least 10-feet of planting space for the growth of each new tree.
- Provide a dedicated irrigation system or zone for the tree so the trees do not have to compete and are not dependent on the turf and shrub irrigation.
- Avoid planting trees over underground drainage systems where root intrusion will impede function of the system.

Alternative Base Course Materials: When designing hardscape areas near trees, the project architect or engineer should consider the use of recommended base course material such as an engineered structural soil mix. An approved structural soil mix will allow a long-term, cost-effective tree and infrastructure compatibility that is particularly suited for the following types of development projects:

- Repair or replacement of sidewalk greater than 40-feet in length;
- Planting areas that are designed over structures or parking garages;
- Confined parking lot medians and islands or other specialized conditions as warranted.

**Training**

- The Project Arborist should provide training to all construction personnel to ensure they understand all construction site BMPs.
- The Construction Supervisor and Architect should have current training and education dealing with construction site management. This training should include topics regarding protecting trees and erosion control on construction sites.

# Appendix G: Inventory Report Template

The City of Santa Cruz street tree inventory includes trees that are maintained by adjacent property owners. In order to inform residents of the priority maintenance needs identified by the inventory, TreeKeeper® was used to generate inventory reports. An example inventory report is presented here.

| Sites              |                  |
|--------------------|------------------|
| Site Attributes    |                  |
| Address            | Street           |
| Side               | Area             |
| Overhead Utilities | Hardscape Damage |
| Species Attributes |                  |
| Species            | DBH              |
| Total Tree Height  | Type of Defect   |
| Condition          | Maintenance Need |
| Clearance Required |                  |







**Top Left:** Chanticleer pear on Mission Street

**Bottom Left:** London plane trees on Mission Street

**Right:** Canary Island date palm at City Hall courtyard





Appendix H: Estimated costs to maintain trees currently maintained by Adjacent Property Owners

TABLE 11: ESTIMATED COSTS TO MAINTAIN PO TREES, INCLUDING CURRENT PRIORITY TASKS

| Estimated Costs for Each Activity                              |                         | Year 1    |            |             | Year 2    |            |             | Year 3    |            |             | Year 4    |            |             | Year 5    |            |             | Total 5-Year Work Plan Cost |
|--|-------------------------|-----------|------------|-------------|-----------|------------|-------------|-----------|------------|-------------|-----------|------------|-------------|-----------|------------|-------------|-----------------------------|
| Maintenance Activity   | Diameter Class (inches) | Cost/tree | # of Trees | Total Cost  | Cost/tree | # of Trees | Total Cost  | Cost/tree | # of Trees | Total Cost  | Cost/tree | # of Trees | Total Cost  | Cost/tree | # of Trees | Total Cost  | Total 5-Year Cost           |
| Routine pruning (includes trees with no maintenance specified) | 0 - 3                   | \$300     | 248        | \$74,400    | \$300     | 247        | \$74,100    | \$300     | 247        | \$74,100    | \$300     | 247        | \$74,100    | \$300     | 248        | \$74,400    | \$371,100                   |
|  | 4 -                     | \$300     | 434        | \$130,200   | \$300     | 432        | \$129,600   | \$300     | 432        | \$129,600   | \$300     | 432        | \$129,600   | \$300     | 451        | \$135,300   | \$654,300                   |
|  | 8 - 13                  | \$800     | 384        | \$307,200   | \$800     | 378        | \$302,400   | \$800     | 378        | \$302,400   | \$800     | 378        | \$302,400   | \$800     | 463        | \$370,400   | \$1,584,800                 |
|  | 14 - 21                 | \$1,800   | 249        | \$448,200   | \$1,800   | 247        | \$444,600   | \$1,800   | 247        | \$444,600   | \$1,800   | 247        | \$444,600   | \$1,800   | 300        | \$540,000   | \$2,322,000                 |
|  | 22 - 35                 | \$1,800   | 162        | \$291,600   | \$1,800   | 162        | \$291,600   | \$1,800   | 162        | \$291,600   | \$1,800   | 162        | \$291,600   | \$1,800   | 212        | \$381,600   | \$1,548,000                 |
|  | 36 +                    | \$1,800   | 71         | \$127,800   | \$1,800   | 70         | \$126,000   | \$1,800   | 70         | \$126,000   | \$1,800   | 70         | \$126,000   | \$1,800   | 120        | \$216,000   | \$721,800                   |
| Activity Total(s)  |                         |           | 1,548      | \$1,379,400 |           | 1,536      | \$1,368,300 |           | 1,536      | \$1,368,300 |           | 1,536      | \$1,368,300 |           | 1,794      | \$1,717,700 | \$7,202,000                 |
| Priority Pruning   | 0 - 3                   | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$0                         |
|  | 4 -                     | \$300     | 17         | \$5,100     | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$5,100                     |
|  | 8 - 13                  | \$800     | 79         | \$63,200    | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$63,200                    |
|  | 14 - 21                 | \$1,800   | 51         | \$91,800    | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$91,800                    |
|  | 22 - 35                 | \$1,800   | 50         | \$90,000    | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$90,000                    |
|  | 36 +                    | \$1,800   | 49         | \$88,200    | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$88,200                    |
| Activity Total(s)  |                         |           | 246        | \$338,300   |           | 0          | \$0         |           | 0          | \$0         |           | 0          | \$0         |           | 0          | \$0         | \$338,300                   |
| Structural Prune   | 0 - 3                   | \$300     | 12         | \$3,600     | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$3,600                     |
|  | 4 -                     | \$300     | 1          | \$300       | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300     | 0          | \$0         | \$300                       |
|  | 8 - 13                  | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$800     | 0          | \$0         | \$0                         |
|  | 14 - 21                 | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$0                         |
|  | 22 - 35                 | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$0                         |
|  | 36 +                    | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$1,800   | 0          | \$0         | \$0                         |
| Activity Total(s)  |                         |           | 13         | \$3,900     |           | 0          | \$0         |           | 0          | \$0         |           | 0          | \$0         |           | 0          | \$0         | \$3,900                     |
| Tree Removal & Stump Grinding                                  | 0 - 3                   | \$500     | 54         | \$27,000    | \$500     | 16         | \$8,000     | \$500     | 0          | \$0         | \$500     | 0          | \$0         | \$500     | 0          | \$0         | \$35,000                    |
|  | 4 -                     | \$500     | 59         | \$29,500    | \$500     | 53         | \$26,500    | \$500     | 0          | \$0         | \$500     | 0          | \$0         | \$500     | 0          | \$0         | \$56,000                    |
|  | 8 - 13                  | \$1,000   | 77         | \$77,000    | \$1,000   | 43         | \$43,000    | \$1,000   | 0          | \$0         | \$1,000   | 0          | \$0         | \$1,000   | 0          | \$0         | \$120,000                   |
|  | 14 - 21                 | \$2,200   | 50         | \$110,000   | \$2,200   | 31         | \$68,200    | \$2,200   | 0          | \$0         | \$2,200   | 0          | \$0         | \$2,200   | 0          | \$0         | \$178,200                   |
|  | 22 - 35                 | \$2,800   | 29         | \$81,200    | \$2,800   | 27         | \$75,600    | \$2,800   | 0          | \$0         | \$2,800   | 0          | \$0         | \$2,800   | 0          | \$0         | \$156,800                   |
|  | 36 +                    | \$2,800   | 11         | \$30,800    | \$2,800   | 6          | \$16,800    | \$2,800   | 0          | \$0         | \$2,800   | 0          | \$0         | \$2,800   | 0          | \$0         | \$47,600                    |
| Activity Total(s)  |                         |           | 280        | \$359,400   |           | 176        | \$238,100   |           | 0          | \$0         |           | 0          | \$0         |           | 0          | \$0         | \$593,600                   |
| All Maintenance Activity Grand Total                           |                         |           | 2,087      | \$2,081,000 |           | 1,712      | \$1,606,400 |           | 1,536      | \$1,368,300 |           | 1,536      | \$1,368,300 |           | 1,794      | \$1,717,700 | \$8,137,800                 |

TABLE 12: ESTIMATED COSTS TO MAINTAIN PO TREES, INCLUDING CURRENT PRIORITY TASKS

| Estimated Costs for Each Activity                              |                         | Year 1    |            |              | Year 2    |            |              | Year 3    |            |              | Year 4    |            |              | Year 5    |            |              | Total 5-Year Work Plan Cost |
|--|-------------------------|-----------|------------|--------------|-----------|------------|--------------|-----------|------------|--------------|-----------|------------|--------------|-----------|------------|--------------|-----------------------------|
| Maintenance Activity   | Diameter Class (inches) | Cost/tree | # of Trees | Total Cost   | Cost/tree | # of Trees | Total Cost   | Cost/tree | # of Trees | Total Cost   | Cost/tree | # of Trees | Total Cost   | Cost/tree | # of Trees | Total Cost   | Total 5-Year Cost           |
| Routine pruning (includes trees with no maintenance specified) | 0 - 3                   | \$300     | 313        | \$93,900     | \$300     | 311        | \$93,300     | \$300     | 312        | \$93,600     | \$300     | 311        | \$93,300     | \$300     | 317        | \$95,100     | \$469,200                   |
|  | 4 -                     | \$300     | 537        | \$161,100    | \$300     | 533        | \$159,900    | \$300     | 532        | \$159,600    | \$300     | 533        | \$159,900    | \$300     | 553        | \$165,900    | \$806,400                   |
|  | 8 - 13                  | \$800     | 472        | \$377,600    | \$800     | 463        | \$370,400    | \$800     | 464        | \$371,200    | \$800     | 463        | \$370,400    | \$800     | 549        | \$439,200    | \$1,928,800                 |
|  | 14 - 21                 | \$1,800   | 312        | \$561,600    | \$1,800   | 352        | \$633,600    | \$1,800   | 351        | \$631,800    | \$1,800   | 351        | \$631,800    | \$1,800   | 405        | \$729,000    | \$3,187,800                 |
|  | 22 - 35                 | \$1,800   | 173        | \$311,400    | \$1,800   | 211        | \$379,800    | \$1,800   | 209        | \$376,200    | \$1,800   | 209        | \$376,200    | \$1,800   | 261        | \$469,800    | \$1,913,400                 |
|  | 36 +                    | \$1,800   | 77         | \$138,600    | \$1,800   | 93         | \$167,400    | \$1,800   | 89         | \$160,200    | \$1,800   | 90         | \$162,000    | \$1,800   | 140        | \$252,000    | \$880,200                   |
| Activity Total(s)  |                         |           | 1,884      | \$1,644,200  |           | 1,963      | \$1,804,400  |           | 1,957      | \$1,792,600  |           | 1,957      | \$1,793,600  |           | 2,225      | \$2,151,000  | \$9,185,800                 |
| Priority Pruning   | 0 - 3                   | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$0                         |
|  | 4 -                     | \$300     | 22         | \$6,600      | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$6,600                     |
|  | 8 - 13                  | \$800     | 83         | \$66,400     | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$66,400                    |
|  | 14 - 21                 | \$1,800   | 55         | \$99,000     | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$99,000                    |
|  | 22 - 35                 | \$1,800   | 57         | \$102,600    | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$102,600                   |
|  | 36 +                    | \$1,800   | 57         | \$102,600    | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$102,600                   |
| Activity Total(s)  |                         |           | 274        | \$377,200    |           | 0          | \$0          |           | 0          | \$0          |           | 0          | \$0          |           | 0          | \$0          | \$377,200                   |
| Structural Prune   | 0 - 3                   | \$300     | 13         | \$3,900      | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$3,900                     |
|  | 4 -                     | \$300     | 1          | \$300        | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300     | 0          | \$0          | \$300                       |
|  | 8 - 13                  | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$800     | 0          | \$0          | \$0                         |
|  | 14 - 21                 | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$0                         |
|  | 22 - 35                 | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$0                         |
|  | 36 +                    | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$1,800   | 0          | \$0          | \$0                         |
| Activity Total(s)  |                         |           | 14         | \$4,200      |           | 0          | \$0          |           | 0          | \$0          |           | 0          | \$0          |           | 0          | \$0          | \$4,200                     |
| Tree Removal & Stump Grinding                                  | 0 - 3                   | \$500     | 58         | \$29,000     | \$500     | 20         | \$10,000     | \$500     | 0          | \$0          | \$500     | 0          | \$0          | \$500     | 0          | \$0          | \$39,000                    |
|  | 4 -                     | \$500     | 61         | \$30,500     | \$500     | 53         | \$26,500     | \$500     | 0          | \$0          | \$500     | 0          | \$0          | \$500     | 0          | \$0          | \$57,000                    |
|  | 8 - 13                  | \$1,000   | 77         | \$77,000     | \$1,000   | 45         | \$45,000     | \$1,000   | 0          | \$0          | \$1,000   | 0          | \$0          | \$1,000   | 0          | \$0          | \$122,000                   |
|  | 14 - 21                 | \$2,200   | 51         | \$112,200    | \$2,200   | 36         | \$79,200     | \$2,200   | 0          | \$0          | \$2,200   | 0          | \$0          | \$2,200   | 0          | \$0          | \$191,400                   |
|  | 22 - 35                 | \$2,800   | 31         | \$86,800     | \$2,800   | 30         | \$84,000     | \$2,800   | 0          | \$0          | \$2,800   | 0          | \$0          | \$2,800   | 0          | \$0          | \$170,800                   |
|  | 36 +                    | \$2,800   | 12         | \$33,600     | \$2,800   | 7          | \$19,600     | \$2,800   | 0          | \$0          | \$2,800   | 0          | \$0          | \$2,800   | 0          | \$0          | \$53,200                    |
| Activity Total(s)  |                         |           | 290        | \$373,300    |           | 191        | \$264,300    |           | 0          | \$0          |           | 0          | \$0          |           | 0          | \$0          | \$633,400                   |
| Program Administration   |                         |           |            |              |           |            |              |           |            |              |           |            |              |           |            |              |                             |
| All Maintenance Activity Grand Total                           |                         |           | 2,462      |              |           | 2,154      |              |           | 1,957      |              |           | 1,957      |              |           | 2,225      |              | 10,755                      |
| Cost Grand Total   |                         |           |            | \$2,398,900  |           |            | \$2,068,700  |           |            | \$1,792,600  |           |            | \$1,793,600  |           |            | \$2,151,000  | \$10,200,600                |
|  |                         |           |            |              |           |            |              |           |            |              |           |            |              |           |            |              |                             |
| Current Annual Budget  |                         |           |            | \$150,000    |           |            | \$150,000    |           |            | \$150,000    |           |            | \$150,000    |           |            | \$150,000    | \$750,000                   |
| Shortfall/Gap  |                         |           |            | -\$2,248,900 |           |            | -\$1,918,700 |           |            | -\$1,642,600 |           |            | -\$1,643,600 |           |            | -\$2,001,000 | -\$9,450,600                |
|  |                         |           |            |              |           |            |              |           |            |              |           |            |              |           |            |              |                             |





Appendix I: Indicators of a Sustainable Urban Forest

| Indicators of a Sustainable Urban Forest |  | Assessed Performance Level |        |      |
|--|--|----------------------------|--------|------|
|  |  | Low                        | Medium | High |
| The Trees                                | Urban Tree Canopy                                    |                            | X      |      |
|  | Equitable Distribution                               | X                          |        |      |
|  | Size/Age Distribution                                |                            | X      |      |
|  | Condition of Public Trees - Streets, Parks           |                            | X      |      |
|  | Condition of Public Trees - Natural Areas            | X                          |        |      |
|  | Trees on Private Property                            | X                          |        |      |
|  | Species Diversity                                    |                            |        | X    |
|  | Suitability  |                            | X      |      |
|  | Space and Volume                                     | X                          |        |      |
| The Players                              | Neighborhood Action                                  |                            | X      |      |
|  | Large Private & Institutional Landholder Involvement | X                          |        |      |
|  | Green Industry Involvement                           | X                          |        |      |
|  | City Department/Agency Cooperation                   |                            | X      |      |
|  | Funder Engagement                                    | X                          |        |      |
|  | Utility Engagement                                   |                            | X      |      |
|  | State Engagement                                     | X                          |        |      |
|  | Public Awareness                                     |                            | X      |      |
| The Mgmt Approach                        | Regional Collaboration                               | X                          |        |      |
|  | Tree Inventory                                       |                            |        | X    |
|  | Canopy Assessment                                    |                            | X      |      |
|  | Management Plan                                      | X                          |        |      |
|  | Risk Management Program                              | X                          |        |      |
|  | Maintenance of Publicly-Owned Trees (ROWs)           | X                          |        |      |
|  | Maintenance Program of Publicly-Owned Natural Areas  |                            | X      |      |
|  | Planting Program                                     |                            | X      |      |
|  | Tree Protection Policy                               |                            |        | X    |
|  | City Staffing and Equipment                          |                            | X      |      |
|  | Funding  | X                          |        |      |
|  | Disaster Preparedness & Response                     |                            | X      |      |
|  | Communications                                       |                            |        | X    |
| Totals                                   |  | 13                         | 13     | 4    |

Top Left: Pepper trees on Broadway  
Bottom Left: Walnut Avenue



| THE TREES  |  |   |  |   |
|--|--|---|--|---|
| Indicators of a Sustainable Urban Forest                                       | Overall Objective or Industry Standard   | Performance Levels  |  |   |
|  |  | Low   | Medium   | High  |
| Urban Tree Canopy  | Achieve the desired tree canopy cover according to goals set for the entire city and neighborhoods.<br><br>Alternatively, achieve 75% of the total canopy possible for the entire city and in each neighborhood.   | Canopy is decreasing.<br>- and/or -<br>No canopy goals have been set.   | Canopy is not dropping, but not on a trajectory to achieve the established goal.                                 | Canopy goal is achieved, or well on the way to achievement.   |
| Location of Canopy (Equitable Distribution)                                    | Achieve low variation between tree canopy and equity factors citywide by neighborhood. Ensure that the benefits of tree canopy are available to all, especially for those most affected by these benefits.   | Tree planting and public outreach and education is not determined by tree canopy cover or benefits.   | Tree planting and public outreach and education is focused on neighborhoods with low tree canopy.                | Tree planting and public outreach and education is focused in neighborhoods with low tree canopy and a high need for tree benefits.                             |
| Age of Trees (Size and Age Distribution)                                       | Establish a diverse-aged population of <b>public</b> trees across the entire city and for each neighborhood. Ideal standard:<br>9-17" DBH: 30%<br>Over 24" DBH: 10%  | No current information is available on size.<br>- OR -<br>Age distribution is not proportionally distributed across size classes at the city level. | Size classes are evenly distributed at the city level, though unevenly distributed at the neighborhood level.    | Age distribution is generally aligned with the ideal standard diameter classes at the neighborhood level.   |
| Condition of Publicly Owned Trees ( <i>trees managed intensively</i> )         | Possess a detailed understanding of tree condition and potential risk of all intensively-managed, publicly-owned trees. This information is used to direct maintenance actions.  | No current information is available on tree condition or risk.  | Information from a partial or sample or inventory is used to assess tree condition and risk.                     | Information from a current, GIS-based, 100% complete public tree inventory is used to indicate tree condition and risk.   |
| Condition of Publicly-Owned Natural Areas ( <i>trees managed extensively</i> ) | Possess a detailed understanding of the ecological structure and function of all publicly-owned natural areas (such as woodlands, ravines, stream corridors, etc.), as well as usage patterns.   | No current information is available on tree condition or risk.  | Publicly-owned natural areas are identified in a sample-based "natural areas survey" or similar data.            | Information from a current, GIS-based, 100% complete natural areas survey is utilized to document ecological structure and function, as well as usage patterns. |
| Trees on Private Property  | Possess a solid understanding of the extent, location and general condition of trees on private lands.   | No data is available on private trees.  | Current tree canopy assessment reflects basic information (location) of both public and private canopy combined. | Detailed information available on private trees.<br>Ex. bottom-up sample-based assessment of trees.   |
| Diversity  | Establish a genetically diverse population of publicly-owned trees across the entire city and for each neighborhood. Tree populations should be comprised of no more than 30% of any family, 20% of any genus, or 10% of any species.                                | No current information is available on species.<br>- OR -<br>Fewer than five species dominate the entire tree population citywide.                  | No species represents more than 20% of the entire tree population citywide.                                      | No species represents more than 10% of the entire tree population citywide.   |
| Climate Resilience/ Suitability  | Establish a tree population suited to the urban environment and adapted to the overall region. Suitable species are gauged by exposure to imminent threats, considering the "Right Tree for the Right Place" concept and invasive species.                           | No current information is available on species suitability.<br>- OR -<br>Less than 50% of trees are considered suitable for the site.               | 50% to 75% of trees are considered suitable for the site.  | More than 75% of trees are considered suitable for the site.  |
| Space and Soil Volume  | Establish minimum street tree soil volume requirements to ensure there is adequate space and soil for street trees to thrive. Minimum soil volumes by mature size: 1000 cubic feet for large trees; 600 cubic feet for medium trees; 300 cubic feet for small trees. | Minimum street tree soil volumes have not been established.   | Minimum street tree soil volume has been established based on mature size of tree.                               | Minimum street tree soil volumes have been established and are required to be adhered to for all new street tree planting projects.                             |

| THE PLAYERS  |   |  |   |   |
|--|---|--|---|---|
| Indicators of a Sustainable Urban Forest             | Overall Objective or Industry Standard  | Performance Levels   |   |   |
|  |   | Low  | Medium  | High  |
| Neighborhood Action                                  | Citizens understand, cooperate, and participate in urban forest management at the neighborhood level. Urban forestry is a neighborhood-scale issue.                             | Little or no citizen involvement or neighborhood action.   | Some active groups are engaged in advancing urban forestry activity, but with no unified set of goals or priorities.  | The majority of all neighborhoods are organized, connected, and working towards a unified set of goals and priorities.  |
| Large Private & Institutional Landholder Involvement | Large, private, and institutional landholders embrace citywide goals and objectives through targeted resource management plans.   | Large private land holders are unaware of issues and potential influence in the urban forest. No large private land management plans are currently in place. | Education materials and advice is available to large private landholders. Few large private landholders or institutions have management plans in place.             | Clear and concise goals are established for large private land holders through direct education and assistance programs. Key landholders and institutions have management plans in place.                   |
| Green Industry Involvement                           | The green industry works together to advance citywide urban forest goals and objectives. The city and its partners capitalize on local green industry expertise and innovation. | Little or no involvement from green industry leaders to advance local urban forestry goals.  | Some partnerships are in place to advance local urban forestry goals, but more often for the short-term.  | Long-term committed partnerships are working to advance local urban forestry goals.   |
| City Department and Agency Cooperation               | All city departments and agencies cooperate to advance citywide urban forestry goals and objectives.  | Conflicting goals and/or actions among city departments and agencies.  | Informal teams among departments and agencies are communicating and implementing common goals on a project-specific basis.  | Common goals and collaboration occur across all departments and agencies. City policy and actions are implemented by formal interdepartmental and interagency working teams on all city projects.           |
|  | Local funders are engaged and invested in urban forestry initiatives. Funding is adequate to implement citywide urban forest management plan.                                   | Little or no funders are engaged in urban forestry initiatives.  | Funders are engaged in urban forestry initiatives at minimal levels for short-term projects.  | Multiple funders are fully engaged and active in urban forestry initiatives for short-term projects and long-term goals.  |
| Utility Engagement                                   | All utilities are aware of and vested in the urban forest and cooperates to advance citywide urban forest goals and objectives.   | Utilities and city agencies act independently of urban forestry efforts. No coordination exists.   | Utilities and city agencies have engaged in dialogues about urban forestry efforts with respect to capital improvement and infrastructure projects.                 | Utilities, city agencies, and other stakeholders integrate and collaborate on all urban forestry efforts, including planning, site work, and outreach/education.  |
| State Engagement                                     | State departments/agencies are aware of and vested in the urban forest and cooperates to advance citywide urban forest goals and objectives.                                    | State departments/agencies and City agencies act independently of urban forestry efforts. No coordination exists.  | State department/agencies and City agencies have engaged in dialogues about urban forestry efforts with respect to capital improvement and infrastructure projects. | State departments/agencies, City agencies, and other stakeholders integrate and collaborate on all urban forestry efforts, including planning, site work, and outreach/education.                           |
| Public Awareness                                     | The general public understands the benefits of trees and advocates for the role and importance of the urban forest.   | Trees are generally seen as a nuisance, and thus, a drain on city budgets and personal paychecks.  | Trees are generally recognized as important and beneficial.   | Trees are seen as valuable infrastructure and vital to the community's well-being. The urban forest is recognized for the unique environmental, economic, and social services it provides to the community. |
| Regional Collaboration                               | Neighboring communities and regional groups are actively cooperating and interacting to advance the region's stake in the city's urban forest.                                  | Little or no interaction between neighboring communities and regional groups.  | Neighboring communities and regional groups share similar goals and policy vehicles related to trees and the urban forest.  | Regional urban forestry planning, coordination, and management is widespread.   |

| THE MANAGEMENT   |   |   |   |  |
|--|---|---|---|--|
| Indicators of a Sustainable Urban Forest   | Overall Objective or Industry Standard  | Performance Levels  |   |  |
|  |   | Low   | Medium  | High   |
| Tree Inventory   | Comprehensive, GIS-based, current inventory of all intensively-managed public trees to guide management, with mechanisms in place to keep data current and available for use. Data allows for analysis of age distribution, condition, risk, diversity, and suitability.                                      | No inventory or out-of-date inventory of publicly-owned trees.  | Partial or sample-based inventory of publicly-owned trees, inconsistently updated.  | Complete, GIS-based inventory of publicly-owned trees, updated on a regular, systematic basis.   |
| Canopy Assessment  | Accurate, high-resolution, and recent assessment of existing and potential city-wide tree canopy cover that is regularly updated and available for use across various departments, agencies, and/or disciplines.  | No tree canopy assessment.  | Sample-based canopy cover assessment, or dated (over 10 years old) high resolution canopy assessment.   | High-resolution tree canopy assessment using aerial photographs or satellite imagery.  |
| Management Plan  | Existence and buy-in of a comprehensive urban forest management plan to achieve city-wide goals. Re-evaluation is conducted every 5 to 10 years.  | No urban forest management plan exists.   | A plan for the publicly-owned forest resource exists but is limited in scope, acceptance, and implementation.   | A comprehensive plan for the publicly owned forest resource exists and is accepted and implemented.  |
| Risk Management Program  | All publicly-owned trees are managed for maximum public safety by way of maintaining a city-wide inventory, conducting proactive annual inspections, and eliminating hazards within a set timeframe based on risk level. Risk management program is outlined in the management plan.                          | Request-based, reactive system. The condition of publicly-owned trees is unknown.                                 | There is some degree of risk abatement thanks to knowledge of condition of publicly-owned trees, though generally still managed as a request-based reactive system. | There is a complete tree inventory with risk assessment data and a risk abatement program in effect. Hazards are eliminated within a set time period depending on the level of risk.                             |
| Maintenance Program of Publicly-Owned Trees <i>(trees managed intensively)</i>         | All intensively-managed, publicly-owned trees are well maintained for optimal health and condition in order to extend longevity and maximize benefits. A reasonable cyclical pruning program is in place, generally targeting 5 to 7 year cycles. The maintenance program is outlined in the management plan. | Request-based, reactive system. No systematic pruning program is in place for publicly-owned trees.               | All publicly-owned trees are systematically maintained, but pruning cycle is inadequate.  | All publicly-owned trees are proactively and systematically maintained and adequately pruned on a cyclical basis.  |
| Maintenance Program of Publicly-Owned Natural Areas <i>(trees managed extensively)</i> | The ecological structure and function of all publicly-owned natural areas are protected and enhanced while accommodating public use where appropriate.  | No natural areas management plans are in effect.  | Only reactive management efforts to facilitate public use (risk abatement).   | Management plans are in place for each publicly-owned natural area focused on managing ecological structure and function and facilitating public use.  |
| Planting Program   | Comprehensive and effective tree planting and establishment program is driven by canopy cover goals, equity considerations, and other priorities according to the plan. Tree planting and establishment is outlined in the management plan.   | Tree establishment is ad hoc.   | Tree establishment is consistently funded and occurs on an annual basis.  | Tree establishment is directed by needs derived from a tree inventory and other community plans and is sufficient in meeting canopy cover objectives.  |
| Tree Protection Policy   | Comprehensive and regularly updated tree protection ordinance with enforcement ability is based on community goals. The benefits derived from trees on public and private property are ensured by the enforcement of existing policies.   | No tree protection policy.  | Policies are in place to protect trees, but the policies are not well-enforced or ineffective.  | Protections policies ensure the safety of trees on public and private land. The policies are enforced and supported by significant deterrents and shared ownership of city goals.                                |
| City Staffing and Equipment  | Adequate staff and access to the equipment and vehicles to implement the management plan. A high level urban forester or planning professional, strong operations staff, and solid certified arborist technicians.  | Insufficient staffing levels, insufficiently-trained staff, and/or inadequate equipment and vehicle availability. | Certified arborists and professional urban foresters on staff have some professional development, but are lacking adequate staff levels or adequate equipment.      | Multi-disciplinary team within the urban forestry unit, including an urban forestry professional, operations manager, and arborist technicians. Vehicles and equipment are sufficient to complete required work. |

| THE MANAGEMENT (CONTINUED)               |  |   |  |   |
|--|--|---|--|---|
| Indicators of a Sustainable Urban Forest | Overall Objective or Industry Standard   | Performance Levels  |  |   |
|  |  | Low   | Medium   | High  |
| Funding                                  | Appropriate funding in place to fully implement both proactive and reactive needs based on a comprehensive urban forest management plan.   | Funding comes from the public sector only, and covers only reactive work.   | Funding levels (public and private) generally cover mostly reactive work. Low levels of risk management and planting in place. | Dynamic, active funding from engaged private partners and adequate public funding are used to proactively manage and expand the urban forest. |
| Disaster Preparedness & Response         | A disaster management plan is in place related to the city's urban forest. The plan includes staff roles, contracts, response priorities, debris management and a crisis communication plan. Staff are regularly trained and/or updated. | No disaster response plan is in place.  | A disaster plan is in place, but pieces are missing and/or staff are not regularly trained or updated.                         | A robust disaster management plan is in place, regularly updated and staff is fully trained on roles and processes.                           |
| Communication                            | Effective avenues of two-way communication exist between the city departments and between city and its citizens. Messaging is consistent and coordinated, when feasible.   | No avenues are in place. City departments and public determine on an ad-hoc basis the best messages and avenues to communicate. | Avenues are in place, but used sporadically and without coordination or only on a one-way basis.                               | Avenues are in place for two way communication, are well-used with targeted, coordinated messages.  |



Appendix J: Gantt Chart



Appendix J: Gantt Chart (continued)

| City of Santa Cruz Street Tree Master Plan  |           |      |      |      |      |      |                   |                   |                   |                   |              |
|---|-----------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|--------------|
| Goals & Objectives  |           |      |      |      |      |      |                   |                   |                   |                   |              |
|   | Cost      | 2021 | 2022 | 2023 | 2024 | 2025 | 2026<br>–<br>2030 | 2031<br>–<br>2035 | 2036<br>–<br>2040 | Timeframe         | Priority     |
| Goal 9: Encourage a culture of safety   |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 9.1: Implement policies and procedures that make that tree work as safe as possible   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | High         |
| Goal 10: Enhance risk management and public safety  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 10.1: Establish a risk management policy  | \$        |      |      |      |      |      |                   |                   |                   | 1 Year            | High         |
| Goal 11: Promote tree protection  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 11.1: Enhance methods for cost recovery in the case of tree damage, traffic incidents, unapproved tree removals, or improper tree maintenance   | \$        |      |      |      |      |      |                   |                   |                   | 5 Years           | Moderate     |
| Objective 11.2: Continue to implement tree protection during construction   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | High         |
| Objective 11.3: Explore revising and amending Municipal Code to promote the protection of community trees   | \$        |      |      |      |      |      |                   |                   |                   | 5 Years           | Moderate     |
| Goal 12: Strive for uniformity between City plans, policies, guiding documents, and departments   |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 12.1: Continue to communicate and coordinate with other departments   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | High         |
| Goal 13: Create conditions that enhance tree establishment  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 13.1: Provide water to trees efficiently and sustainably  | \$ - \$\$ |      |      |      |      |      |                   |                   |                   | 5 Years / Ongoing | High         |
| Objective 13.2: Upgrade existing and planned planting sites to encourage root establishment   | \$ - \$\$ |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Goal 14: Use trees to enhance the aesthetics and function of the urban landscape  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 14.1: Emphasize incorporating trees in development and redevelopment projects   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Objective 14.2: Collaborate with Planning and Public Works Departments to find practical solutions to allow for trees in areas with hardscape limitations | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Objective 14.3: Develop policies around parking lot shade   | \$        |      |      |      |      |      |                   |                   |                   | 5 Years           | Moderate     |
| Objective 14.4: Incorporate trees into stormwater management systems to improve stormwater capture  | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Goal 15: Follow Integrated Pest Management (IPM) protocols and best management practices when addressing pests and diseases                               |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 15.1: Continue to address pests and diseases using best management practices  | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Low-Moderate |
| Goal 16: Promote species diversity in the urban forest  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 16.1: Promote species diversity to build a more sustainable urban forest  | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Goal 17: Expand tree canopy cover   |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 17.1: Increase tree canopy throughout the community   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | High         |
| Goal 18: Celebrate the importance of urban trees  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 18.1: Maintain the Tree City USA designation  | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Low-Moderate |
| Goal 19: Partner with other city departments and other stakeholders to develop a cohesive city-wide Urban Forest Master Plan                              |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 19.1: Create a city-wide Urban Forest Master Plan   | \$\$\$    |      |      |      |      |      |                   |                   |                   | 10 Years          | Low          |
| Goal 20: Promote community engagement and stewardship of the urban forest   |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 20.1: Update the Parks and Recreation Department webpage to include information on tree care  | \$        |      |      |      |      |      |                   |                   |                   | 1 Year            | Moderate     |
| Objective 20.2: Enhance citizen and volunteer engagement in care for street trees   | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Low-Moderate |
| Objective 20.3: Continue to use multiple methods of accessible and translated outreach to engage a greater proportion of the community                    | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Low-Moderate |
| Goal 21: Contribute to a fire safe community  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 21.1: Mitigate the risks of wildfire  | \$        |      |      |      |      |      |                   |                   |                   | Ongoing           | Moderate     |
| Goal 22: Repurpose woody materials whenever possible  |           |      |      |      |      |      |                   |                   |                   |                   |              |
| Objective 22.1: Identify a wood reutilization policy  | \$        |      |      |      |      |      |                   |                   |                   | 5 Years           | Low          |
| \$ = less than \$25,000      \$\$ = \$25,000-\$100,000      \$\$\$ = more than \$100,000  |           |      |      |      |      |      |                   |                   |                   |                   |              |







**Rosemary Balsley**

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**From:** Judi Grunstra <judiriva@hotmail.com>  
**Sent:** Monday, April 26, 2021 7:40 AM  
**To:** City Council  
**Subject:** Research Shows Urban Trees Stave off Depression - News | Planetizen

Dear Council,

The Goals of the Master Tree Plan are commendable, but it also seems that protecting heritage trees is being given mere lip service in the case of the trees on Lot 4.

<https://shar.es/aoBKNX>

Judi Grunstra

Sent using ShareThis

Sent from my iPad

# Santa Cruz

CALIFORNIA

## Street Tree Master Plan 2021

## City Council Meeting

Presented by  
Davey Resource Group, Inc.  
April 27, 2021



# Street Tree Master Plan

## Development Process

- Kickoff - May 2020
- Community Tree Resource Analysis
- Tree Canopy Analysis
- Background & Operations Review
- Drafts (2)
- Street Tree Master Plan - Final





# The Urban Forest

- Canopy cover – 38.9%
- 13,917 public trees
  - 9,742 street trees
    - 1,511 city maintained
    - 8,231 property owner-maintained



# Benefits of Trees

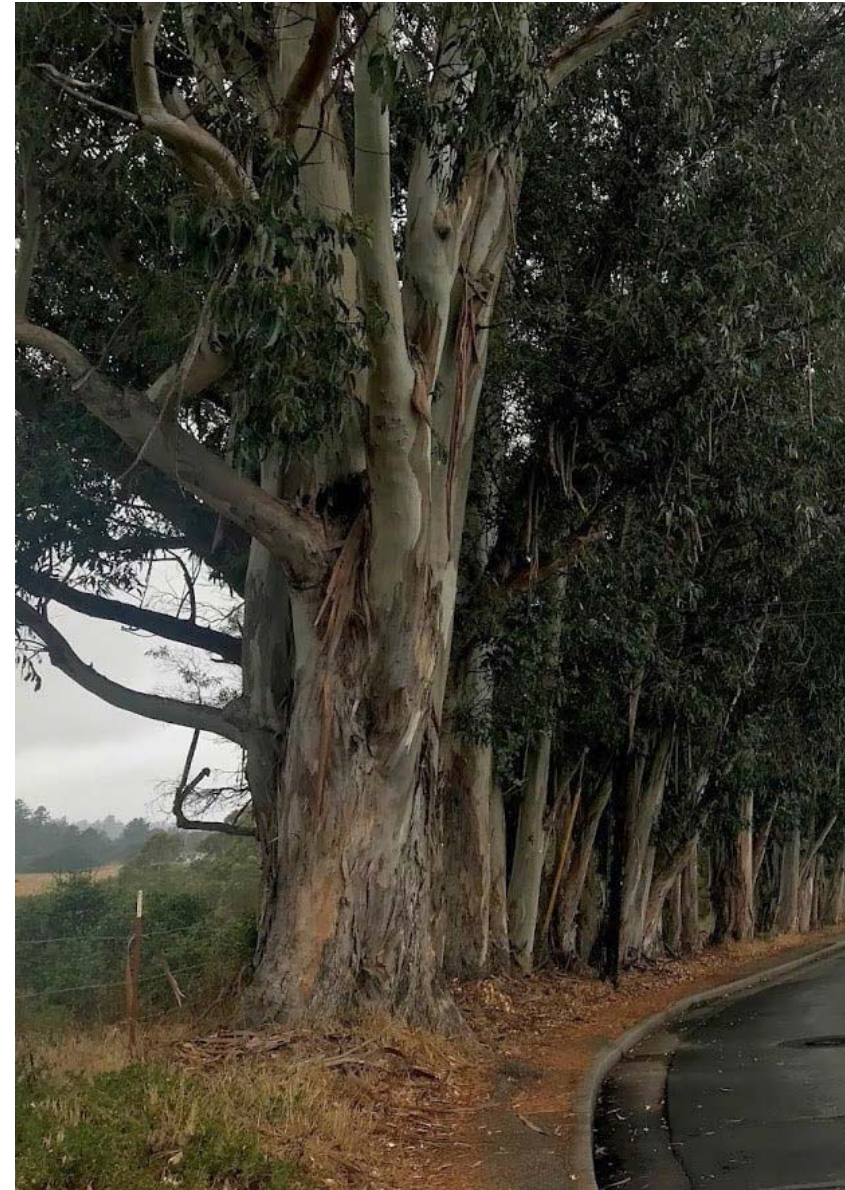
- Promote wildlife
- Reduce air, water, and noise pollution
- Carbon sequestration
- Calm traffic
- Improve pedestrian safety and experience
- Enhance property values and community aesthetics





# Benefits of Street Trees

- 4,946 tons of carbon stored to date, valued at \$843,540
- \$44,177 in annual environment benefits
  - \$20,729 in air quality improvements
  - \$5,435 in stormwater runoff reductions
  - \$18,013 in carbon sequestration
- \$38.6 million to replace all trees with trees of similar size and health





# Street Tree Master Plan

## 5-Year Work Plan (resource dependent)

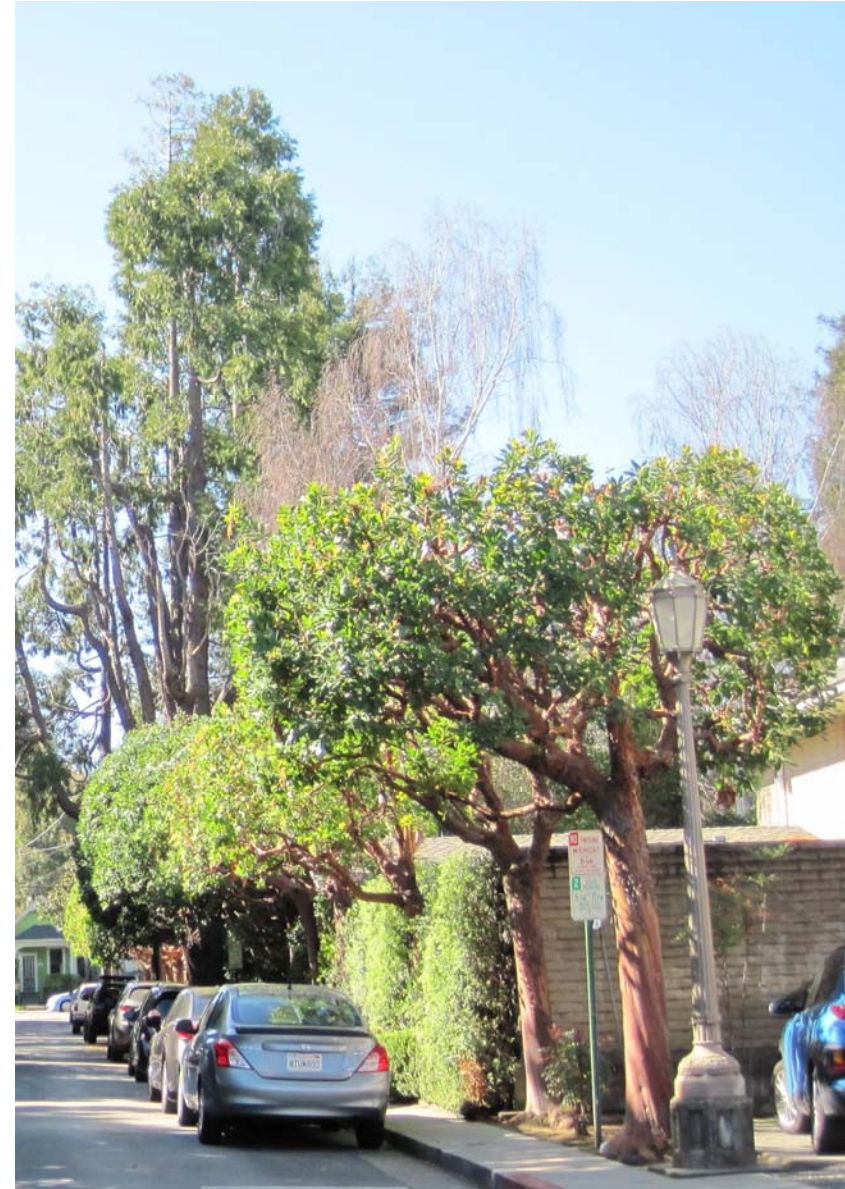
- 1,511 City maintained
  - 28 priority pruning (1.8%)
  - 1,460 routine pruning (96.6%)
  - 23 removals (1.5%)
  - 13 stumps (<1%)
- 8,231 property owner-maintained
  - 526 priority pruning or removals (4.9%)
  - Informative notifications (per 13.30.110)
- 2,419 planting sites (750 trees/year)



# Street Tree Master Plan

## Goals

- 3 Focus Areas
  - Street Tree Management
  - Urban Forest Policy and Regulation
  - Urban Forest Vision
- 22 Goals
- Comprehensive Objectives & Actions





# Street Tree Master Plan

## Street Tree Management

- G1. Manage the street tree resource
- G2. Promote street tree health and good structure
- G3. Enhance resiliency with a comprehensive tree species palette
- **G4. Increase street tree planting efforts**
- **G5. Increase the environmental benefits resulting from street trees**
- G6. Advocate for tree lined streets
- **G7. Predictable and sustainable funding for the street tree resource**
- G8. Strive for optimal staffing levels





# Street Tree Master Plan

## Urban Forest Policy & Regulation

- G9. Encourage a culture of safety
- G10. Enhance risk management and public safety
- **G11. Promote tree protection**
- **G12. Strive for uniformity between City plans, policies, guiding documents, and departments**
- G13. Encourage tree establishment through efficient and sustainable irrigation solutions
- **G14. Use trees to enhance the aesthetics and function of the urban landscape**
- G15. Follow Integrated Pest Management (IPM) protocols and best management practices when addressing pests and diseases



# Street Tree Master Plan

## Urban Forest Vision

- G16. Promote species diversity in the urban forest
- **G17. Expand tree canopy cover and the resulting environmental benefits**
- **G18. Celebrate the importance of urban trees**
- G19. Partner with other city departments and other stakeholders to develop a cohesive city-wide Urban Forest Master Plan
- **G20. Promote community engagement and stewardship of the urban forest**
- G21. Contribute to a fire safe community
- G22. Repurpose woody materials whenever possible



# Thank you for your time!

Tina McKeand  
928-246-7048  
[tina.mckeand@davey.com](mailto:tina.mckeand@davey.com)

Rachael Sitz  
208-997-8154  
[rachael.sitz@davey.com](mailto:rachael.sitz@davey.com)







## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Water

**SUBJECT:** Federal Endangered Species Act Incidental Take Permit for the Operations and Maintenance Habitat Conservation Plan (WT)

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**RECOMMENDATION:** Motion to authorize the City Manager to accept the US Fish and Wildlife Service's Incidental Take Permit Number: TE89655D-0 providing incidental take coverage under the federal Endangered Species Act for various aspects of the City's ongoing Water and Public Works operations as described in the Operations and Maintenance Habitat Conservation Plan.

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**BACKGROUND:** The City has been working on the Operations and Maintenance Habitat Conservation Plan (OMHCP) and related Endangered Species Act Incidental Take Authorization for many years. This plan supports federal Endangered Species Act compliance for City operations and maintenance activities that may result in impacts (aka "take") of threatened and endangered species. Activities covered by this plan include, but are not limited to, those routinely carried out by the Public Works and Water Departments such as general construction, water pipeline maintenance, flood control, vegetation and habitat management. Species covered by this plan include the Ben Lomond spineflower, robust spineflower, San Francisco popcornflower, Santa Cruz tarplant, California red-legged frog, Ohlone tiger beetle, Mount Hermon June beetle, Pacific lamprey, western pond turtle and tidewater goby. The plan was recently approved by the United States Fish and Wildlife Service (USFWS) after public review notification in the federal register and an Endangered Species Act Incidental Take Permit was thereafter issued to the City on January 25, 2021.

**DISCUSSION:** Having the performance standards of the OMHCP included in a long term permit such as this provides "no surprises" certainty regarding regulatory requirements for the City as well as biological benefits that may not be realized with shorter term permits. Most of the commitments made in the OMHCP are pre-existing regulatory requirements that are focused on avoiding and minimizing biologic effects of City activities on special status species covered by this permit. Therefore, there will not generally be additional costs incurred by the City resulting from the OMHCP. In fact, this permit should expedite project regulatory compliance – potentially reducing overall permit-related costs and providing additional environmental regulatory compliance predictability.

That said, compensation for biological effects of City operations that cannot be offset by avoidance and minimization measures will require that the Water Department commit to Ohlone tiger beetle (OTB) restoration work in the Moore Creek Preserve as well as California red-legged

frog and western pond turtle offsite mitigation. Commitments for the Public Works Department are limited to long term implementation of existing project avoidance and minimization measures. The overall cost of implementing the permit is approximately \$2,726,500, however the bulk of that cost is due to OTB restoration work that may not ultimately be required. Staffing resources needed to implement the ITP are currently being evaluated to ascertain what long term needs may be presented by implementation of this permit as well as related future obligations under the Anadromous Salmonid Habitat Conservation Plan (ASHCP) – which is currently still in draft form.

The City will need to report annually on permit compliance and continue to demonstrate a long-term commitment to the terms of this permit. The Water Department will manage this effort in collaboration with other City departments for the duration of the permit. Given the environmental protection focus of the OMHCP, the project qualified for several categorical exemptions from CEQA. A notice of exemption was filed with the State CEQA clearinghouse on February 18, 2021 and completion of public noticing occurred on March 19, 2021 (Attachment 1). For more discussion of regulatory obligations and requirements related to this permit please see Attachments 2-6.

**FISCAL IMPACT:** Adequate funds are currently provided in the Water Department project #o700803 budget for implementation of this permit.

**Prepared By:**  
Chris Berry  
Watersheds Compliance  
Manager

**Submitted By:**  
Rosemary Menard  
Water Director

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**

1. CEQA NOTICE OF EXEMPTION.PDF
2. MEMO FROM EBBIN, MOSER AND SKAGGS LLP.PDF
3. FINAL ENDANGERED SPECIES ACT INCIDENTAL TAKE PERMIT.PDF
4. ENDANGERED SPECIES ACT INCIDENTAL TAKE PERMIT COVER LETTER.PDF
5. FINDINGS AND RECOMMENDATIONS ON THE ISSUANCE OF AN INCIDENTAL  
TAKE PERMIT ASSOCIATED WITH THE CITY OF SANTA CRUZ OPERATIONS  
AND MAINTENANCE HABITAT CONSERVATION PLAN, SANTA CRUZ.PDF
6. FINAL OPERATIONS AND MAINTENANCE HABITAT CONSERVATION PLAN.PDF

021-21

## Notice of Exemption

Appendix E

To: Office of Planning and Research  
P.O. Box 3044, Room 113  
Sacramento, CA 95812-3044

From: (Public Agency): City of Santa Cruz  
809 Center Street, Santa Cruz, CA 95060

County Clerk

County of: Santa Cruz

(Address)

Project Title: City of Santa Cruz Operations and Maintenance Habitat Conservation Plan

Project Applicant: City of Santa Cruz

Project Location - Specific:

Various areas within the City of Santa Cruz & Santa Cruz County

Project Location - City: Santa Cruz Project Location - County: Santa Cruz

Description of Nature, Purpose and Beneficiaries of Project:

See attached.

Name of Public Agency Approving Project: United States Fish and Wildlife Service

Name of Person or Agency Carrying Out Project: City of Santa Cruz

Exempt Status: (check one):

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 7,8, & 33; 14 CCR 15307,15308, 15333
- ☐ Statutory Exemptions. State code number: \_\_\_\_\_

Reasons why project is exempt:


The Project consists of a Habitat Conservation Plan covered under an Incidental Take Permit issued by the US Fish and Wildlife Service for the protection of natural resources and the protection of the environment. The Habitat Conservation Plan provides measures for minimizing and mitigating adverse effects on various Covered Species and their habitat by the covered activities.

Lead Agency

Contact Person: Chris Berry Area Code/Telephone/Extension: (831) 420-5483

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? Yes ☐ No ☒

Signature:  Date: 02/17/2021 Title: Watershed Compliance Manager

▪ Signed by Lead Agency ▪ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.  
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: \_\_\_\_\_

Received  
CLERK OF THE BOARD

FEB 18 2021

BOARD OF SUPERVISORS  
COUNTY OF SANTA CRUZ

THIS NOTICE HAS BEEN POSTED AT THE CLERK  
OF THE BOARD OF SUPERVISORS OFFICE FOR A  
PERIOD COMMENCING 02/18/2021  
AND ENDING 03/19/2021

Revised 2011





State of California - Department of Fish and Wildlife  
**2021 ENVIRONMENTAL FILING FEE CASH RECEIPT**  
DFW 753.5a (REV. 01/01/21) Previously DFG 753.5a

Print

StartOver

Save

RECEIPT NUMBER:

44 — 02182021 — 025

STATE CLEARINGHOUSE NUMBER (If applicable)

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY.

LEAD AGENCY

City of Santa Cruz

LEAD AGENCY EMAIL

DATE

02182021

COUNTY/STATE AGENCY OF FILING

Santa Cruz

DOCUMENT NUMBER

021-21

PROJECT TITLE

City of Santa Cruz Operations and Maintenance Habitat Conservation Plan

PROJECT APPLICANT NAME

City of Santa Cruz c/o Chris Berry

PROJECT APPLICANT EMAIL

PHONE NUMBER

(831) 420-5483

PROJECT APPLICANT ADDRESS

809 Center Street

CITY

Santa Cruz

STATE

CA

ZIP CODE

95060

PROJECT APPLICANT (Check appropriate box)

☒ Local Public Agency

☐ School District

☐ Other Special District

☐ State Agency

☐ Private Entity

CHECK APPLICABLE FEES:

☐ Environmental Impact Report (EIR)

\$3,445.25

\$

0.00

☐ Mitigated/Negative Declaration (MND)(ND)

\$2,480.25

\$

0.00

☐ Certified Regulatory Program (CRP) document - payment due directly to CDFW

\$1,171.25

\$

0.00

☐ Exempt from fee

☐ Notice of Exemption (attach)

☐ CDFW No Effect Determination (attach)

☐ Fee previously paid (attach previously issued cash receipt copy)

☐ Water Right Application or Petition Fee (State Water Resources Control Board only)

\$850.00

\$

0.00

☒ County documentary handling fee

\$

50.00

☐ Other

\$

PAYMENT METHOD:

☒ Cash

☐ Credit

☐ Check

☐ Other

TOTAL RECEIVED

\$

50.00

SIGNATURE

X *Juliette Burke*

AGENCY OF FILING PRINTED NAME AND TITLE

Juliette Burke, Administrative Aide

MEMORANDUM

To: Chris Berry

From: Sean Skaggs

Subject: Implementation Responsibilities of the City of Santa Cruz under the Operations and Maintenance Habitat Conservation Plan

Date: March 17, 2021

The City of Santa Cruz (City) has received an incidental take permit (ITP) from the U.S. Fish and Wildlife Service (Service) pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA) to incidentally take six wildlife species during the course of operations and maintenance (O&M) activities and limited new construction of water supply infrastructure.<sup>1</sup> Additionally, the City included four plant species in the Habitat Conservation Plan (HCP or Plan) that served as the ITP application.<sup>2</sup> The City's Water Department has been identified as the entity to provide for coordinated implementation of the HCP.

City activities covered under the ITP include the following categories:

- construction of the North Coast Pipeline and rehabilitation of diversion structures
- water supply operations
- water system O&M
- municipal facility O&M
- land management

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<sup>1</sup> The wildlife species are: the federally endangered Ohlone tiger beetle (*Cicindela ohlone*); the federally endangered Mount Hermon June beetle (*Polyphylla barbata*); the federally endangered tidewater goby (*Eucyclogobius newberryi*); the Pacific lamprey (*Lampetra tridentata*)(a species not currently listed under the ESA); the federally threatened California red-legged frog (*Rana draytonii*); and the western pond turtle (*Actinemys marmorata*), a federal species of concern.

<sup>2</sup> The four plant species are the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*); the federally endangered Robust spineflower (*Chorizanthe robusta* var. *robusta*); the federally threatened Santa Cruz tarplant (*Holocarpha macradenia*); and the State endangered San Francisco popcornflower (*Plagiobothrys diffuses*).

Should the City decide to adopt the HCP and associated ITP, there would be specific actions and requirements for the City to meet as it conducts the activities covered under the HCP and ITP. Specifically, the City would be required to implement general and species-specific avoidance and minimization measures, undertake or fund compensatory mitigation projects, ensure funding to implement all aspects of the HCP, and submit reports regarding HCP implementation. You have requested that we summarize the requirements of the HCP. These requirements are listed below.

### **Ensure Avoidance and Minimization Measures are Implemented as Part of the Covered Activities**

General conservation measures include:

- trash removal at work sites
- erosion control measures
- siting of refueling, maintenance, and staging of equipment and vehicles to avoid impacts to sensitive habitats
- employee training regarding the conservation measures
- delineation of work areas
- habitat assessments
- following the City's Integrated Pest Management Program

Species-specific measures during construction of the North Coast Pipeline include:

- delineation of work areas
- dust control
- working within previously disturbed areas where practicable
- educational awareness training session for all construction workers
- siting of refueling, worker parking, and staging areas outside of sensitive habitat
- relocation of covered species
- species surveys by Service-approved biologists
- timing of work restrictions
- guidance for dewatering

Species-specific measures during operations and maintenance activities include:

- delineation of covered plant species population boundaries or critical habitat for covered plant species
- dust control
- relocation of covered species
- species surveys by Service-approved biologists



- timing of work restrictions

### **Provide Compensatory Mitigation for Impacts**

If pipeline construction activities will require disturbance of Watsonville loam soils, then the City will manage a portion of the Moore Creek Preserve as mitigation and as a translocation site for Ohlone tiger beetle. A Habitat Management Plan will be prepared for the 11-acre area and submitted to the Service for review and approval prior to the start of construction in Ohlone tiger beetle habitat. In the event that Moore Creek Preserve is used for mitigation as a result of pipeline construction, the City will establish a non-wasting endowment to fund the Ohlone tiger beetle management plan.

To compensate for potential adverse effects that may occur as a result of Covered Activities, including up to 0.50 acre of permanent impact to California red-legged frog habitat, the City will provide \$5,000 to the Santa Cruz County Resource Conservation District In-Lieu Fee Program or State Parks specifically to fund restoration activities for California red-legged frog.

The HCP provides that the City will ensure that mitigation for impacts to Covered Species occurs ahead of, or at the same time as the impacts.

### **Ensure Adequate Funding to Implement the HCP**

Costs associated with the implementation of the HCP include costs for the items listed below and the HCP contains a detailed breakdown of these costs:

- **Plan Implementation and Administration.** The implementation and administration of the plan will include a variety of tasks by City employees. These tasks include the compilation of data from preconstruction surveys by qualified biologists; coordination of training, surveying, and monitoring personnel; coordination and implementation of mitigation measures; and preparation of annual reports.
- **Minimization Measures.** The conservation strategy of the Plan includes general and species-specific conservation measures that are designed to reduce impacts to Covered Species. The City will incur costs as a result of these measures.
- **Mitigation Measures.**
- **Monitoring.** The Plan calls for the monitoring of the success of restoration activities over the life of the Plan. The Plan also calls for effects monitoring and compliance monitoring.

The HCP commits the City to fully fund implementation of the Plan through its Capital Improvement Program budget. Table 2 of the HCP contains an estimate of implementation costs, which is \$2,726,500. The City is required to fully fund the actual costs of implementing the plan notwithstanding the estimates contained in Table 2. The HCP provides that the City may access

various sources of funding, but primarily intends to rely on water rate payer fees to cover costs. Funding is to be provided on multi-year cycles in accordance with work plans.

## **Prepare and Submit Reports**

### *Workplan and Budget*

Throughout the course of HCP implementation, the City will prepare and submit a five-year workplan and budget. The work plan will describe:

- the City's one-time and recurring activities, including all take avoidance, minimization and mitigation measures that are expected to be implemented during the upcoming period;
- document the mitigation provided for impacts and demonstrate how mitigation for future impacts will occur in advance of such impacts; and
- describe schedules and costs related to the implementation of actions over five-year timeframes and set out projected expenditures and the funding the City has committed for those expenditures.

The information in the work plan will contain sufficient information to demonstrate the City's ability to meet its financial obligations under the Plan. The budget will set out projected expenditures and the funding the City has committed for those expenditures.

### *Annual Report*

The City will prepare, a report annually by March 1 of each year to demonstrate compliance with the HCP. The report will include:

- the amount of take of each Covered Species during the prior calendar year and the take avoidance, minimization and mitigation measures implemented during the past calendar year;
- Covered Activities anticipated to occur during the calendar year and take avoidance, minimization and mitigation to be implemented during the calendar year; and
- documentation of assured funding to carry out all required Plan measures anticipated to occur during the calendar year.

### *Additional Reports*

The City will provide, within thirty (30) days of being requested by the Service, any additional information in its possession or control related to implementation of the Plan requested by the Service for the purpose of assessing whether the terms and conditions of the Permit, including the Plan, are being fully implemented.

#### *Database Maintenance*

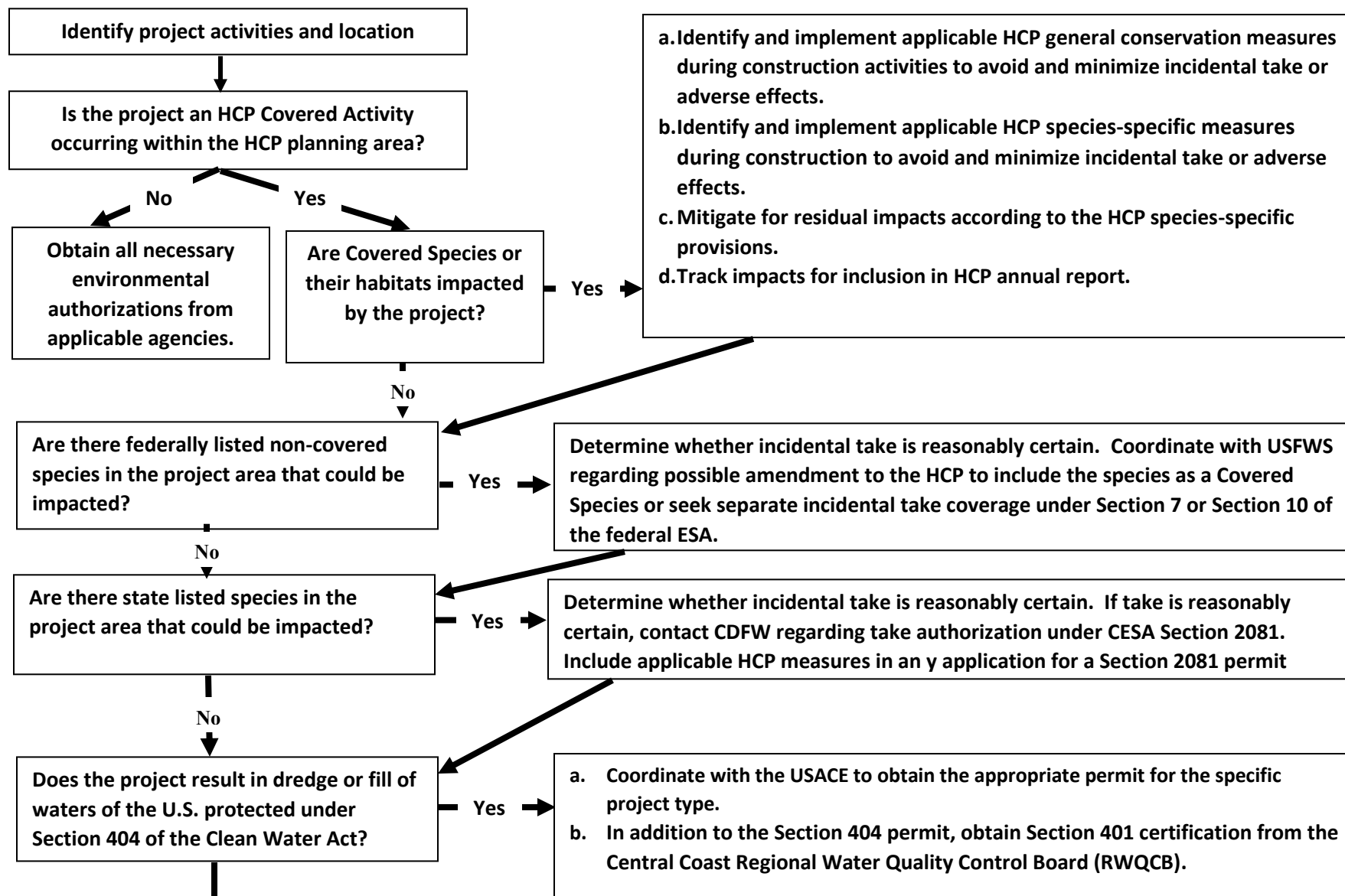
The City currently maintains a regional geographic information system (GIS) database that tracks the occurrence of HCP Covered species and their habitats within the Plan Area. The City will continue to maintain the database and update the GIS to track the impacts to Covered Species and their habitat as a result of Covered Activities. This information will be used to track compliance with the HCP as well as in the preparation of the annual report discussed above.

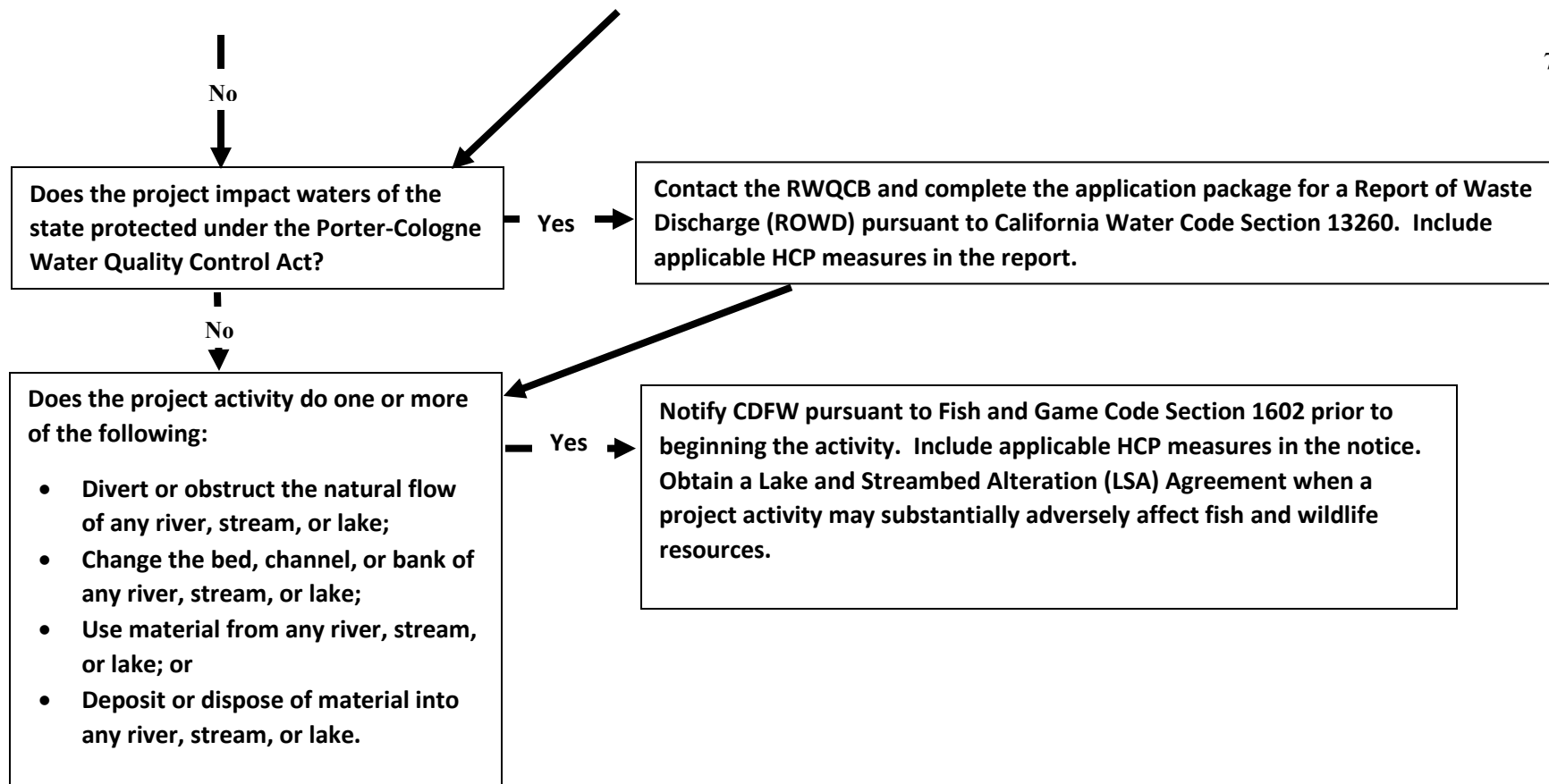
#### **Conclusion**

This memorandum provides a broad overview of the implementation responsibilities of the City under the O&M HCP. The HCP should be consulted to provide further details on implementation. A flowchart has been appended to this memorandum to provide additional clarity on the environmental review process for HCP Covered Activities.



## City of Santa Cruz O&M Habitat Conservation Plan Flowchart







## United States Department of the Interior

### U.S. FISH AND WILDLIFE SERVICE

Ecological Services  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003



IN REPLY REFER TO:  
08EVEN00-2021-CPA-0001

January 25, 2021

Martin Bernal  
City of Santa Cruz  
809 Center Street  
Santa Cruz, California 95060

Subject: Incidental Take Permit TE89655D-0 for the City of Santa Cruz Operations and Maintenance Habitat Conservation Plan, Santa Cruz County, California

Dear Martin Bernal:

We have reviewed the incidental take permit application and final habitat conservation plan (HCP) associated with City of Santa Cruz operations and maintenance activities in Santa Cruz County, California. You requested a permit term of 30 years to authorize take of the Mount Hermon June beetle (*Polyphylla barbata*), Ohlone tiger beetle (*Cicindela ohlone*), tidewater goby (*Eucyclogobius newberryi*), California red-legged frog (*Rana draytonii*), Pacific lamprey (*Lampetra tridentata*), and western pond turtle (*Actinemys marmorata*) that is likely to result from activities described in the HCP. The HCP includes conservation measures that you commit to fund and implement to avoid, minimize, and offset impacts to the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby, California red-legged frog, Pacific lamprey, western pond turtle, Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), robust spineflower (*Chorizanthe robusta* var. *robusta*), Santa Cruz tarplant (*Holocarpa macradenia*), and San Francisco popcornflower (*Plagiobothrys diffuses*).

Based on our evaluation of your application and the HCP, we determine that all permit issuance criteria established pursuant to Fish and Wildlife Regulation 50 CFR 17.22 are met. Under the authority of section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended, you are authorized to take the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby, California red-legged frog, Pacific lamprey, and western pond turtle, located within the permit area in the form specified and in conjunction with those activities identified in the HCP. Enclosed please find permit TE89655D-0, we encourage you to review its terms and conditions.



We thank you for your cooperation and patience during this process. Should you have any questions regarding your permit or the contents of this letter, please contact Chad Mitcham of my staff at [chad\\_mitcham@fws.gov](mailto:chad_mitcham@fws.gov).

Sincerely,

STEPHEN HENRY

Digitally signed by STEPHEN  
HENRY  
Date: 2021.01.25 12:35:15 -08'00'

Stephen P. Henry  
Field Supervisor

Enclosure: Federal Fish and Wildlife Permit TE89655D-0



## United States Department of the Interior

### U.S. FISH AND WILDLIFE SERVICE

Ecological Services  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003



IN REPLY REFER TO:  
08EVEN00-2021-CPA-0001

## FINDINGS AND RECOMMENDATIONS ON THE ISSUANCE OF AN INCIDENTAL TAKE PERMIT ASSOCIATED WITH THE CITY OF SANTA CRUZ OPERATIONS AND MAINTENANCE HABITAT CONSERVATION PLAN, SANTA CRUZ COUNTY, CALIFORNIA

### I. DESCRIPTION OF THE PROPOSED ACTION

The U.S. Fish and Wildlife Service (Service) proposes to issue an incidental take permit (ITP or permit) to the City of Santa Cruz (City or applicant) under the authority of section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (Act). The Service proposes to issue a permit to the City for a period of 30 years.

The document used in the preparation of this statement of findings and recommendations is the City of Santa Cruz Operations and Maintenance Habitat Conservation Plan (HCP or Plan) (Ebbin, Moser and Skaggs LLP et al. 2019). This document is incorporated by reference.

Under the proposed action and permit number TE89655D-0, the City would receive take coverage for the Mount Hermon June beetle (*Polyphylla barbata*), Ohlone tiger beetle (*Cicindela ohlone*), tidewater goby (*Eucyclogobius newberryi*), and California red-legged frog (*Rana draytonii*). The covered species also include the Pacific lamprey (*Lampetra tridentata*) and western pond turtle (*Actinemys marmorata*), which are not currently listed under the Act. Incidental take authorization of these species will become effective concurrent with their listing as threatened or endangered under the Act, to the extent that take is prohibited by the Act. The HCP also addresses potential effects to the Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*), robust spineflower (*Chorizanthe robusta* var. *robusta*), Santa Cruz tarplant (*Holocarpa macradenia*), and San Francisco popcornflower (*Plagiobothrys diffusus*). The proposed action includes a variety of activities associated with the operation, maintenance, and rehabilitation of the City's water supply and water system facilities, operation and maintenance of the City's municipal facilities, and management of City lands. The City proposes to compensate for impacts to the species through a variety of mechanisms that are thoroughly described in the HCP. Please refer to section 4.0 of the HCP for a complete description of the conservation strategy.

### Biological Goals and Objectives

The applicant has identified specific biological goals and objectives for the covered species in the HCP. These biological goals and objectives are meant to minimize any adverse effects of the proposed activities on the covered species as well as compensate for impacts to suitable habitat through the mitigation mechanisms described in the HCP. The biological goals and objectives are found within section 4.0 of the HCP.

### Monitoring and Reporting

The HCP outlines various types of monitoring that will be implemented. Compliance and effects monitoring will be conducted by a qualified biologist. Reporting will include an annual summary describing the quality and type of habitat impacts and will describe the type of mitigation utilized to offset impacts. A more detailed description of the monitoring reporting requirements is found in section 6.3 of the HCP.

### Adaptive Management

The HCP's conservation strategy includes species-specific strategies associated with adaptive management. Adaptive management strategies can be found in section 4.0 of the HCP.

### Changed and Unforeseen Circumstances

The applicant has provided measures to address changed and unforeseen circumstances within section 6.4 of the HCP. The applicant identified the listing of new species and the discovery of other listed species on the property as changed circumstances.

Pursuant to the "No Surprises" rule (Service 2004), as codified in 50 CFR, sections 17.22(b) and 17.32(b), the Service will not require additional land, water, or other natural resources without the consent of the applicant in the event that unforeseen circumstances occur, provided the HCP is being properly implemented. If the Service determines that an unforeseen circumstance has occurred and that additional land, land restrictions, or financial compensation beyond that required under the HCP is needed to conserve the Plan species, then the applicant will not be obligated to provide the additional measures without their consent. Pursuant to 50 CFR 17.22(b)(8) and 17.32(b)(8), the Service retains the authority to revoke a permit, in response to an unforeseen circumstance or otherwise, if we find that continuation of the take authorized under the permit, would appreciably reduce the likelihood of the survival and recovery of a listed species.

Consistent with the "No Surprises" rule, the HCP also identifies changed circumstances that can reasonably be anticipated and describes the responses to such changes that will be carried out by the applicant. The applicant provided measures to address changed and unforeseen circumstances within the HCP. The applicant identified the listing of new species and the discovery of other listed species on the property as changed circumstances. If a species, not covered by the HCP, is listed under the Act during the term of the permit and may be affected by HCP covered activities, the permit may be reevaluated by the Service and the HCP covered activities may be modified, as reasonable, to ensure that the covered activities will not result in take of the newly listed species. The applicant will implement reasonable modifications to the HCP covered activities identified by the Service as necessary to avoid the likelihood of take of the newly listed species. The applicant will continue to implement



reasonable modifications until such time as the applicant has applied for and the Service has approved an amendment of the permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies the applicant in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of take of the newly listed species. If the Service, in consultation with the applicant, determines that the project-related activities cannot be modified to avoid take of a species not covered under the HCP, then the applicant will cease any activities that may result in take of any species not covered under the HCP until a permit amendment has been issued.

#### Changes between the Draft and Final HCP

There are no changes between the Draft and Final HCPs.

## II. ANALYSIS OF EFFECTS

The Service has determined that project impacts to the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby and its critical habitat, California red-legged frog and its critical habitat, Pacific lamprey, western pond turtle, Ben Lomond spineflower, robust spineflower and its critical habitat, Santa Cruz tarplant and its critical habitat, and San Francisco popcornflower from the proposed actions will be minimized and mitigated to the maximum extent practicable by measures described in the HCP, and the associated permit. The effects of the proposed activities on the Plan species and their associated critical habitats are fully analyzed in the HCP and the Service's biological opinion (Service 2020a), which are incorporated by reference. A summary of the analysis is provided below.

The City's proposed activities may affect the covered species if present within the action area. Due to the wide range of activities potentially conducted under the HCP, it is difficult to accurately determine potential species impacts. However, Table 1 below identifies anticipated impacts to the federally listed Plan species. Please refer to the HCP for a detailed discussion on all potential activities and anticipated effects to all of the Plan species.

Table 1. Impacts to Federally Listed Species Habitat from HCP Covered Activities.

| Species                    | Potential Construction Impacts (acres) |           | Potential O&M Impacts (acres) |           | Critical Habitat Impacts (acres) |           |
|----------------------------|--|-----------|-------------------------------|-----------|----------------------------------|-----------|
|                            | Temporary                              | Permanent | Temporary                     | Permanent | Temporary                        | Permanent |
| Ohlone tiger beetle        | 1.34                                   | 0.0       | 0.21                          | 0.0       | N/A                              | N/A       |
| Mt. Hermon June beetle     | 0.0                                    | 0.0       | 0.42                          | 0.0       | N/A                              | N/A       |
| Tidewater goby             | 0.0                                    | 0.0       | 0.14                          | 0.0       | <0.1                             | N/A       |
| California red-legged frog | 5.7                                    | 0.0       | 8.4                           | 0.5       | 14.1                             | 0.5       |
| Robust spineflower         | <1.0                                   | 0.0       | <1.0                          | 0.0       | <1.0                             | 0.0       |
| Ben Lomond spineflower     | <1.0                                   | 0.0       | <1.0                          | 0.0       | N/A                              | N/A       |
| Santa Cruz tarplant        | 0.0                                    | 0.0       | 2.0                           | 0.0       | 2.0                              | 0.0       |

The HCP's conservation strategy is focused on avoiding and minimizing impacts to the species and their habitats. The HCP also identifies species-specific conservation opportunities that will be implemented in instances where avoidance is unachievable. Biological Goals of the Plan include: 1) maintain habitat quality in the Plan area for Plan species by restoring habitat temporarily disturbed by project activities; 2) contribute to the permanently protected and managed lands in the Plan area that support populations of the covered species; and, 3) pursue conservation actions that will result in conservation benefits to the Plan species. Please refer to section 4.0 of the HCP for a detailed list of avoidance and minimization measures and conservation opportunities.

### III. PUBLIC COMMENT

The Service published a Notice of Availability of the HCP and receipt of application for incidental take permit by the applicant for their proposed action in the Federal Register on September 10, 2020 (Service 2020b). Publication of the Notice of Availability initiated a 30-day comment period. The Notice of Availability, draft screening form for the low-effect determination and environmental action statement, and the draft HCP were made available via the internet. The Service received no comments in response to the Notice of Availability.

### IV. INCIDENTAL TAKE PERMIT CRITERIA – ANALYSIS AND FINDINGS

Section 10(a)(2)(A) of the Act specifically mandates that “no permit may be issued by the Secretary authorizing any taking referred to in paragraph (1)(B) unless the applicant therefore submits to the Secretary a conservation plan that specifies--(i) the impact which will likely result from such taking; (ii) what steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps; (iii) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and (iv) such other measures as the Secretary may require as being necessary or appropriate for the purposes of the plan.”

Section 10(a)(2)(B) of the Act mandates that the Secretary shall issue a permit if he finds “...after opportunity for public comment, with respect to a permit application and the related conservation plan that---(i) the taking will be incidental; (ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (iii) the applicant will assure that adequate funding for the plan will be provided; (iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (v) the measures, if any, required under subparagraph (A)(iv) will be met; and the Secretary has received such other assurances as may be required that the plan will be implemented...”. With regard to this specific project, permit action, and section 10(a)(2)(B) requirements, the Service makes the following findings:

#### 1. The taking will be incidental.

Take of the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby, California red-legged frog, Pacific lamprey, and western pond turtle will be incidental to the



otherwise lawful activities described in the HCP, and not the purpose of, these lawful activities.

2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts to the Plan species.

The Service finds that the HCP minimizes and mitigates the impacts of take of the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby, California red-legged frog, Pacific lamprey, and western pond turtle from the proposed activities, to the maximum extent practicable in light of the low level of impacts anticipated to occur to the species from the covered activities. The HCP also represents the most practicable alternative to minimize and mitigate the impacts to the species. Under the provisions of the HCP, the impacts of take will be minimized, mitigated, and monitored through numerous general and species-specific measures that are discussed in section 4.0 of the HCP.

3. The applicant will ensure that adequate funding for the HCP and procedures to deal with unforeseen circumstances will be provided.

Total costs associated with the HCP's conservation strategy are estimated to be \$2,726,500. The applicant will assume all responsibilities for funding of all restoration activities, and the fulfillment of all monitoring and reporting activities. Fees for minimization activities will be paid by the applicant as these activities occur.

In the event of suspension or revocation, the applicant's obligations under the HCP would continue to the extent that the Service determines that take of the covered species occurred under the permit but was not fully mitigated in accordance with the HCP. In such an event, mitigation measures would be implemented until the take has been mitigated to the maximum extent practicable.

Pursuant to the Service's "No Surprises" regulations, the HCP includes procedures to deal with unforeseen circumstances. In the event of unforeseen circumstances affecting the HCP's species, the applicant would not be required to provide the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the HCP without their consent; provided that proper implementation of the HCP has occurred.

4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

The Act's legislative history establishes the intent of Congress that this issuance criterion is identical to a finding of "not likely to jeopardize" under section 7(a)(2) (see 50 CFR 402.02). As a result, approval of the applicant's permit application has also been reviewed by the Service under section 7 of the Act. The biological opinion concluded that the approval of the applicant's permit application is not likely to jeopardize the continued existence of the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby,



California red-legged frog, Pacific lamprey, western pond turtle, Ben Lomond spineflower, robust spineflower, Santa Cruz tarplant, and San Francisco popcornflower, and is not likely to result in destruction or adverse modification of critical habitat of the tidewater goby, California red-legged frog, robust spineflower, or Santa Cruz tarplant. This conclusion was based on the following factors.

1. The effects on reproduction are low;
  2. The effects on numbers are low;
  3. The effects on distribution are low;
  4. The effects on recovery are low;
  5. Only minor and primarily temporary effects to primary constituent elements are anticipated to occur to designated critical habitat of the tidewater goby, California red-legged frog, robust spineflower, and Santa Cruz tarplant; and
  6. The overall function and conservation value of tidewater goby, California red-legged frog, robust spineflower, and Santa Cruz tarplant critical habitat would be retained.
5. Other measures, required by the Director of the Service as necessary or appropriate for purposes of the HCP, will be met.

The Service will condition the permit to require annual reporting. The HCP incorporates all other elements determined by the Service to be necessary for approval of the HCP and issuance of the permit.

6. The Service has received the necessary assurances that the HCP will be implemented.

Compliance with the HCP is a condition of the permit. The authority of the permit is a primary instrument for ensuring that the HCP will be implemented. The applicant understands that their failure to comply with the HCP will result in having their permit suspended and/or revoked, making them vulnerable to a violation of section 9 of the Act.

## V. ALTERNATIVES

Three alternatives to the proposed action were also considered by the Service: (1) No Action, (2) Limited to Operations and Maintenance, and (3) Limited to Wildlife Species.

Under the No Action alternative, no permit would be issued. Future activities would require ITP authorization on a project-by-project basis. Under this alternative, economic and conservation benefits proposed by the selected project would not be realized. For these reasons, this alternative was rejected.

The Limited to Operations and Maintenance alternative would limit take coverage to operations and maintenance activities, but would not cover construction of the north coast pipeline. Although this alternative would provide conservation and economic benefits, it would not result in a comprehensive approach in terms of covering all activities that are reasonably certain to occur. For these reasons, this alternative was rejected.

The Limited to Wildlife Species alternative would take into account only federally listed wildlife and not plant species. Under this alternative, the City would not implement plant conservation measures for all activities covered under the selected project. Under this alternative, federally listed plant species would not receive the conservation benefits that would be provided through a comprehensive strategy. For this reason, this alternative was rejected.

## VI. GENERAL CRITERIA AND DISQUALIFYING FACTORS

The Service has no evidence that the permit application should be denied on the basis of the criteria and conditions set forth in 50 CFR 13.21(b)-(c).

## VII. RECOMMENDATIONS ON PERMIT ISSUANCE

Based on the foregoing findings with respect to the proposed action, we recommend approval of the issuance of permit number TE89655D-0 to the City of Santa Cruz, for the incidental taking of the Mount Hermon June beetle, Ohlone tiger beetle, tidewater goby, and California red-legged frog to the extent that their take will be a violation of the Act. Similarly, we recommend approval of the issuance of permit number TE89655D-0 to the City, for the incidental taking of the Pacific lamprey and western pond turtle, in the event that these species are federally listed under the Act within the 30-year permit term.

STEPHEN  
HENRY

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Stephen P. Henry  
Field Supervisor  
Ventura Fish and Wildlife Office  
Ventura, California

## REFERENCES CITED

- Ebbin, Moser, Skaggs LLP, Hagar Environmental Science, Dana Bland and Associates, Entomological Consulting Services, Ltd., Kittleson Environmental Consulting Services, Biotic Resources Group. 2019. City of Santa Cruz Operations and Maintenance Habitat Conservation Plan.
- [Service] U.S. Fish and Wildlife Service. 2004. Endangered Species Act incidental take permit revocation regulations. Federal Register 69:71723-71731.
- [Service] U.S. Fish and Wildlife Service. 2020a. Intra-Service Biological Opinion on the Issuance of an Incidental Take Permit for the City of Santa Cruz Operations and Maintenance Habitat Conservation Plan, Santa Cruz County, California (2021-F-0018). Ventura Fish and Wildlife Office, Ventura, California.
- [Service] U.S. Fish and Wildlife Service. 2020b. Notice of Availability; request for comment. Federal Register 85:55856-55857.



NATIVE ENDANGERED & THREATENED SP. HABITAT CONSERVATION PLAN  
ENDANGERED & THREATENED WILDLIFE**Permit Number: TE89655D-0**

Effective: 1/25/2021 Expires: 1/24/2051

## Issuing Office:

Department of the Interior  
U.S. FISH & WILDLIFE SERVICE  
Endangered Species Permit Office  
2800 Cottage Way, Suite W-2606  
Sacramento, CA 95825-1846  
permitsR8ES@fws.gov

**STEPHEN HENRY**Digitally signed by STEPHEN  
HENRY

Date: 2021.01.25 12:41:28 -08'00'

FIELD OFFICE SUPERVISOR

## Permittee:

**CITY OF SANTA CRUZ**  
**809 CENTER ST**  
**SANTA CRUZ, CA 95060**  
**U.S.A.**

## Name and Title of Principal Officer:

MARTIN BERNAL - CITY MANAGER

Authority: Statutes and Regulations: 16 USC 1539(a), 16 USC 1533(d), 16 USC 703-712; 50 CFR 17.22, 50 CFR 17.32, 50 CFR 21.23 & 21.27, 50 CFR 13.

**Location where authorized activity may be conducted:**

Lands that are owned or managed by the City of Santa Cruz, areas where the City holds access easements (as described in the HCP) in Santa Cruz County.

**Reporting requirements:**

See Below:

**Authorizations and Conditions:**

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, State, local tribal, or other Federal law.

C. Valid for use by permittee named above.

D. The authorization granted by this permit is subject to compliance with, and implementation of the *City of Santa Cruz Operations and Maintenance Habitat Conservation Plan* (Ebbin, Moser, and Skaggs LLP 2019; HCP). This permit and the HCP are binding upon the permittees and/or any authorized officer, employee, contractor, or agent conducting permitted activities.

E. The permittees are authorized under the Federal Endangered Species Act of 1973, as amended, to incidentally take (harm, injure, capture, and kill) the federally endangered Mount Hermon June beetle (*Polyphylla barbata*), Ohlone tiger beetle (*Cicindela ohlone*), tidewater goby (*Eucyclogobius newberryi*), and the federally threatened California red-legged frog (*Rana draytonii*), within the Action Area that is located in Santa Cruz County, as described in the HCP, to the extent that the take of these species would otherwise be prohibited under section 9 of the Act and its implementing regulations or pursuant to a rule promulgated under section 4(d) of the Act. Incidental take authorization is effective for these four wildlife species upon the effective date of the permit.

NATIVE ENDANGERED & THREATENED SP. HABITAT CONSERVATION PLAN  
ENDANGERED & THREATENED WILDLIFE**Permit Number: TE89655D-0**

Effective: 1/25/2021 Expires: 1/24/2051

Take of all Mount Hermon June beetles is authorized to occur within a total of 1.50 acres of suitable habitat during the 30-year permit term. Take of all Ohlone tiger beetles is authorized to occur within a total of 1.55 acres of occupied habitat during the 30-year permit term. Take of the tidewater goby is authorized in the form of injury and mortality of up to 5 percent of captured adult or juveniles that are found dead or wounded as a result of capture and relocation or project activities, in a single calendar year. Take of the California red-legged frog is authorized in the form of injury and mortality of 2 adults, 10 larvae, or 1 egg mass, in a single calendar year. All take must be incidental to otherwise lawful activities associated with activities described in the HCP.

The Covered Species also include the Pacific lamprey (*Lampetra tridentata*) and western pond turtle (*Actinemys marmorata*), which are not currently listed under the Federal Endangered Species Act. Incidental take authorization of these species will become effective concurrent with their listing as threatened or endangered under the Act, to the extent that its take is prohibited by the Act.

Take of all Pacific lamprey will be authorized to occur within all streams within the HCP Plan Area during the 30-year permit term. Take of all western pond turtles will be authorized to occur within all suitable located within the HCP Plan Area during the 30-year permit term.

F. Take of plant species is not prohibited under the Act and is not authorized by this permit. However, four plants are included on the Covered Species list in recognition of the conservation benefits provided for them under the Plan. Four plants are included on the Covered Species list, as follows: the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*) and Robust spineflower (*Chorizanthe robusta* var. *robusta*); the federally threatened Santa Cruz tarplant (*Holocarpha macradenia*); and the State endangered San Francisco popcornflower (*Plagiobothrys diffusus*). Assurances provided under the No Surprises Rule at 50 CFR 17.3, 17.22(b)(5), and 17.32(b)(5) extend to all plant Covered Species.

G. Only biologists authorized under the authority of this permit and its associated biological opinion may conduct capture and relocation activities for the federally listed plan species. The permittees or their authorized officer, employee, contractor, or agent must request and receive approval of those biologists they wish to have perform said activities prior to their commencement. The request(s) for approval must be made to the Ventura Fish and Wildlife Office at least 15 working days prior to the commencement of the specified activities.

H. At least 30 days prior to the commencement of activities that will require compensation for the loss of Mount Hermon June beetle, Ohlone tiger beetle, and California red-legged frog habitat, as described in the HCP, the permittee must receive written approval from the Service to ensure the proposed compensation is appropriate and commensurate with anticipated losses. The same provision applies to the western pond turtle if and when the species is listed as threatened or endangered under the Act.

I. Minimization measures and reporting obligations must be consistent with those identified in the HCP.

J. Any remains of dead, intact Covered Species must be repositied at a professionally maintained facility that is widely accessible for scientific study. Arrangements regarding the disposition of potential museum specimens must be made with a receiving institution prior to the implementation of any fieldwork. Other arrangements for disposition of specimens may be made with prior written approval from the Ventura Fish and Wildlife Office.

K. A copy of permit TE 89655D must be in the possession of the permittee or their authorized officer, employee, contractor, or agent while conducting activities that could result in take of Covered Species. This permit number should be provided in all correspondence concerning permit activities. Any questions regarding this permit should be directed to the Field Supervisor, Ventura Fish and Wildlife Office.



**FINAL  
CITY OF SANTA CRUZ OPERATIONS AND MAINTENANCE  
HABITAT CONSERVATION PLAN**

for the

**ISSUANCE OF AN INCIDENTAL TAKE PERMIT UNDER SECTION 10(a)(1)(B) OF  
THE ENDANGERED SPECIES ACT**



**Prepared for:**

**City of Santa Cruz**



**Prepared by:**

**Ebbin, Moser + Skaggs LLP  
Hagar Environmental Science  
Dana Bland & Associates  
Entomological Consulting Services, Ltd.  
Kittleson Environmental Consulting Services  
Biotic Resources Group**

**January 25, 2021**

*Photo: Laguna Creek California red-legged frog by Chris Berry*



## **Acknowledgements**

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## Executive Summary

The City of Santa Cruz (City or Applicant) has applied for an incidental take permit (ITP) from the U.S. Fish and Wildlife Service (Service) pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 *et seq.*) to incidentally take the federally endangered Ohlone tiger beetle (*Cicindela ohlone*); the federally endangered Mount Hermon June beetle (*Polyphylla barbata*); the federally endangered tidewater goby (*Eucyclogobius newberryi*); the Pacific lamprey (*Lampetra tridentata*) (a species not currently listed under the ESA); the federally threatened California red-legged frog (*Rana draytonii*); and the western pond turtle (*Actinemys marmorata*), a federal species of concern. Additionally, the City is proposing to include four plant species in the Habitat Conservation Plan (HCP or Plan) and permit because of the benefits provided to such species as a result of the Plan's conservation strategy and to receive the "No Surprises" regulatory assurances. The four plant species are the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*); the federally endangered Robust spineflower (*Chorizanthe robusta* var. *robusta*); the federally threatened Santa Cruz tarplant (*Holocarpha macradenia*); and the State endangered San Francisco popcornflower (*Plagiobothrys diffusus*).

The Plan refers to the plant and wildlife species proposed for coverage under the plan as Covered Species. Any reference in this Plan to incidental take of Covered Species under the Plan shall, for the purpose of covered plant species, refer to loss or impacts to covered plant species identified in the Permit.

The potential taking of the covered wildlife species would occur as a result of activities permitted under the ITP (Covered Activities) and described in the Plan and include operation, maintenance and rehabilitation of the City's water supply and water system facilities; operation and maintenance of the City's municipal facilities; and management of City lands.

The area covered by the HCP (Plan Area) is located in Santa Cruz County on the Central Coast of California, approximately 70 miles south of San Francisco. The total watershed and water service/urban areas comprising the general Plan Area are approximately 176 square miles and include three geographically distinct areas: the North Coast watersheds, the San Lorenzo River watershed, and the Santa Cruz urban center.

The Plan discusses in detail the impacts to Covered Species and their habitats that are expected as a result of Covered Activities. As a result of these anticipated impacts, the Applicant has applied for a section 10(a)(1)(B) incidental take permit and proposes to implement the HCP as described herein, which provides measures for minimizing and mitigating adverse effects on the Covered Species. The Applicant requests that the permit be issued for a period of 30 years.

The HCP summarizes the Covered Activities and identifies the responsibilities of the City and the role of the Service under the Plan. The HCP describes measures that will be implemented by the Applicant to minimize and mitigate impacts of the project on the Covered Species and their habitats and to further the conservation of these species. The conservation strategy in the Plan includes measures to mitigate impacts to Covered Species and their habitats that are not avoided

through minimization measures. The City commits to fully fund the Plan and the Plan includes descriptions of costs for implementing the Plan and sources of funding to cover those costs.



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## 1.0 INTRODUCTION

The City of Santa Cruz (City or Applicant) has applied for an incidental take permit (ITP) from the U.S. Fish and Wildlife Service (Service) pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 *et seq.*) to incidentally take the federally endangered Ohlone tiger beetle (*Cicindela ohlone*; OTB); the federally endangered Mount Hermon June beetle (*Polyphylla barbata*; MHJB); the federally endangered tidewater goby (*Eucyclogobius newberryi*; goby); the Pacific lamprey (*Lampetra tridentata*) (a species not currently listed under the ESA); the federally threatened California red-legged frog (*Rana draytonii*; CRLF); and the western pond turtle (*Actinemys marmorata*; WPT), a federal species of concern. Listed plant species may be included on an incidental take permit in recognition of the conservation benefits provided to such species by the HCP. The City is proposing to include four plant species on the incidental take permit in recognition of the conservation benefits provided by the Plan and to receive the “No Surprises” regulatory assurances (50 CFR 17.22(b)(5)). The four plant species are the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*; BLS); the federally endangered Robust spineflower (*Chorizanthe robusta* var. *robusta*); the federally threatened Santa Cruz tarplant (*Holocarpha macradenia*); and the State endangered San Francisco popcornflower (*Plagiobothrys diffusus*). The incidental take of covered wildlife species and potential adverse effects to covered plant species are anticipated to occur as a result of City Covered Activities within the Habitat Conservation Plan (HCP) Area. The Santa Cruz HCP provides for permit coverage for a wide range of City activities. These activities include operation, maintenance and rehabilitation of the City’s water supply and water system facilities; operation and maintenance of the City’s municipal facilities; and management of City lands.

### 1.1 Purpose and Background

The City provides a wide range of essential public services for its citizens and visitors, such as the construction, operation and maintenance of water supply facilities, the construction and maintenance of roads, waste management activities, storm water management, and the operation and maintenance of recreation and open space areas. The City has determined that these activities and services may affect the life history and habitat of certain species listed as threatened or endangered under the ESA.

To ensure the City’s continued ability to provide these essential public services, the City is seeking a permit from the Service under section 10(a)(1)(B) of the ESA for the incidental take of OTB, MHJB, goby, Pacific lamprey, CRLF, WPT, and “No Surprises” assurances for potential impacts to BLS, robust spineflower, Santa Cruz tarplant, and San Francisco popcornflower. This HCP provides the basis for the issuance of a permit under the ESA.

### 1.2 Plan Area

The area covered by this HCP (“Plan Area”) is located in Santa Cruz County on the Central Coast of California (Figure 1), approximately 70 miles south of San Francisco. The Plan Area is



contained on the Davenport, Santa Cruz and Felton U.S. Geological Survey 7.5-minute quadrangles. The total watershed and water service/urban areas within the Plan Area are approximately 176 square miles and include three geographically distinct areas: the North Coast watersheds, the San Lorenzo River watershed, and the Santa Cruz urban center, as well as the water service areas outside of the City limits. The regional topography ranges from sea level to greater than 1,200 feet above sea level.

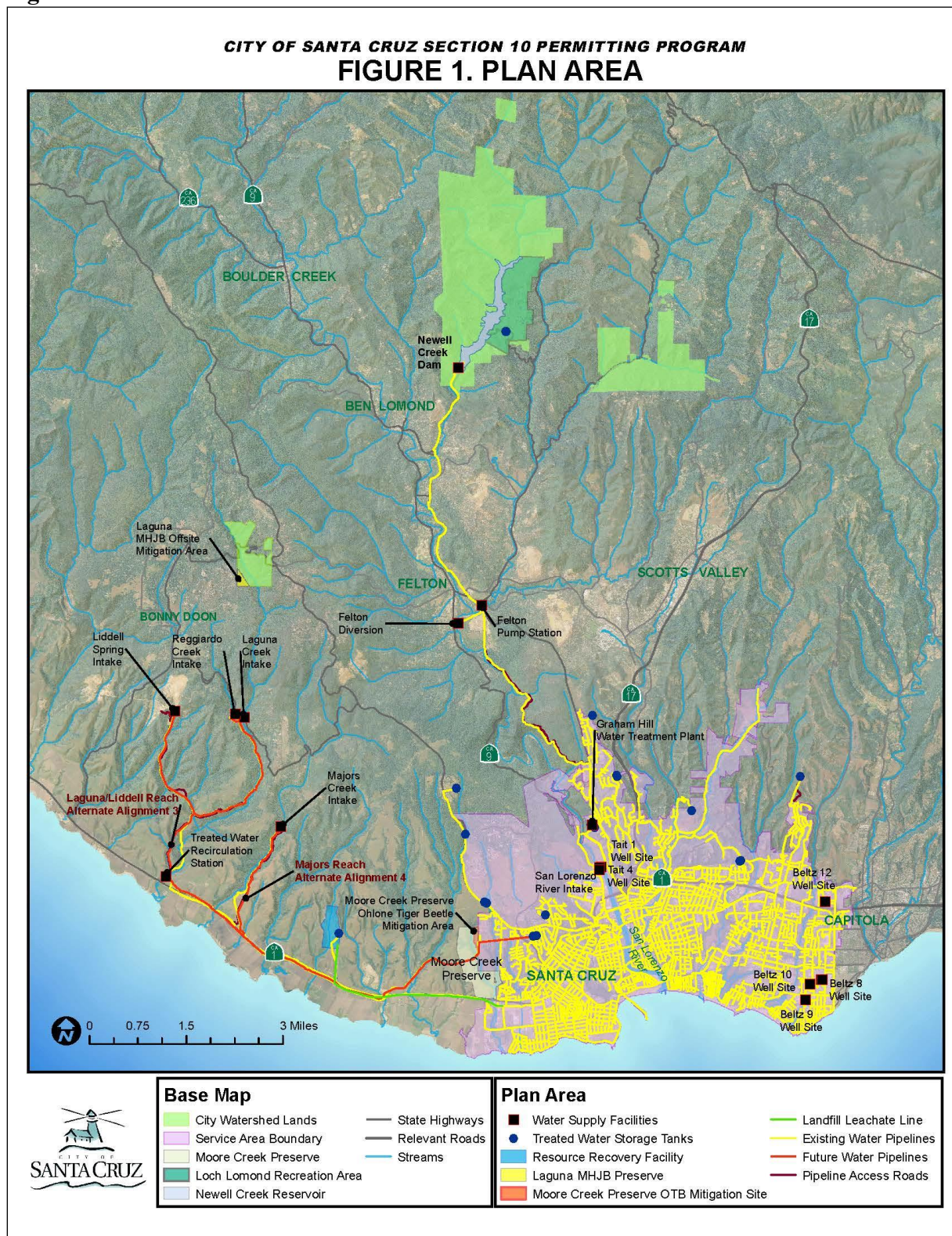
The 18 square-mile North Coast watersheds which serve as drinking water source watersheds for the City comprise a series of small coastal watersheds that drain the west and south-facing slopes of the Santa Cruz Mountains directly to the Pacific Ocean. In most cases, these watersheds include forested slopes in the upper reaches and canyon portions of the watershed, coastal foothill terraces, agricultural lands on the coastal plain, and streams that typically drain into seasonal lagoons. Through natural fluctuation, the seasonal lagoons are typically open to the ocean during the winter months (December to April) and closed during the dry season (May to November).

The 138 square-mile San Lorenzo River watershed is unique to the Plan Area. In addition to draining west-facing slopes, it drains east-facing slopes in the Santa Cruz Mountains that do not receive as much rain as their west-facing counterparts. The San Lorenzo River has a longer run to the ocean than other Plan Area streams and is fed by many tributaries. While many of the tributaries exhibit the physical characteristics of coastal streams (e.g., steep gradients, forested slopes), the San Lorenzo River runs through a comparably deep, wide canyon. Finally, the San Lorenzo River is densely developed throughout the floodplain and watershed.

The City's urban center encompasses approximately 12 square miles centered around the mouth of the San Lorenzo River with an additional 8 square miles of water service area outside of the City limits. The City is the largest city in Santa Cruz County, and is home to more than 53,000 residents. Major industries include tourism, manufacturing, food processing, and technology. The University of California, Santa Cruz (UCSC), a world-class university of approximately 14,000 students, is also located within the City.

The City does not have strict regulatory jurisdiction in much of the Plan Area in the San Lorenzo and North Coast watersheds, as those areas are outside of the incorporated City limits. However, areas outside City limits which are included in the Plan Area are either on property owned by the City of Santa Cruz (though not necessarily incorporated property) or the City has easements on those lands with standards governing operations and maintenance of its facilities. Finally, in addition to applying to activities within City limits, the City's municipal code also applies to drinking water source watershed lands at Loch Lomond and Laguna, Zayante, and Newell Creeks. As such, the City has sufficient control over the lands subject to Covered Activities to implement the provisions of this Plan.

Figure 1: Plan Area



### **1.3 HCP Planning Process**

To develop the HCP, the City assigned staff and retained biological consultants to assemble an HCP team. The City's Water Department assumed lead responsibility for developing the HCP on behalf of the City. Members of the HCP team met with the Service in person or by teleconference from 2010 to 2019, to review and discuss the contents of the HCP.

### **1.4 Regulatory Framework**

#### **1.4.1 Endangered Species Act**

The United States Congress passed the ESA in 1973 to provide a means for conserving the ecosystems that endangered and threatened species require in order to prevent species extinctions. The ESA has two major components relevant to this HCP, the Section 9 prohibition against "taking" listed animal species and the Section 10 provision for permitting the incidental take of listed animal species.

Section 9(a)(1)(B) of the ESA prohibits the "take" by any person of any endangered fish or wildlife species. The ESA authorizes the Service to prohibit the take of threatened wildlife species through regulation. The Service has prohibited the take of all threatened fish or wildlife species through a blanket regulation issued in 1978. "Take" is defined broadly to mean harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.<sup>1</sup> "Harm" is defined by regulation to mean an act which actually kills or injures wildlife, including those activities that cause significant habitat modification or degradation resulting in the killing or injuring of wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. The protections for listed plant species under the ESA are more limited than for fish and wildlife.<sup>2</sup>

The Section 9 take prohibitions apply unless take is otherwise specifically exempted pursuant to Section 7 or authorized pursuant to Section 10 of the ESA. Private individuals, corporations, state and local government agencies, and other non-federal entities who wish to conduct otherwise lawful activities that might incidentally take a listed species must first obtain a Section 10 incidental take permit from the Service. The contents of an HCP must meet the application criteria provided under ESA Section 10(a)(2)(A):

- The impact which will likely result from such taking;

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<sup>1</sup> 16 U.S.C. § 1532 (2010).

<sup>2</sup> Section 9(a)(2)(B) of the ESA prohibits removal, possession, or malicious damage or destruction of endangered plants in areas under federal jurisdiction, as well as actions that remove, cut, dig up, damage, or destroy endangered plants in areas outside of federal jurisdiction in violation of any state law or regulation, including state criminal trespass law. Protection for threatened plant species is limited to areas under federal jurisdiction. 50 C.F.R. § 17.71(a). The ESA Section 7(a)(2) prohibition against jeopardy applies to plants, wildlife, and fish equally, and the Service may not issue a Section 10(a)(1)(B) permit if the issuance of that permit would result in jeopardy to any listed species.



- What steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps;
- What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized; and
- Such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan.<sup>3</sup>

Under Section 10(a)(2)(B) of the ESA, the Service may permit the incidental take of species only after finding that the HCP meets the following criteria:

- The taking will be incidental;
- The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
- The applicant will ensure that adequate funding for the Plan will be provided;
- The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
- Other measures, if any, which the Service requires as being necessary or appropriate for purposes of the Plan will be met.<sup>4</sup>

The HCP is intended to meet regulatory requirements necessary for the Service to issue a Section 10 permit to allow incidental take of covered wildlife species as a result of Covered Activities undertaken by the permit applicant.

#### **1.4.2 National Environmental Policy Act**

The National Environmental Policy Act (NEPA) was enacted by Congress in 1969 to ensure that federal agencies consider the environmental impacts of their actions and decisions. NEPA requires the federal government to use all practicable means and measures to protect environmental values and makes environmental protection a part of the mandate of every federal agency and department. NEPA requires analysis and a detailed statement of the environmental impact of any proposed federal action that significantly affects the quality of the human environment. NEPA regulations require that the Service ensures that permits issued pursuant to an HCP have been evaluated consistent with NEPA requirements.

HCPs, such as this one, that qualify as “low-effect” according to the Service’s 2016 HCP Handbook, are categorically excluded from NEPA analysis (Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1).

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<sup>3</sup> 16 U.S.C. § 1539(a)(2)(A)(2010).

<sup>4</sup> 16 U.S.C. § 1539(a)(2)(B)(2010).

## **2.0 ENVIRONMENTAL SETTING**

### **2.1 Introduction**

This section analyzes the environmental setting for the Plan within the three regions of the Plan Area. The three regions that constitute the Plan Area are: 1) the North Coast Unit, 2) the San Lorenzo River Watershed Unit, and 3) the City Urban Center Unit. The North Coast Unit is located north of the City along Highway 1 and includes Majors Creek, Laguna Creek, Reggiardo Creek, Liddell Creek, and Lombardi Gulch. Streams in the North Coast Unit flow off the west flank of Ben Lomond Mountain and drain directly into the Pacific Ocean. The San Lorenzo River Watershed Unit includes the San Lorenzo River and its major tributaries including Newell Creek and Zayante Creek. Streams within the City Urban Center Unit are the lower San Lorenzo River and tributaries, and the smaller urban drainages and aquatic resources potentially influenced by Covered Activities, including Neary Lagoon, Laurel Creek, Moore Creek, and Arana Creek. The streams listed under the City Urban Center Unit are located either partially or wholly within the City limits and are influenced by urban land management activities such as vegetation management, flood control and storm water management activities, rather than or in addition to surface water diversions. Therefore, the lower San Lorenzo River (from the City limits to the river mouth), Branciforte Creek, Carbonera Creek, and Pogonip Creek, although part of the San Lorenzo River watershed, are discussed under the City Urban Center Unit in this Plan.

### **2.2 Climate**

The Santa Cruz Mountains, like most of central California, are marked by winter rains and summer drought. Rainy winter periods and dry summer months are typical of the Mediterranean climate in the central coastal areas of California, including the Santa Cruz Mountains. Mean annual precipitation along the coast is about 26 inches, but increases to about 50 inches at higher elevations near the headwaters of the project area streams.

Most precipitation falls between the months of November to April, with February typically being the wettest month of the year. Pacific frontal storms in combination with orographic lifting along the coastal range generate intense periods of precipitation. Streams in the project area tend to exhibit “flashy” (rapidly rising and falling) winter flows in response to these winter storms. During the dry season from May through October the region typically receives no precipitation, the surface soils dry out, and perennial streams are fed by seeps and springs. The coastal front range experiences mild temperatures during the dry season due to the off-shore marine breeze and summer fog.

### **2.3 Geology**

The Plan Area is located in the Coast Ranges geomorphic province. This northwest-trending, 900-mile long province contains mountain ranges and associated intervening valleys that are

relatively comparable in age and share somewhat similar history, geologic composition, and structure. The Santa Cruz Mountains, in which the Plan Area exists, represents one of these ranges. This mountain range forms the mountainous spine of the San Francisco Peninsula and extends about 80 miles, from the vicinities of Daly City to Watsonville. The average summit height reaches 2,500 feet above sea level. The Coast Ranges are considered very seismically active due to the abundance of active faults. The San Andreas and San Gregorio fault zones represent the two principal active faults within the region (Hall et al. 1974; Hart and Bryant 1997).

### **2.3.1 North Coast Unit**

The Coast Ranges typically exhibit strong northwest-southeast trends, induced by folds and faults of the same trend. The Coast Ranges generally consist of sedimentary rocks underlain by two unlike kinds of basement rocks, the Franciscan and Salinian complexes, mostly of middle Mesozoic age. The Franciscan complex, which is present east of the San Andreas Fault Zone and west of the Nacimiento Fault Zones, generally consists of an assemblage of oceanic crustal rocks (predominantly sandstone and shale) which have been intruded by ultramafic igneous rocks. This complex presumably formed as a result of the subduction of the western oceanic plate beneath the continental plate beginning in the Mesozoic Period. The Salinian complex (block), which is present between the San Andreas and Nacimiento fault zones, consists of metamorphic and igneous rocks; because of the similarities between the Salinian igneous rocks and those found in Sierra Nevada. It is believed that the Salinian block has moved hundreds of miles northward along the west side of the San Andreas Fault Zone. Besides the Franciscan and Salinian complexes, the only major pre-Cenozoic sedimentary rocks in the Coast Range belong to the Great Valley sequence. Sedimentary rocks that overlie the Franciscan and Salinian complexes are Cenozoic in age and predominantly represent sediments deposited along the continental shelf.

### **2.3.2 San Lorenzo River Watershed Unit**

In the San Lorenzo River Watershed Unit two primary fault systems define the geologic conditions: the Zayante fault and the Ben Lomond fault. The Zayante fault trends primarily east to west through the middle of the San Lorenzo River basin. The Ben Lomond fault trends primarily north to south on the west edge of the basin along Ben Lomond Mountain. The two faults intersect near Jamison Creek in the northwest area of the basin. The two faults divide the San Lorenzo Valley into three terrains: (1) north of the Zayante fault, (2) south of the Zayante fault and west of the Ben Lomond fault, and (3) south of the Zayante fault and east of the Ben Lomond fault. The following descriptions of these terrains are derived from Balance Hydrologics (Hecht and Kittleson 1998) report on streambed conditions and erosion control efforts in the San Lorenzo River watershed.

North of the Zayante fault, interbedded sandstones, shales, and mudstone predominate, with steeply inclined and folded strata. Complex mosaics of soils and vegetation have developed on these geologic structures, resulting in diverse and widespread sediment sources. Slopes tend to



be steep, prone to moderate to severe erosion. Principal watersheds are the upper San Lorenzo River (above Boulder Creek), Kings, Two Bar, and Bear Creeks, plus the northern portions of the Boulder Creek and Zayante Creek basins. The Butano fault, which runs parallel and to the north of Zayante fault, once brought hard sandstones upward, resulting in a very steep slope rising from the River and Bear Creek abruptly toward the Summit ridge. This zone between the Butano fault and the Summit is now a belt of often-serious erosional sources, as roads and clearings are cut through this oversteepened slope. Dry-season flows are generally lowest in this geologic terrain, with streams often drying to isolated pools during mid-summer.

South of the Zayante fault, and west of the Ben Lomond fault, the tectonically uplifted eastern side of Ben Lomond Mountain forms the southwestern edge of the San Lorenzo watershed. Principal watersheds are Fall, Alba, Clear and Sweetwater Creeks, Malosky, Peavine and Jamison Creeks, and the southern portion of the Boulder Creek basin. Crystalline bedrock types, principally granitics, schists, and marble, have developed residual soils which support steep small forested watersheds with low to moderate background erosion rates. Streams clear up quickly after storms. The lower portions of these watersheds have developed in downslope-dipping sandstones and mudstones, locally prone to landsliding, especially where disturbed. Summer flows are generally sufficient to support perennial stream threads and diverse aquatic habitat.

The third terrain is found south of the Zayante fault, and east of the Ben Lomond fault and the San Lorenzo River. It includes the Love Creek, Quail Hollow, Graham Hill Road, Mount Hermon and Scotts Valley areas, as well most of the Bean and Branciforte Creek basins, and the southern portions of the Zayante and Newell Creek watersheds. Here, sandstones and shales form erodible soils which tend to be either very sandy or clay rich. Much of the area was once vegetated with unusual associations of trees and shrubs that exploited niches made available by these atypical soils. By far the largest continuous units of sandy soils are found in this area, and these tend to be sandier than other sandstone-derived soils elsewhere in the watershed. Erosion rates are often high to extreme in this terrain, especially where sandy soils occur in headwater areas or near channels. The sandy soils, which were capable of absorbing nearly all rainfall under natural conditions, now form steep-walled gullies and gulches where runoff from paved or covered surfaces is concentrated.

### **2.3.3 City Urban Center Unit**

The geologic description of the City Urban Center is based on the City-Wide Creeks and Management Plan prepared by the Biotic Resources Group (2002). The City of Santa Cruz can be divided fairly evenly into two geologic regimes split roughly at the San Lorenzo River where the Ben Lomond fault trends southeast to northwest. The geology on the west side of the San Lorenzo River is composed of a mix of granitic and metamorphic basement rocks overlain by a relatively thin layer of sedimentary rocks. The underlying geology on the east side of the San Lorenzo River, like the west side, is composed of a mix of granitic and metamorphic basement rocks. The east side basement rocks are overlain by a thick layer of sedimentary rocks and marine terraces up to hundreds of feet deep.

Most of the City of Santa Cruz sits primarily on marine sedimentary rocks, mainly sandstones and mudstones. These include the Purisima formation, which is a fine-grained sandstone formation that was deposited approximately two to six million years ago in a shallow marine environment. The slightly older Santa Cruz Mudstone formation is an even finer-grained silt/mud stone that was also deposited in a shallow marine or estuarine environment. Both of these formations underlie much of the City. Higher in elevation, particularly on the UCSC campus, other sedimentary formations such as limestone as well as the aforementioned metamorphic and igneous formations, begin to appear in outcroppings.

The San Lorenzo River and the other watercourses in the City incise the step-like series of marine terraces that typify the North Coast region. Much of the City sits upon the “first” marine terrace, typified by the flat areas that most of the westside and eastside neighborhoods sit upon. Above that is the “second” marine terrace, typified by the Westlake Pond area and the base of the UCSC campus, and also the DeLaveaga Park area on the eastside. Several additional marine terraces are discernable higher up on the UCSC campus. The downtown area of the City lies below the first marine terrace, within the floodplain of the San Lorenzo River, and is underlain by an approximately 40-foot deep layer of sediments that has been deposited by the San Lorenzo River over many centuries on top of another wave-cut marine terrace.

## **2.4 Soils**

The soils information presented in this section is based on the soil survey of Santa Cruz County, California, conducted by the Soil Conservation Service (U.S. Department of Agriculture 1980). The types of soil within the Plan Area vary widely based primarily on slope and underlying parent material.

### **2.4.1 Ben Lomond-Felton-Lompico Soils**

The Ben Lomond-Felton-Lompico soils form on mountains and hills predominantly under forest vegetation are deep to moderately deep and well drained or somewhat excessively drained. They have a surface layer of loam, sandy loam, or stony sandy loam. They formed in deposits derived from sandstone, shale, siltstone, and granitic rock. The soils are moderately sloping to extremely steep, ranging from 5 to 75 percent. The frost-free season ranges from 220 to 245 days. These soils compromise the majority of the Plan Area and are found along the mid and upper portions of the Majors, Laguna, Liddell, San Lorenzo River, Newell, Zayante, and Branciforte watersheds. The Ben-Lomond-Felton-Lompico Unit is about 35 percent Ben Lomond soils, 25 percent Felton soils, and 20 percent Lompico soils. The remaining 20 percent are soils and miscellaneous areas of minor extent.

### **2.4.2 Aptos-Los Osos-Fagan Soils**

The Aptos-Los Osos-Fagan soils form on mountains and hills predominantly underbrush vegetation and are deep to shallow and well-drained or somewhat excessively drained. They

have a surface layer of loam, stony loam, gravelly sandy loam, or shaly clay loam. They formed in deposits derived from sandstone, siltstone, or shale. The soils are moderately sloping to extremely steep. These soils are found within the North Coast Unit and comprise the mid to lower portions of the Majors, Laguna, and Liddell watersheds. The Aptos-Los Osos-Fagan Unit is about 45 percent Aptos soils, about 25 percent Los Osos soils, and about 13 percent Fagan soils. The remaining 17 percent are soils of minor extent. The Los Osos and Fagan soils are limited for use as homesites mainly because of the high shrink-swell potential, low strength, slope, and depth to rock. The Aptos soils are limited for this use mainly because of the moderate shrink-swell potential, slope, and depth to rock.

### **2.4.3 Watsonville-Elkhorn-Pinto Soils**

The Watsonville-Elkhorn-Pinto soils form on marine terraces, old alluvial fans, and adjacent hills (consisting of marine deposits, old alluvium, and weathered mudstone) are shallow to deep or very deep and well-drained to somewhat poorly drained. They have a surface layer of sandy loam, loam, or clay. The soils are nearly level to moderately steep. This map unit is about 45 percent Watsonville soils, 25 percent Elkhorn soils, 12 percent Pinto soils, and the remaining 18 percent are soils of minor extent. These soils are generally found in the lower portions of the Majors, Laguna, Liddell, San Lorenzo River, and Branciforte watersheds, as well as the majority of the Carbonera Creek watershed.

### **2.4.4 Zayante Soils**

The Zayante unit extends from east of Ben Lomond and Felton to Scotts Valley and is about one-half mile south of Cowell Redwood State Park. The soils in this unit formed in material derived from sandstone or in marine deposits, are very deep, moderately sloping to very steep, somewhat excessively drained coarse sands on hills and mountains. Elevation ranges from about 250 to 1,500 feet. Within the Plan Area, the Zayante Unit is found in the lower portions of the Newell Creek and Zayante watersheds, as well as in the San Lorenzo River watershed from just downstream of Ben Lomond to the edge of the City Urban Center. This unit is about 75 percent Zayante soils and the remaining 25 percent are soils of minor extent.

## **2.5 Hydrology**

### **2.5.1 North Coast Unit**

#### **2.5.1.1 Watersheds**

The Plan Area traverses numerous coastal draining watersheds before reaching the Coast Pump Station on the San Lorenzo River. The City currently operates and maintains flow diversions on Reggiardo, Liddell, Laguna and Majors creeks. In addition, there are several non-City operated diversions present throughout these watersheds. The delineated watersheds can be divided into primary and secondary watersheds, and the watercourses can generally be divided into two main



stream types: perennial and intermittent. The primary watersheds consist of the larger watersheds and are named for the primary watercourse or landscape feature. These include Liddell, Yellow Bank, Laguna, Majors, Scaroni, Baldwin, Lombardi Gulch, Sandy Flat Gulch, Wilder, Moore, Arroyo Seco, Pogonip, Lower San Lorenzo, and Urban San Lorenzo. The secondary watersheds are distinguished by the primary tributaries of other landscape features. These include East Branch Liddell Creek, Y Creek, Old Dairy Gulch, Peasley Gulch, Adams Creek, Cave Gulch, and Powder Mill Creek.

There are nine perennial streams within the Plan Area: Liddell Creek, East Branch Liddell Creek, Laguna Creek, Majors Creek, Gordola Creek, Baldwin Creek, Wilder Creek, one branch of Moore Creek, and Arroyo Seco Creek. These streams have flowing water year-round under average rainfall conditions. There are nine intermittent streams: Yellow Bank Creek, Y Creek, Scaroni Creek, Lombardi Gulch, Sandy Flat Gulch, Old Dairy Gulch, Peasley Gulch, the east branch of Moore Creek, and Pogonip Creek. These streams dry up during portions of the dry season and have under average rainfall conditions (Biotic Resources Group 2002). Information on watershed conditions, geomorphology and hydrology for Majors Creek, Laguna Creek, and Liddell Creek is presented below. Detailed watershed descriptions and hydrology are not provided for streams where the project has a minor influence such as a single pipeline crossing.

#### Liddell Creek

Liddell Creek is a second order stream that flows into the Pacific Ocean at Bonny Doon Beach along the North Coast area of Santa Cruz County directly south of Davenport. Liddell Creek drains in a southwest direction off of Ben Lomond Mountain. The watershed area is approximately 4.0 mi<sup>2</sup>. The elevation of the watershed ranges from 0 feet at the mouth to approximately 1,300 feet at its headwaters near Smith Grade Road. Liddell Creek consists of three distinct forks, the Middle, East, and West branches. The approximate stream channel length from the mouth of Liddell to the mainstem Liddell Creek headwaters is 3.2 miles. The City diversion on Liddell Creek is located at a springbox on a tributary to the East Branch of Liddell Creek near its headwaters, approximately 2.5 miles upstream from the mouth of Liddell Creek. The channel gradient from the diversion to the mouth is approximately 3 percent along the East Branch of Liddell Creek. Debris jams form multiple partial barriers and a complete anadromous fish migration barrier at a distance of 1.29 miles upstream from the creek mouth just downstream of the confluence of the Middle and East branches.

The Middle and East Branch Liddell watersheds are primarily (76 percent) composed of tertiary Marine sedimentary rocks. The Santa Cruz Mudstone makes up about 48 percent of the Middle and East Branch basins, and is composed primarily of silica-rich mudstones and sandy siltstones. About 26 percent of the watersheds are made up of the Santa Margarita sandstone, and the majority is concentrated in the upper East Branch watershed. The Santa Margarita formation consists of massive fine to coarse-grained arkosic sandstones with poor cementation of the sand grains. The Santa Margarita formation is weak and friable, and very erodible once the overlying soil layer is removed.

The channel on the East Branch contains large amounts of fine sediment, and bed particles have an average 85 percent embeddedness (Env. Science Assoc. 2001), which in part can be attributed to the large amount of highly erosive Santa Margarita sandstone.

Approximately 11 percent of the Middle and East Branch Liddell watersheds are composed of marble (metamorphosed limestone) outcrops. RMC Pacific Materials operates a marble quarry near the City's Liddell Spring Diversion near the headwaters of the East Branch Liddell Creek. Runoff from the marble quarry is routed through two sediment detention basins. The lower basin, which is the smaller of the two, failed in the winter of 1999-2000 and reportedly again in March 2001. The streambed below the basins is filled with fine sediment, potentially from the basins' failure or poor performance (Env. Science Assoc. 2001).

#### Laguna Creek

Laguna Creek is a second order stream that flows into the Pacific Ocean along the North Coast area of Santa Cruz County. Laguna Creek drains in a southwest direction off of Ben Lomond Mountain.

The watershed area is approximately 7.8 mi<sup>2</sup>. The elevation of the watershed ranges from 0 feet at the mouth to approximately 2,420 feet at its headwaters near Empire Grade Road. The approximate stream channel length from the mouth of Laguna Creek to its headwaters is 8.5 miles. The City diversion on Laguna Creek is directly upstream (0.1 mile) of the Reggiardo Creek confluence, which is approximately 4.2 miles upstream from the mouth of Laguna Creek. The channel gradient from the diversion to the mouth is about 3 percent, and the channel gradient upstream of the diversion to the headwaters is approximately 6 percent.

The channel from the Laguna Creek mouth to about mile 1.43 is low gradient ( $\approx$  1 percent) and moderately confined. At this point, a series of boulder cascades form a complete barrier to anadromous fish passage. In this reach, substrate is a mixture of sand, gravel, and cobbles, and aquatic instream cover is abundant and diverse. Above mile 1.43 to the City diversion, the channel gradient steepens to about 3.4 percent and the valley walls become more confined.

A significant portion of the Laguna Creek watershed is limestone and marble outcroppings, commonly referred to as karst topography. The karst topography has a significant influence on streamflow and summer baseflow by producing multiple springs within the watershed. The karst topography is also more resistant to erosion than other material in nearby watersheds, which results in reduced fine sediment loads. The Laguna watershed also has granitic formations that provide a good source of gravel and cobble. This is evident in the reaches downstream of the City's diversion where large cobble and gravel dominate the streambed substrate.

#### Majors Creek

Majors Creek is a second order stream that flows into the Pacific Ocean along the North Coast area of Santa Cruz County. Majors Creek drains in a southwest direction off of Ben Lomond Mountain. The elevation of the watershed ranges from 0 feet at the mouth to approximately 1800 feet at its headwaters near Felton peak. The approximate stream channel length from the mouth of Majors to its headwaters is 5.9 miles. The City diversion on Majors Creek is located approximately 2.2 miles upstream from the mouth of Majors Creek. The channel gradient from the diversion to the mouth is about 3 percent, and the channel gradient upstream of the diversion to the headwaters is approximately 6 percent.

Downstream of the diversion, the channel has a high gradient, as exemplified by a cascade and step pool bedform. The Rosgen channel type for the majority of the channel below the diversion is a B2/B5 (alternating between boulder and sand dominated). The channel has a low width-to-depth ratio, and is well-entrenched. (i.e., vertically contained within the valley), with little opportunity for over bank flows. About 0.7 mile upstream of the mouth, Majors enters a short reach (0.15 mile) of extremely steep (>10 percent gradient) bedrock and boulder cascades. This reach is an A1a+ Rosgen channel type and forms a complete barrier for fish passage at distance 0.71 mile upstream from the creek mouth. Downstream of the boulder cascade section, the channel gradient decreases and the channel becomes less entrenched as the valley walls widen. Majors Creek exhibits a moderate level of chronic and acute turbidity.

The dominating presence of sand in pools, high embeddedness of riffles, the sand deposition in the lee of boulders and large woody debris (LWD) is indicative of a transport-limited system, where the sediment supply is greater than the capacity of the stream to transport its sediment load (ENTRIX 2002). A large portion of the Majors Creek watershed is underlain by the Santa Margarita formation, which is composed of friable, fine to very coarse-grained sandstone (Brabb et al. 1997). The majority of the watershed upstream of the City's diversion is privately held and was historically logged for timber production. Old logging roads remain in several places in the watershed. These factors likely contribute to high fine sediment loads evident throughout the Majors Creek system. About 2000 feet below the City's diversion, Majors Creek begins flowing through a zone dominated by igneous, quartz diorite rock. The quartz diorite is more resistant to erosion relative to other rocks within the watershed, and leads to a more confined, steep valley wall section with a high gradient. It may also serve as a good source of gravel, which was evident in the anadromous reach during a habitat characterization conducted in 2003.

#### **2.5.1.2 Water Quality**

Little water quality data are available for the coastal streams. Turbidity and suspended sediment data were recently collected (Env. Science Assoc. 2001) on Yellow Bank, Liddell, and Laguna creeks. Turbidity is a measure of the optical property of water that scatters light and is directly related to the presence of dissolved and suspended particulate matter. Suspended sediment is carried in suspension by streamflow. Generally, as streamflow increases, turbidity and suspended sediment increase. The Env. Science Assoc. (2001) study found that Yellow Bank Creek had the highest turbidity of the three streams, Laguna Creek had the lowest turbidity, and Liddell Creek was between the two. The higher turbidity of Yellow Bank Creek is most likely related to the lithology of the watershed, which is dominated to a greater extent by sedimentary rock in comparison to Liddell and Laguna creeks, which are partially composed of metamorphic and igneous rock. The lower density sedimentary rocks, particularly Santa Cruz Mudstone, readily break down into silts and clays, which tend to have a disproportionately large influence on turbidity levels.

The amount and type of development in a watershed would also influence turbidity and suspended sediment levels. Liddell Creek was identified in the Env. Science Assoc. (2001) study as having experienced the most disturbance, manifest as very high acute turbidity and moderate chronic turbidity, in comparison to other coastal draining streams in the Davenport



area. Disturbance of the Santa Margarita Sandstone formation due to mining, roads, and the existing water pipeline are cited as sources of accelerated turbidity.

Yellow Bank Creek is also characterized as a disturbed watershed with high chronic and acute turbidity. The channel was observed to be incised (Env. Science Assoc. 2001), and an active knickpoint was identified 100 feet downstream of the City's water pipeline. The incision process is believed to be responsible for the high chronic and acute turbidity levels. Laguna Creek is described as having a moderate level of chronic and acute turbidity. Laguna Road along Y Creek (a tributary to Laguna Creek) and incision on Y Creek through the Santa Margarita Sandstone formation have been cited as accelerated sources of turbidity to Laguna Creek (Env. Science Assoc. 2001).

A key issue in both the Liddell and Majors creek watersheds is the substantial area in the upper watersheds composed of the erosive Santa Margarita formation and areas of historical or current ground disturbance (e.g., RMC Pacific Materials Quarry and historic logging on private lands). These streams receive a sediment load that is greater than the current managed hydrologic flow regime can adequately flush from the system. These factors in combination result in the deposition of substantial amounts of sediment in the non-anadromous reaches. Lack of gaged records to determine storm-flow and sediment transport dynamics is also an issue.

## **2.6 Terrestrial Habitat Types**

### **2.6.1 North Coast Unit, San Lorenzo River Watershed Unit and Urban City Center Unit**

#### **2.6.1.1 Woodland and Forest Series**

##### Redwood Forest

Redwood Forest is regionally abundant from southern San Mateo County through Santa Cruz County at elevations from sea level to 3,000 feet (Holland 1986). Secondary growth redwood forest occurs primarily on the lower slopes of drainages in Liddell Creek, Yellow Bank Creek, Laguna Creek and Majors Creek within the North Coast Unit. In other units, Redwood Forest occurs along the upper reaches of San Lorenzo River and its tributaries, portions of upper Branciforte Creek, Pogonip Creek, and upper tributaries of Arana Creek. Coast redwood (*Sequoia sempervirens*) is the dominant tree, with Douglas fir (*Pseudotsuga menziesii*) and tan oak (*Lithocarpus densiflorus*) as associates in many areas. In moister areas, bigleaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*) may also be present.

Characteristic understory species include redwood sorrel (*Oxalis oregana*), elk clover (*Aralia californica*), western sword fern (*Polystichum munitum*), and starflower (*Trientalis latifolia*).

##### Mixed Conifer Forest

Mixed Conifer Forest occurs primarily on the north-facing slopes of drainages in the upper parts of Liddell and Laguna Creeks (North Coast Unit), some upper tributaries of the San Lorenzo

River (San Lorenzo River Watershed Unit). Conifers in this plant community include Douglas fir, coast redwood, and knobcone pine (*Pinus attenuata*).

#### Mixed Evergreen Forest

Mixed Evergreen Forest occurs from Santa Cruz County northward through the outer Coast Ranges into Oregon, usually away from the immediate coast at elevations from 200 to 4,000 feet (Holland 1986).

In the Plan Area, mixed evergreen forest is found on moist, well-drained slopes, often above the redwood forest, such as the Liddell, Laguna, and Majors Creek watersheds. Broad-leaved trees generally range from 30 to 90 feet in height. Taller conifers may be interspersed. Community dominants include coast live oak (*Quercus agrifolia*), madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*). Associated species include California buckeye (*Aesculus californica*) and blue elderberry (*Sambucus mexicana*). Coast redwood, tan bark oak, Douglas fir, and canyon live oak (*Quercus chrysolepis*) may also occur within this community.

#### Central Coast Live Oak Woodland

Central Coast Live Oak Woodland is distributed from Sonoma County to Santa Barbara County, generally below 3,000 feet (Holland 1986). This woodland type occurs as an upland community on the hilltop edges of conifer communities in the Plan Area. Coast live oak (*Quercus agrifolia*) is the dominant tree intermixed with tan bark oak, California bay (*Umbellularia californica*), blue elderberry (*Sambucus mexicana*), California buckeye (*Aesculus californica*), and madrone (*Arbutus menziesii*). Understory species include bedstraw (*Galium aparine*), western poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and coyote brush (*Baccharis pilularis*), and snowberry (*Symphoricarpos mollis*).

### **2.6.1.2 Riparian Forest**

#### Central Coast Arroyo Willow Riparian Forest

Central Coast Arroyo Willow Riparian Forest is distributed from Monterey south to Santa Barbara (Holland 1986). In the Plan Area, this community is found in the smaller drainages along Highway 1 and at scattered locations along Liddell Creek, Laguna Creek, Majors Creek, Peasley Gulch, and Wilder Creek within the North Coast Unit and along Moore Creek and Arana Creek within the Urban City Central Unit. Central Coast arroyo willow riparian forest occurs in scattered locations along most drainages in the Plan Area. This community forms a dense thicket of arroyo willow (*Salix lasiolepis*), often associated with red alder (*Alnus rubra*), California blackberry, rush (*Juncus* spp.), and nettle (*Urtica dioica*).

#### Coast Live Oak Riparian Forest

Some riparian areas within the Plan Area are dominated by coast live oaks, such as along Moore Creek and tributaries (City Urban Center Unit). Coast live oaks intermix with California buckeye (*Aesculus californica*) and understory plants such as poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), and snowberry (*Symphoricarpos mollis*).

### Red Alder Riparian Forest

Red Alder Riparian Forest is distributed on streambanks along the immediate coast from northernmost San Luis Obispo County to Cape Mendocino in Humboldt County (Holland 1986). This forest type occurs in patches along Liddell, Laguna, and Majors Creek in the Plan Area (North Coast Unit). Red alder (*Alnus rubra*), reaching heights of up to 80 feet, dominates this forest. Stands near streams may be almost entirely composed of red alder, while sites removed from frequent stream disturbance often have dense shrub layers. Red elderberry (*Sambucus racemosa* var. *racemosa*) and willow (*Salix spp.*) also occur in the community. In the Plan Area, this forest type occurs in the canyons and is often obscured from above by the upper canopy of coniferous trees.

## **2.6.1.3 Coastal Scrub and Coyote Brush Scrub**

### Coyote Brush Scrub

Coyote Brush Scrub is distributed from southern Oregon to San Mateo County and from Pacific Grove to Point Sur (Holland 1986). This early successional community occurs throughout the Plan Area along Highway 1 and on hillsides, often encroaching into historically grazed grasslands. Coyote brush scrub consists of a dense to moderately open shrub canopy with a sparse herbaceous understory. The dominant shrub in this community is coyote brush. Poison oak (*Toxicodendron diversilum*) is also common.

### Coastal Scrub

Coastal scrub occupies the steep hillsides, often with thin soil profiles, along coastal arroyos within the Plan Area. Common shrub species include poison oak (*Toxicodendron diversilobum*), blue blossom (*Ceanothus thyrsiflorus*), coffeeberry (*Frangula californica*), coyote brush (*Baccharis pilularis*), and California sagebrush (*Artemisia californica*). Subshrubs and herbaceous species include California blackberry (*Rubus ursinus*), bracken fern (*Pteridium aquilinum*), naked stemmed buckwheat (*Eriogonum nudum*), soap plant (*Chlorogalum pomeridianum*) and California figwort (*Scrophularia californica* ssp. *californica*).

## **2.6.1.4 Grasslands and Artificial Ponds**

### Annual Grassland

Annual Grassland are distributed throughout the valleys and foothills of most of California, except for the north coastal and desert regions, usually below 3,000 feet and range from Oregon to northern Baja California (Holland 1986). In the Plan Area, annual grassland comprises a dense to sparse cover of non-native grasses often associated with numerous annual and perennial herbaceous forbs and occasional native grasses. Species in this community include numerous common non-native annual grasses, including, Italian ryegrass (*Lolium multiflorum*), bromes (*Bromus hordeaceus*, *B. diandrus*, and *B. madritensis* ssp. *rubens*), rattail fescue (*Vulpia myuros*), wild oat (*Avena barbata*), and rattlesnake grasses (*Briza major* and *B. minor*). Associated forbs include a mixture of native and non-native species, including Italian thistle (*Carduus pycnocephalus*), black mustard (*Brassica nigra*), California poppy (*Eschscholzia*



*californica*), tarweed (*Madia* sp.), clovers (*Trifolium* spp.), and filaree (*Erodium botrys*, *E. cicutarium*).

A rush meadow community occurs in patches along the existing pipeline on the marine terraces east of Majors Creek. This community occurs within annual grassland.

#### Native Grassland

Stands of native perennial grasses occur intermingled with annual grassland in the Plan Area in the Laguna Creek and Majors Creek watersheds (North Coast Unit). Within the City Urban Center Unit native grassland occurs on the slopes just west of the City of Santa Cruz in the Moore Creek Preserve, within portions of Pogonip, and within the Arana Gulch Greenbelt. Native grasses include purple needlegrass (*Stipa pulchra*), California oatgrass (*Danthonia californica*), and California brome (*Bromus carinatus*). Associated forbs are numerous and can include common species such as California poppy (*Eschscholzia californica*), California buttercup (*Ranunculus californica*), blue-eyed grass (*Sisyrinchium bellum*), and checkerbloom (*Sidalcea malvaeflora*) as well as uncommon species, such as San Francisco popcornflower (*Plagiobothrys diffusus*), Santa Cruz clover (*Trifolium buckwestiorum*), purple star lily (*Calochortus uniflorus*), and Santa Cruz tarplant (*Holocarpha macradenia*).

#### Freshwater Ponds

Freshwater Ponds are present in the Plan Area along Highway 1. These artificial ponds support primarily California bulrush (*Scirpus californicus*) and cattail (*Typha latifolia*).

### **2.6.1.5 Disturbed Areas**

#### Urban, Industrial, and Agriculture

Urban, Industrial, and Agriculture areas delineated as urban include residential housing, ornamental trees (including native species planted in rural areas), landscaping plants, and rural vegetable gardens. This category also includes some roads in non-urban parts of the Plan Area.

Disturbed areas are mostly bare of vegetation due to activities such as sand mining and row crop agriculture. Lands designated as agricultural include the farm fields on the lower marine terraces along Highway 1.

### **2.6.1.6 Wetlands**

Specific wetland types identified in the Plan Area include riverine (rivers, creeks, and streams), palustrine (shallow ponds, marshes, swamps, sloughs), and lacustrine (lakes and deep ponds). Specific wetland and deepwater classes within the Plan Area are described below using the Cowardin classification system.

#### Riverine Upper Perennial

Riverine Upper Perennial habitat within the Plan Area includes the open and flowing water of East Branch of Liddell, Yellow Bank, Y, Laguna, and Majors creeks (North Coast Unit).

Additional small areas of riverine upper perennial habitat occur where the proposed north coast pipeline crosses other perennial streams along Highway 1. Other perennial streams in the Plan Area, such as the San Lorenzo River and Branciforte Creek also have open and flowing water. This habitat consists of the permanently flooded rock-, cobble-, or sand-bottom channel with little to no in stream vegetation. Occasional sandbars form within and at the channel edge and typically support willows and emergent (grasses and herbs) vegetation. These portions of the perennial streams in the Plan Area would be classified as wetland in the Cowardin classification system. Channel portions that lie at a depth of 2 meters below low water would be considered deepwater. No deep-water habitats occur in the immediate vicinity of the Plan Area. The channels of these creeks below the ordinary high water mark would likely be considered to be other waters of the United States by the U. S. Army Corps of Engineers (Corps), and would be subject to Corps jurisdiction.

#### Palustrine Emergent

Palustrine Emergent habitat includes grassland meadows and freshwater seeps. This habitat type is found at a few scattered locations in the Plan Area. Soils generally remain saturated year-round or on a seasonal basis. Vegetation is dominated by grasses, sedges, rushes, and perennial herbs. These communities are typically considered wetlands under the Cowardin classification system, but may be classified as either non-jurisdictional or jurisdictional wetlands by the Corps, depending on site-specific vegetation, soils, and hydrologic conditions.

#### Palustrine Forests

Palustrine Forests are found along most of the major creeks and their tributaries in the Plan Area. In the Plan Area, these are primarily red alder riparian forest and Central Coast arroyo willow riparian forest. Substrate under the palustrine forest community varies from rock, gravel, sand, clays, loams, and mud. Palustrine forests are classified as wetlands based on the Cowardin classification system. These areas may be classified as either non-jurisdictional or jurisdictional wetlands or as jurisdictional other waters of the United States by the Corps, depending on site-specific vegetation, soils, and hydrologic conditions.

#### Palustrine Scrub Shrub

Palustrine Scrub Shrub is found in the Plan Area along the lower reaches of Laguna Creek, as well as in several drainages along Highway 1. This habitat is regularly inundated by normal high-water or flood flows. In the Plan Area, habitat is primarily represented by Central Coast arroyo willow riparian vegetation and often intergrades with riparian (palustrine forest) communities. Central Coast arroyo willow riparian scrub vegetation may be classified as either non-jurisdictional or jurisdictional wetlands or as jurisdictional other waters of the United States by the Corps, depending on site-specific vegetation, soils, and hydrologic conditions.

## 2.7 Covered Species

### 2.7.1 Ben Lomond Spineflower (*Chorizanthe pungens* var. *hartwegiana*)

#### Status and Distribution

The BLS was listed as endangered by the Service in 1994. Threats include habitat destruction from residential and golf course development, agricultural land conversion, sand mining, and encroachment by invasive plant species (USFWS 1994a). BLS is restricted in distribution to Zayante sandhills. The central range of the species is generally bounded by the communities of Ben Lomond, Glenwood, Scotts Valley, and Felton, with outlying populations located near Bonny Doon, Boulder Creek, Big Basin Redwoods State Park, and Gray Whale Ranch State Park (USFWS 2007a). Two new occurrences and three new populations have been documented since the original listing; all of these occur within the known range of the species. The Service published a recovery plan for BLS in 1998 (USFWS 1998) and a 5-year review (USFWS 2007a).

#### Habitat Characteristics

In California, the spineflower genus (*Chorizanthe*) in the buckwheat family (*Polygonaceae*) comprises species of wiry annual herbs that inhabit dry sandy soils along the coast and inland. BLS is endemic to the sandhills of Santa Cruz County.

Experimental research has implicated shade intolerance as the primary cause for the restriction of the BLS to the sandhills. Though the spineflower can grow and reproduce in soils of the adjacent oak woodland and redwood forest, plants grew poorly and had much reduced fecundity under low light levels characteristics of this vegetation. Even within the sandhills, the distribution of the BLS is restricted due to light competition. Plants are found in most areas lacking overstory vegetation in both silverleaf manzanita chaparral and sand parkland communities. In silverleaf manzanita chaparral, which is dominated by shrubs (*Arctostaphylos silvicola*, *Ceanothus cuneatus*, and *Adenostoma fasciculatum*) and oak trees (*Quercus agrifolia*, *Q. wislizenii*), the BLS is found along trails and in other gaps in shrub canopy.

The sand parkland community supports the largest populations of BLS. The spineflower is abundant in the herbaceous layer except under trees and shrubs. Experiments examining the mechanism for this restricted distribution confirmed the effect of shade in reducing growth and fecundity, but also showed that tree litter on the soil surface almost completely prevented plant establishment and therefore has an over-riding negative effect on BLS population growth. In their preferred habitat away from trees and shrubs, populations of the BLS are reduced by dense non-native annual plants. Rat-tail fescue (*Vulpia myuros*), smooth cat's ears (*Hypochaeris glabra*), rip-gut brome (*Bromus diandrus*), and other European annual grasses and forbs are widespread in the sandhills and patchily abundant in the sand parkland community. A sampling study revealed that BLS abundance is negatively correlated with the density of exotic annual plants, while an experiment showed that exotic plants reduce the survivorship and fecundity of the spineflower. Research by McGraw found clearing of accumulated litter on the soil surface in the absence of fire is critical to maintain the open environment required by BLS and prevent encroachment by woody native species and non-native annual grasses which leads to habitat type conversion (USFWS 2007a).



In habitat lacking overstory vegetation, the BLS is preferentially found on soil disturbances in the sandhills including slides, trails, and gopher mounds. Slides or washes, which result from the erosion (gravity, wind, water) of loose soil on steep slopes (>35%) are common in sand parkland and comprise more than 16% of the habitat (Section 3.7). BLS density and cover is higher on slides than on the adjacent, undisturbed habitat. An experiment showed that slides increased the demographic performance of the BLS by removing accumulated leaf litter and reducing exotic plant competition. Covering an average of 9% of the sand parkland habitat, wildlife trails similarly enhance populations of the BLS. Plant size and total cover of BLS is greater on and immediately adjacent to trails than on the adjacent, undisturbed area. Experimental manipulations of trails revealed that it is the removal of leaf litter and reduction of exotic plant density that increases spineflower performance on trails. Gopher mounds, which cover an estimated 11% of the sand parkland habitat, similarly facilitated BLS demography. Interestingly, experimental manipulations showed that gopher mounds enhanced spineflower not only by removing litter and reducing non-native plant competition, but also by enhancing nutrient availability (McGraw et al. 2004).

#### Occurrences Within the Plan Area

As a sandhills endemic, the BLS is restricted to the Zayante soils of Santa Cruz County near the towns of Ben Lomond, Olympia, Scotts Valley, Felton, Bonny Doon, Zayante, and Boulder Creek. Because of the patchy and limited distribution of Zayante soils, many species of *Chorizanthe* tend to be highly localized in their distribution (McGraw et al. 2004). BLS is found throughout the areas of Santa Cruz County characterized by these soils. In particular, BLS is present on the Bonny Doon mitigation site on the City's Laguna Creek watershed property (Lyons 2011). Like other areas where BLS is found, this area is characterized by bare sandy soils conducive to BLS. BLS is also found on the adjacent DFG Reserve and potentially adjacent to City water pipeline rights of way in the Ben Lomond area (Berry, personal observation, 2009). These occurrences are located in the North Coast Unit. No occurrences are known from the San Lorenzo River Watershed Unit or the City Urban Center Unit.

### **2.7.2 Robust Spineflower (*Chorizanthe robusta* var. *robusta*)**

#### Status and Distribution

The robust spineflower was listed as endangered by the Service in 1994 due to habitat destruction from residential and golf course development, agricultural land conversion, sand mining, military activities, and encroachment by invasive plant species. Robust spineflower is endemic to sandy soils of coastal and near coastal habitats in Santa Cruz County.

Robust spineflower was first described by Charles Parry in 1889 based on a collection made 6 years earlier "north of Aptos along Monterey Bay" (Parry 1889). Willis Jepson considered it to be a variety of *C. pungens* and combined the taxon under the name *C. pungens* var. *robusta* in his Flora of California in 1914 (Jepson 1914). In their revision of the genus in 1989, Reveal and Hardham (1989) recognized Parry's treatment and retained the taxon as *C. robusta*.

Occurrences of robust spineflower populations have been recorded since the late 1800's, occurring from sandy and gravelly soils as far north as San Francisco and Alameda Counties, and

south into Monterey County. Inland occurrences were documented in and around San Jose and Los Gatos in Santa Clara County. Coastal and near coastal occurrences have been documented in San Mateo County and Santa Cruz County where it is found today. Many of the areas from which collections were made in Alameda and San Mateo Counties were urbanized, and no new collections were made from there or from Monterey County for 30 years (Ertter 1990). As with *C. pungens* var. *pungens*, the coastal dune and scrub communities were affected by recreational use, urban development, and military activities, and the coastal plain vegetation of the Salinas Valley was converted to agricultural crops. At the time of listing in 1994, the only known extant populations occurred northeast of the city of Santa Cruz on property recently acquired by the city from the University of California and near Sunset and Manresa State Beaches, approximately 12 miles away. The total number of individuals of the plant was estimated to be less than 7,000 in 1990. In 1994, robust spineflower was found over a 12-mile range in Santa Cruz County. Currently there are 11 populations in Santa Cruz County over a range of approximately 21 miles.

In the listing decision, the Service added the entire species of *C. robusta* (inclusive of *C. robusta* var. *hartwegii* and *C. robusta* var. *robusta*) to the endangered species list.

#### Habitat Characteristics

Robust spineflower is associated with sandy, open microhabitats within a variety of plant communities, including coastal scrub, maritime chaparral, oak woodland, and annual grassland. Associated species vary from location to location, but plants consistently are found in sunny openings that are relatively sparsely vegetated by other herbs. In at least one location, spineflower plants occur among sparse nonnative grasses in an area regularly used unofficially as a bike park. Frequent disturbance may prevent the dense growth of grasses at this location, which would reduce or eliminate spineflower habitat (H.T. Harvey 2004). Robust spineflower is pollinated by a variety of insects and is also capable of self-pollination. A study by Murphy (2003) revealed that insect pollination significantly increased seed set for robust spineflower, suggesting that pollinators may enhance its overall fitness. In 2005, Baron and Bros published a study investigating the effects of insect herbivory on robust spineflower (Baron and Bros 2005). They concluded that insect herbivores (in this case, the larvae of an undescribed moth species of the genus *Aroga* (Gelechiidae)) reduced plant size and significantly decreased seed production of *C. robusta* var. *robusta*. Leaf removal by insects also compromises robust spineflower's ability to obtain resources potentially affecting the plant's ability to grow and reproduce. In addition, brush rabbits (*Sylvilagus bachmani*) browsing on robust spineflower removed mature seed heads from 11 percent of the study plants, eliminating their reproductive potential (USFWS 2010a). In 2003, a genetic study was initiated and funded by the Service to investigate two listed *Chorizanthe* taxa, *C. pungens* var. *pungens* and *C. robusta* var. *robusta*. One of the significant findings of the study revealed the homogeneity of ITS sequences between robust spineflower and *C. pungens* var. *pungens*, and significant sharing of their cpDNA haplotypes. The study determined that the two are indistinguishable from each other with any certainty, based on the ITS sequences alone. Furthermore, they documented an instance where a robust spineflower from the backdune of Sunset State Beach had an identical ITS sequence as a Monterey spineflower taken from the foredune. These data suggest that the *C. pungens*/*C. robusta* complex has only recently evolved and may not yet merit division into two separate species. The study results revealed a high degree of evolutionary adaptation and recent change for the

*Pungentes* subsection of *Chorizanthe*. They suggest that the minor morphological and genetic differences between plants are helpful in adapting to changing environments, emphasizing the importance of protecting multiple, small, and sometimes genetically diverse populations. Further deterioration of genetic composition through the loss of habitat or introduction of outside genetic material should be avoided (USFWS 2010a).

#### Occurrences Within the Plan Area

Two populations of robust spineflower are located with the City Urban Center Unit. These populations occur within the City of Santa Cruz (Pogonip Park population and Branciforte population). At Pogonip robust spineflower occurs in two colonies; along the Pogonip Creek Trail and along the Brayshaw Trail. The City Parks and Recreation Department conducts an annual census of the population and implements habitat management actions; primary management actions are the control of invasive, non-native species, control of non-native grasses, and creation of open sandy areas adjacent to the colonies to create additional habitat for the species to colonize. In 2011, 2,138 plants were documented from the Pogonip. In 2012, there were 757 plants. In 2013, there were 227 plants. In 2014 there were 501 plants. In 2015 there were 181 (Lyons, personal communication, 2016).

One population of robust spineflower occurs north of Wilder Ranch State Park on private land within the Laguna Creek watershed (North Coast Unit). No survey records are available for much of this watershed. Limited areas of sandy soils occur within remnant coastal terrace prairie and open coastal scrub habitats along the North Coast Pipeline alignment. These areas potentially support robust spineflower. The Zayante and Newell Creek Watershed Lands are out of the expected range of this species.

Approximately 152 acres of critical habitat for this species is located at Pogonip Park and an additional 4 acres of critical habitat is located on private land within City limits, at the Market Street site (USFWS Branciforte Unit) (H.T. Harvey 2004).

### **2.7.3 Santa Cruz Tarplant (*Holocarpha macradenia*)**

#### Status and Distribution

Santa Cruz tarplant, an aromatic annual herb in the aster (Asteraceae) family, is one of only four species of *Holocarpha*, which are all geographically restricted to California.

Santa Cruz tarplant was listed as threatened by the Service in 2000 due to alteration and destruction of habitat from historic and ongoing urban and commercial development, historic habitat alteration due to grazing, changes in fire dynamics, limited success of seed transplant populations, and competition from nonnative plants (USFWS 2000; USFWS 2002a). Santa Cruz tarplant is currently known from coastal grasslands and prairies in Contra Costa, Santa Cruz, and Monterey Counties, California. Habitat for Santa Cruz tarplant historically consisted of grasslands and prairies found on coastal terraces below 100 meters (m) (330 feet (ft)) in elevation, from Monterey County, north to Marin County (H.T. Harvey and Associates and Entomological Consulting 2004). The current number of natural populations is 14. In Contra Costa County, habitat for the last naturally occurring population in the San Francisco Bay area was converted to a shopping center in 1993. Seeds taken from the population were transplanted



to 22 locations in suitable habitat located in Wildcat Canyon Regional Park in Contra Costa County. Eight of the 22 locations have supported persistent populations over the years. As of 2010 four to the eight populations have not contained any plants (USFWS 2014). In Monterey County, one population occurs on the Porter Ranch, south of the Santa Cruz County line and the City of Watsonville. In Santa Cruz County, 13 natural populations are known; seven occur in and around the City of Santa Cruz (Arana Gulch, DeLaveaga, Fairway Drive, Graham Hill Road, O'Neil/Tan. Twin Lakes, and Winkle) and six populations occur in and around the City of Watsonville (Apple Hill, Atkinson Lane, Harkins Slough, Spring Hills Golf Course, Struve Slough, and Watsonville Airport).

#### Habitat Characteristics

Historically a member of the coastal prairie community, Santa Cruz tarplant is now most frequently found within non-native annual grassland. Common associates include wild oat (*Avena barbata*), hare barley (*Hordeum murinum*), rattlesnake grasses (*Briza major* and *B. minor*), and other introduced grasses. Native associates include California oatgrass (*Danthonia californica*), rushes, and other tarplants in the genus *Hemizonia*. Populations occur on sandy or sandy-loam soils on marine terrace platforms that are often separated by steep gulches (H.T. Harvey 2004). Because the soils where *Holocarpha macradenia* occurs typically include this subsurface clay component, they hold moisture longer into the growing season compared to the surrounding sandy soils; moisture may also be perched over the sandstone/mudstone terrace deposit. As a summer-blooming species, *H. macradenia* may benefit from this late season moisture (USFWS 2002a).

#### Occurrences Within the Plan Area

In the City Urban Center Unit, Santa Cruz tarplant exists on flat to gently sloping marine terrace platforms that are often separated by steep-sided gulches. A series of populations occur on older marine terraces inland from the communities of Santa Cruz and Soquel; these terraces range in elevation from about 34 to 122 m (110 to 400 ft). Two populations (Arana Gulch and Twin Lakes) occur on a more recent marine terrace at lower elevations (12 to 18 m (40 to 60 ft)) and closer to the ocean. In the Watsonville area in Santa Cruz County, a series of Santa Cruz tarplant populations occur on a low-lying marine terrace (15 to 37 m (50 to 120 ft) in elevation) that is bisected by Harkins Slough, Hanson Slough, and Struve Slough; the close proximity of these populations suggest that they were once part of a larger population that has since been fragmented by changes in land use over the past 100 years. Approximately 6.4 km (4 mi) north of Watsonville, several Santa Cruz tarplant populations are located on a marine terrace 55 m (180 ft) in elevation (USFWS 2002a). Of the 13 populations of Santa Cruz tarplant occurring along Monterey Bay, one is located within the City of Santa Cruz. The Arana Gulch population occurs just north of the yacht harbor within the Arana Gulch Greenbelt area, on property acquired by the City in 1994. A former cattle pasture, the land has not been grazed since 1986 and currently supports a weedy annual community dominated by wild oat, wild radish (*Raphanus sativa*), and field mustard (*Brassica* spp., *Hirschfeldia incana*). Competition from these species resulted in severe declines in Santa Cruz tarplant population numbers in the early 1990's; active management of annual grasses has since allowed the population to rebound; however currently the number of plants is low (38 plants were documented in 2011) with plant distribution limited to just one of the four historic colonies (Lyons 2013).

The City of Santa Cruz Parks and Recreation Department implements an Interim Tarplant Management Program within the known and historic tarplant areas which currently consists of seasonal mowing and raking, and periodic ground disturbances to create suitable growing conditions for the species. The City is preparing a long-term Arana Gulch Master Plan, with an updated tarplant management program, and recently certified an EIR for a proposed bike path through the greenbelt. A 65-acre parcel at Arana Gulch was designated as Critical Habitat for Santa Cruz tarplant in October 2002. An additional population occurs at DeLaveaga Park, on lands managed by the California Air National Guard. A population on Graham Hill Road is present on 35 acres of privately owned coastal terrace prairie on the west side of Graham Hill Road, about one mile north of the city of Santa Cruz in Santa Cruz County. This Santa Cruz tarplant population represents the western limit of the cluster of populations that are found at the northern end of Monterey Bay. In 1994, this population numbered 12,000 individuals. By 2001, it had declined to about 500 individuals (USFWS 2002a). Suitable habitat for tarplant may also be present along pipeline rights of way in the North Coast unit (H.T. Harvey 2004).

#### **2.7.4 San Francisco Popcornflower (*Plagiobothrys diffusus*)**

##### Status and Distribution

San Francisco popcornflower is a small annual herb native to coastal prairies of central California. Once ranging north to San Francisco, this species is now restricted to approximately seven populations in Santa Cruz County and several unconfirmed occurrences in Alameda County. The species is known to occur on public and private lands in the City of Scotts Valley, on private lands in the western portion of the City of Santa Cruz (Meder Street area), UCSC, Moore Creek Preserve, and on private lands near Wilder Ranch State Park. Threats to popcornflower include grading, erosion and competition with non-native grass growth and invasive plants. San Francisco popcornflower was listed as Endangered under the state ESA in 1979 and is a federal Species of Concern.

##### Habitat Characteristics

San Francisco popcornflower is an uncommon associate of the coastal prairie plant community. Plants are frequently found in association with California oat-grass (*Danthonia californica*), purple needle grass (*Stipa pulchra*), suncup (*Camissonia ovata*), western rush (*Juncus occidentalis*), and California blue-eyed grass (*Sisyrinchium bellum*). This species is favored by moist conditions, preferring poorly-drained, sandy-loam soils, often growing in mesic zones at the edge of the coastal terrace. Populations of San Francisco popcornflower, like all annual species, fluctuate widely from year to year. Plants depend on an intact soil seedbank to weather years of unfavorable environmental conditions, including infestations of non-native grasses, which outcompete the short-statured popcornflower. Related species have known to persist in the seedbank for at least seven years. Habitat management actions at Moore Creek Preserve have found that San Francisco popcorn flower benefits from cattle grazing wherein grazing reduces the cover of non-native grasses and forbs. Observations at other locations have found browsing by other animals, such as horses and rabbits, also reduces the cover of annual grasses, thus creating open growing conditions suitable for the species (Lyons 2015). Many of the rarest plant species (including *P. diffusus*) in the coastal prairie exist mainly on land currently

being grazed by livestock; these species have been disappearing when land is set aside for conservation and the livestock are removed (Hayes and Holl 2003).

#### Occurrences Within the Plan Area

Within the City Urban Center Unit, one population is located within vernal pool-mima mound topography at UCSC Marshall Field; a colony also occurs amid a similar mima mound complex near Wilder Ranch State Park. Other populations occupy mesic zones along the edge of coastal terraces in the western portion of the City of Santa Cruz (Meder Street area and at Moore Creek Preserve).

Populations are also known to occur within the Laguna Creek watershed (North Coast Unit).

Two of the populations of San Francisco popcornflower within the City Urban Center Unit are located on protected lands. A large population, consisting of 26 colonies is located within the Moore Creek Preserve near the end of Meder Road and between Wilder and Moore Creeks. The population has ranged from a high of approximately 1,840 plants in 2005 to a low of 83 plants documented in 2011 (in 9 colonies). The grassland is managed by the City as an open space preserve and the site is grazed by cattle; however additional grazing within popcornflower areas is being recommended to the City to improve habitat conditions for the species. A second, smaller population averaging 200 individuals occurs at “Haunted Meadow”, a meadow along the Fern Trail in Pogonip (Lyons 2015). The California Natural Diversity Database also documents an occurrence (last observed in 1941) near Empire Grade Road on private land north of the City (H.T. Harvey 2004).

### **2.7.5 Ohlone Tiger Beetle (*Cicindela ohlone*)**

#### Status and Distribution

The Ohlone Tiger beetle (OTB) was recognized as an endangered species by the Service (2001a) in 2001 because of loss of habitat and threats to remaining sites known to support the beetle. The OTB inhabits remnants of coastal prairie habitats in coastal portions of Santa Cruz County.

The Ohlone Tiger beetle was described in 1993 by Freitag, Kavanaugh, and Morgan (1993). Their description of this new species was based on specimens collected from three sites in west central Santa Cruz County between 1987 and 1992. Subsequent to the authors' submission of their paper, the beetle has been found at about 17 locations, which may represent distinct populations, or because of the proximity of several sites, may actually represent only 5 or 6 distinct populations of the OTB. Today, the beetle is known from only 8 of these 17 locations.

#### Life History

Adult tiger beetles possess elongate, cylindrical bodies. They are usually brightly colored, often with a metallic or iridescent sheen. Their eyes and sickle-shaped mandibles (i.e., jaws) are very prominent. Together, their eyes and head are wider than the thorax. They possess long, cursorial legs that are characterized by numerous spines. Adults are typically about 15-25 mm. in length.

*Cicindela ohlone* is most closely related to *C. purpurea*, which is commonly known as the Cow Path Tiger beetle because it is found along cattle trails in meadows of the Sierra Nevada. The OTB can be distinguished from this and related species by its overall size, the color and maculation patterns on its thorax and elytra, and its genitalic features. The OTB's body color is a brilliant green, with gold maculations. Freitag, Kavanaugh, and Morgan (1993) illustrate the maculation pattern characteristic of *C. ohlone* and the diagnostic features of its genitalia. In addition, the winter-spring activity period of the OTB is distinctive, as most tiger beetles in coastal California are active in the spring and summer months (Nagano 1980).

Larvae of tiger beetles are much more uniform in appearance than adults. They have an eruciform (i.e., grub-like) appearance. The head and pronotum are strongly chitinated, and the fifth abdominal segment possesses a pair of medial hooks that are used as anchors to secure the larvae as they reach out from the tunnel to ambush prey.

The diurnally active adults and larvae of *C. ohlone* are associated with sunny areas of bare or sparsely vegetated ground. Adults run rapidly in and near the larval habitat. They are strong flyers for short distances. OTBs adults are active during the winter and spring months, and favor microhabitats that are sparsely vegetated. Temperatures can range from cool to quite warm during their activity period, so adults often spend a considerable portion of their daily activity thermoregulating.

Collection records indicate that most adult *C. ohlone* are active from mid-January through mid-May (Freitag, Kavanaugh, and Morgan 1993). Both adults and larvae of tiger beetles are opportunistic, preying on smaller, soft-bodied insects and invertebrates. Adults possess good visual acuity and are found on sunny glades of bare or sparsely vegetated soil, where they actively search for potential prey. In contrast, larvae remain in their tunnels, and in a jack-in-the-box manner, ambush prey that wander within their striking distance.

The larvae of most tiger beetles occur in a narrower range of microhabitats than their adult stages, probably because they tolerate less variation in many physical factors, especially soil moisture, soil composition, particle size, and temperature (Pearson 1988; Shelford 1907 and 1909). All known larvae construct a tunnel-like burrow at sites where eggs were laid by the mother beetle. Larvae of other tiger beetle species that live in grasslands typically build their burrows at the edges of the bare or sparsely vegetated portions of the grassland where adult beetles are most commonly observed. The OTB follows a similar pattern. Excavated burrows of mature OTB larvae were approximately 15-20 cm. in depth. OTB larval burrow diameters (measured at the burrow mouth) range in size from ca. 1.5 - 6.5 mm. OTB larvae can complete their development within one year if they are successful in finding sufficient food, but monitoring of marked burrows found that many larvae take two years to complete their development.

Pupation takes place in the larval burrows. The upper portion of the larval burrow is usually sealed off by the larva when it molts or prepares to pupate.



### Habitat Characteristics

The OTB inhabits areas characterized by remnant stands of native grassland. California oatgrass (*Danthonia californica*) and Purple needlegrass (*Nasella pulchra*) are two native grasses known to occur at all sites. Within these grasslands, the beetle has been observed primarily on level ground, where the vegetation is sparse or bare ground is prevalent. Adults are less frequently observed in the dense grassland, but larval burrows have been observed in sparsely vegetated patches in otherwise dense grassland. The substrate at each known beetle location consists of shallow, poorly drained clay or sandy clay soils that have accumulated over a layer of bedrock known as Santa Cruz Mudstone (Freitag, Kavanaugh, and Morgan 1993). According to the county's soil survey (Bowman et al. 1980) and subsequent soil analyses conducted by the Natural Resources Conservation Service at selected OTB locations, all known beetle locations are mapped as Watsonville loams.

### Occurrences Within the Plan Area

OTB life stages have been observed at the Moore Creek Open Space and Younger Ranch within the anticipated work area for the new North Coast Pipeline alignment. Surveys by Tim Hyland in 2011 documented 216 detections of OTB within the western portion of Moore Creek Preserve. OTB have not been observed within the Pogonip since 2005, despite yearly presence-absence surveys (Lyons 2015). 2011 surveys on other pipeline reaches where Watsonville loam soils are found yielded no detections of OTB life stages (Arnold, personal communication, 2016).

## **2.7.6 Mount Hermon June Beetle (*Polyphylla barbata*)**

### Status and Distribution

The MHJB is a federally listed endangered species. Although the scientific name *Polyphylla barbata* has been used since its original description, in the literature the beetle has commonly been referred to as the Mount Hermon June beetle or the Barbate June beetle.

Throughout most of its range, the primary threats to the beetle are sand mining and urbanization. In a few instances, other types of land uses, such as agricultural conversion, recreation activities, plus pesticide use, alteration of fire cycles, and possibly even collectors, have also threatened the beetle. For these reasons, the beetle was recognized as an endangered species by the Service in 1997 (USFWS 1997a) and a recovery plan was published by the Service in 1998 (USFWS 1998). Critical habitat has not yet been designated by the Service for the MHJB; however, the MHJB's geographic distribution largely coincides with the critical habitat for the endangered Zayante Band Winged grasshopper designated by the Service (USFWS 2001b).

The State of California does not recognize insects as endangered or threatened species pursuant to the State's Fish and Game Code. However, the MHJB does receive consideration under the California Environmental Quality Act (CEQA) since it satisfies the definition of a rare species under this statute. Habitat for the MHJB also receives consideration under the Sensitive Habitat Ordinance of the County of Santa Cruz.

The MHJB is restricted to the Zayante sandy soils that are found in the Scotts Valley-Mount Hermon-Felton-Ben Lomond-Santa Cruz area of the Santa Cruz Mountains. During the summer

of 2008 it was also observed at a couple of locations in the Bonny Doon area (Arnold, personal communication, 2016; McGraw 2008). Historically, MHJB localities were referred to as sandhills (Cazier 1938; Young 1988), but more recently this area has been called the Zayante Sandhills (USFWS 1998). Arnold (2004) reviewed museum specimens and other reported records for the beetle and determined that it had been observed at about 70 locations within this area.

#### Life History

Adult males measure about 0.75 inch in length and females are slightly longer. The adult male has a black head and dark brown elytra (leathery forewings) that are covered with brown hairs. The elytra also have stripes that are broken and irregular rather than continuous and well-defined as in related species of June beetles. Larvae are grub-shaped (scarabaeiform) and vary in color from cream to pale yellow for the body segments and darker brown for the head.

The MHJB is univoltine, i.e., it has only one generation per year. As its common name suggests, adult emergence and seasonal activity normally starts in May or June and continues through about mid-August; although, seasonal activity may vary from year to year depending on weather conditions. Adults are nocturnal, with most of their activity between about 8:45 and 9:30 pm. Adult males actively fly low to the ground in search of females, which are flightless. Presumably the female emits a pheromone for the males to find her.

Lifespan data from a brief capture-recapture study suggest that adult males live no longer than one week (Arnold 2000). Dispersal data from the same capture-recapture study indicate that most adult males are quite sedentary, with home ranges of no more than a few acres. Similar data on lifespan and dispersal of females is lacking at this time since they are less frequently observed.

Specific life history information for the MHJB is unknown, but can be inferred from related species. Presumably the entire life cycle (egg, larva, pupa, and adult) takes two to three years to complete. The majority of the life cycle is spent as a subterranean larval stage that feeds on plant roots (Furniss and Carolin 1977).

#### Habitat Characteristics

Habitats in the Zayante Sandhills where MHJB has been found include Northern Maritime Chaparral, Ponderosa Pine Forest, Sand Parkland (which is a mixture of the aforementioned habitats with a shrub/subshrub and grass/forb understory), and mixed Deciduous-Evergreen Forest. In addition, adults have been found in disturbed sandy areas where remnants of these habitats still occur. Ponderosa Pine grows at all known MHJB locations and for this reason was a presumed larval food plant of the beetle. However, recent analyses of partially-digested plant fragments in fecal pellets of MHJB larvae by Kirsten Hill (2005) indicate that larvae feed on other plant species. Even if Ponderosa Pine is not a food plant, it is a useful indicator of suitable habitat for the MHJB.

#### Occurrences Within the Plan Area

Presence-absence surveys for MHJB were conducted in the summer of 2011 by Richard Arnold. The surveys concentrated on areas within the Plan Area containing a mixture of plant species

native to the Zayante Sandhills as well as disturbed areas with sandy soils near remnants of Zayante Sandhill habitat. The results of the survey indicate that Mount Hermon June Beetles are present on the City's Laguna Creek watershed property. On June 14, 2011, Arnold surveyed the 5.4-acre sandhills portion in the southwestern corner of the parcel. Six adult males were observed at four trap locations.

### **2.7.7 Tidewater Goby (*Eucyclogobius newberryi*)**

#### Status and Distribution

Tidewater gobies (*Eucyclogobius newberryi*) are a small, short-lived California endemic species that inhabits coastal brackish water habitats entirely within California, ranging from Tillas Slough (mouth of the Smith River, Del Norte County) near the Oregon border south to Agua Hedionda Lagoon (northern San Diego County). This species was listed as endangered in 1994 (USFWS 1994b). The 5-year review conducted in 2007 recommended downlisting to threatened status (USFWS 2007b). This species is considered to be one with moderate threats and a high potential for recovery (USFWS 2005). Tidewater goby has had fully protected status from the State of California since 1987. Tidewater gobies are known to inhabit or recently inhabited the coastal lagoons of several streams in the HCP Area.

#### Life History

Tidewater gobies are uniquely adapted to coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats (USFWS 2005). Tidewater gobies are small fish (rarely exceeding two inches in length) that generally live for only 1 year, with few individuals living longer than a year (Moyle 2002 cited in USFWS 2005). Reproduction occurs at all times of the year, as indicated by female tidewater gobies in various stages of ovarian development (Swenson 1999 cited in USFWS 2005). The peak of spawning activity occurs during the spring and then again in the late summer. Fluctuations in reproduction are probably due to death of breeding adults in early summer and colder temperatures or hydrological disruptions in winter (Swift et al. 1989 cited in USFWS 2005). Reproduction takes place in water between 9 to 25 degrees Celsius (48 to 77 degrees Fahrenheit) and at salinities of 2 to 27 parts per thousand (Swenson 1999 cited in USFWS 2005).

Male tidewater gobies begin digging breeding burrows in relatively unconsolidated, clean, coarse sand (averaging 0.5 millimeter [0.02 inch] in diameter), in April or May after lagoons close to the ocean (Swift et al. 1989; Swenson 1995 cited in USFWS 2005). Swenson (1995 cited in USFWS 2005) has shown that tidewater gobies also prefer this substrate in the laboratory. Burrows are at least 70 to 100 millimeters (3 to 4 inches) from each other. After hatching, the larval tidewater gobies, measuring 4 to 5 millimeters (mm) in SL, emerge from the burrow and swim upward to join the plankton (Wang 1986; Swift et al. 1989). Juvenile tidewater gobies become benthic dwellers at 16 to 18 mm SL (Moyle 2002).

#### Habitat Characteristics

The tidewater goby favors the calm conditions that prevail when the lagoons are cut off from the ocean by beach sandbars. They are bottom dwellers and are typically found at water depths of less than 3 feet. Tidewater gobies typically inhabit areas of slow-moving water, avoiding strong

wave action or currents. Particularly important to the persistence of the species in lagoons is the presence of backwater, marshy habitats, which provide refuge habitat during winter flood flows (J. Smith, personal communication, 1999 as referenced in Env. Science Assoc. 2001). Optimal lagoon habitats are shallow, sandy-bottomed areas 20 to 10 cm deep, surrounded by beds of emergent vegetation. Open areas are critical for breeding, while vegetation is critical for overwintering survival (providing refuge from high flows) and probably for feeding as well (Moyle 2002).

Tidewater gobies are known to be preyed upon by native species such as small steelhead (*Oncorhynchus mykiss*), prickly sculpin (*Cottus asper*), and staghorn sculpin (*Leptocottus armatus*) (Swift et al. 1989 cited in USFWS 2005).

#### Occurrences Within the Plan Area

Tidewater gobies are known to inhabit, or recently inhabited, the coastal lagoons of several streams in the HCP Area including Laguna Creek, Baldwin Creek, Lombardi Gulch, Old Dairy Gulch, Wilder Creek, Younger Lagoon, Moore creek, the San Lorenzo River, Corcoran Lagoon, and Moran Lake (USFWS 2005). Suitable habitat for the goby has also been identified in the lagoons of Majors (Smith 2001) and Arana creeks (City of Santa Cruz Parks and Recreation Department 1997; Habitat Restoration Group (HRG) 1996). The critical habitat designation lists Laguna Creek, Baldwin Creek, and Corcoran Lagoon but not the San Lorenzo River, or any of the other streams (USFWS 2008).

Tidewater goby abundance fluctuates spatially and seasonally, due in part to their predominantly annual life cycle (Swenson 1999). Tidewater goby populations also vary greatly with the varying environmental conditions (e.g., drought, El Niño) among years (USFWS 2007b). This environmental variation is a normal phenomenon, but one that makes the determination of trends in population size difficult. For example, tidewater goby populations decrease during the rainy season when lagoons are open and influenced by flood events, and then recover during the following summer (USFWS 2007b). Swift et al. (1989) estimated that individual tidewater gobies within a population at Aliso Creek Lagoon ranged from 1,000 to 1,500 in the late winter-early spring and 10,000 to 15,000 tidewater gobies in the late summer-early fall.

The USFWS characterizes tidewater goby populations (i.e., localities) along the California coast as metapopulations (a group of distinct populations that are genetically interconnected through occasional exchange of animals) (USFWS 2007b). While individual populations may be periodically extirpated under natural conditions, a metapopulation is likely to persist through colonization or recolonization events that establish new populations (USFWS 2007b). Local populations of tidewater gobies occupy coastal lagoons and estuaries that in most cases are separated from each other by the open ocean. Very few tidewater gobies have ever been captured in the marine environment (Swift et al. 1989), which suggests this species rarely occurs in the open ocean (USFWS 2007b). Some tidewater goby populations persist on a consistent basis (potential sources of individuals for recolonization), while other tidewater goby populations appear to experience intermittent extirpations. Local extirpations may result from one or a series of factors, such as the drying up of some small streams during prolonged droughts, water diversions, and estuarine habitat modifications (USFWS 2007b). Some localities where tidewater gobies have been extirpated apparently have been recolonized when extant populations



were present within a relatively short distance of the extirpated population (i.e., less than 6 mi (10 km). More recently, another tidewater goby researcher has suggested that recolonizations have typically been between populations separated by no more than 10 mi (16 km) (Swift 2007 cited in USFWS 2007b). Flooding during winter rains can contribute to recolonization of estuarine habitats where tidewater goby populations have previously been extirpated.

Currently, the majority of the most stable and largest tidewater goby populations consist of lagoons and estuaries of intermediate sizes (5 to 125 ac (2 to 50 ha)) that have remained relatively unaffected by human activities (USFWS 2005). Many of the localities where tidewater gobies are regularly present may be “source” populations for localities that intermittently lose their tidewater goby populations. Large wetlands are likely to have lower rates of extirpation than small wetlands, and there is some evidence that recolonization rates are higher with less distance to the nearest northerly source population. In addition, populations at small sites were sensitive to drought, presumably because droughts can eliminate suitable habitat at small wetlands (USFWS 2007b).

Smith, (cited in USFWS 2007b), believes only two likely metapopulations continue to exist in Santa Cruz County, a cluster of six populations from Baldwin Creek south to Moore Creek (including Lombardi, Dairy, Wilder, and Younger creeks) and Corcoran and Moran Lagoons (and Soquel Creek) (USFWS 2007b). A small population of tidewater gobies was found in the San Lorenzo River Lagoon on May 11, 2004 (USFWS 2007b). Surveys for the species were conducted here by Smith in the 1980s, but produced negative results (USFWS 2007b). Smith believes that the small tidewater goby population discovered at the San Lorenzo River Lagoon was likely the result of a colonization event from Moore Creek; however, genetic testing has not been conducted to test this theory (USFWS 2007b). Furthermore, Smith believes that tidewater gobies are likely to be lost from the San Lorenzo system during a high flow event due to the lower San Lorenzo River's channelized hydromorphology and lack of refugia from storm flows. Smith goes on to report that elsewhere in Santa Cruz County and in San Mateo and Monterey counties, there is little evidence of metapopulation structures, stating that extirpated populations at Salinas River and Waddell Creek have been vacant for 25 to 40 years (USFWS 2007b). Tidewater gobies appear to be relatively abundant in the lower reaches of Laguna, Baldwin, Wilder, and Moore creeks (Smith and Welch 1996; Smith 2001) and presumed to occur in Arana Creek (City of Santa Cruz Parks and Recreation Department 1997; HRG 1996). No studies have been conducted in the Majors Creek lagoon for tidewater gobies, however, observed conditions suggest the lagoon provides favorable habitat for tidewater gobies (Smith 2001).

The available tidewater goby habitat in the Laguna Creek lagoon encompasses approximately 1.0 to 1.5 hectares (2.5 to 3.75 acres) (USFWS 2005). The property surrounding the lagoon is owned and managed by the California Department of Parks and Recreation (State Parks). State Parks also owns the creek on the east side of Highway 1, upstream of the estuary. Limited farming occurs on adjacent land. Laguna Creek was nearly dry during the 1988-92 droughts and the tidewater goby population here may have survived the drought. Tidewater gobies were found here in 1996, 2000, 2004, 2005, 2008, 2009, and 2010 (J. Smith, personal communication, 2004 cited in USFWS 2005; Hagar 2005; 2NDNature 2006; HES 2009a; HES 2010; HES in prep.). The Laguna Creek lagoon has been somewhat altered by construction of the Highway 1 and UPRR causeway in the early 1900s (HES 2009b) but is in relatively undisturbed condition

otherwise. Freshwater inflow to the lagoon is influenced by the City of Santa Cruz diversion upstream.

C. Swift and G. Kittleson observed tidewater gobies in the San Lorenzo Lagoon for the first time on May 11, 2004, during seining for a fish relocation effort associated with a Corps project (Riverbend Project) (G. Kittleson, personal communication, 2004 cited in USFWS 2005). The available tidewater goby habitat in the San Lorenzo River lagoon encompasses approximately 26.7 hectares (66 acres) (USFWS 2005). The lagoon and river mouth have been significantly altered from natural conditions due to many factors, including both local and watershed modifications (HES 2009b). Direct modifications to the San Lorenzo lagoon include urban encroachment, marsh filling, railroad and road crossings, channelization and levee construction, all resulting in significant reduction in the areal extent of the lagoon (2NDNature 2006; HES 2009b). San Lorenzo lagoon habitat has been highly altered and is missing components favorable to tidewater goby such as fringing marsh vegetation and quiescent backwaters. The areal extent of the San Lorenzo Lagoon has been reduced by 80% through mudflat filling and levee construction (2NDNATURE 2006). These physical modifications have changed the tidal prism<sup>5</sup>, the timing and duration of sandbar closure, flow velocities during winter high flows, the aquatic vegetation communities, and likely, many biotic processes. The urban development and other modifications within the contributing catchment of the San Lorenzo Lagoon have increased nutrient loading, altered sediment delivery, and altered hydrologic patterns. Artificial summer sandbar breaching for flood-control alters water quality parameters, and may influence goby habitat by dewatering burrows and bordering vegetation. Direct mortality of gobies, including tidewater goby, through stranding has been observed during sandbar breaching in October 2008 (Hagar, personal communication, 2010). Water withdrawals have also altered the seasonal hydrologic conditions of the lagoon (HES 2009b; 2NDNature 2006).

In Baldwin Creek, tidewater gobies are common in the portion of the lagoon downstream of the marsh, and some have been found in the freshwater on-channel/off-channel pond to the north (Smith and Welch 1996). In Wilder Creek, gobies have been observed downstream of the marsh near the sandbar (Smith and Welch 1996). In Moore Creek, gobies have been found downstream of Antonelli Pond (Smith and Welch 1996). According to the Arana Gulch Biotic Assessment (HRG 1996) the tidewater goby is presumed to occur in Arana Creek from the harbor mouth to approximately 1 mile upstream (CNDDDB 2010). The goby was last observed in this area in 1984 (City of Santa Cruz Parks and Recreation Department 1997; HRG 1996). Potential tidewater goby habitat includes the freshwater portions of Arana Creek and the tidally influenced, backwater portions of Woods Lagoon at the mouth of Arana Creek.

### **2.7.8 Pacific Lamprey (*Lampetra tridentata*)**

#### Status and Distribution

The Pacific lamprey eel (*Lampetra tridentata*) is an anadromous species known to inhabit portions of the Plan Area. It is not currently listed as threatened or endangered by FWS or by the State of California but is a species of special concern within the state.

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<sup>5</sup> The volume of water that flows into a tidal channel and out again during a complete tidal cycle.

Pacific lampreys are found in Pacific coast streams from Japan, through Alaska, and down to Rio Santo Domingo in Baja California. Malibu Creek seems to be the southern-most point of regular occurrence in California, despite some records from the Santa Ana River and a single ammocoete taken from the San Luis Rey River (Moyle 2002). In general, lampreys have a scattered distribution south of San Luis Obispo County, although there are regular runs in the Santa Clara River.

Anadromous Pacific lamprey are still present in much of their native range although large runs that historically occurred in many streams have largely disappeared (Moyle 2002). They have been eliminated from many streams in the urbanized southern end of their range but can be very persistent (Moyle 2002). They are usually absent from highly altered or polluted streams (Moyle 2002).

#### Life History

Pacific lamprey build nests in gravel and rock substrates where current is fairly swift and depth ranges from 30 to 150 cm (Moyle 2002). Spawning is repeated on the same nest a number of times until both sexes are spent (Moyle 2002). Both adults generally die after spawning however, some survive and spawn again (Moyle 2002). The embryos hatch in approximately 19 days at 15°C. After hatching, ammocoetes spend a short time in the nest gravel and eventually they swim up into the current and move downstream to a suitable area of soft sand and mud. Ammocoetes burrow tail first into the sand or mud and begin their lives as filter feeders, sucking organic matter and algae off the substrate surface (Moyle 2002). Ammocoetes move from one area to another and remain in the stream for an uncertain length of time, likely 5-7 years. At a size of 14 to 16 cm they metamorphose from detritus-feeding larvae to parasitic adults, developing large eyes, a sucking disc, and changes in physiology such as ability to live in seawater (Moyle 2002). After this transformation they migrate downstream, certainly in the spring but possibly also in the winter during high-flow events. Adult lamprey (14 to 16 cm in total length) are parasitic on larger fish, although their attacks are seldom fatal (Wang 1986). Pacific lampreys, with the exception of land-locked populations, spend the predatory phase of their life in the ocean attacking a wide variety of fishes, including various salmon and flatfishes (Moyle 2002). Adult lamprey in the ocean are thought to remain near their natal streams (Moyle 2002).

#### Habitat Characteristics

Pacific lamprey are anadromous, spending four to seven years in freshwater and one to two years in the ocean. Spawning lamprey, like steelhead, are dependent on winter storms providing sufficient streamflow to open the mouth of the lagoon to the ocean, and to provide adequate streamflow to allow for upstream migration. Adults usually move up into spawning streams between early March and late June. However, upstream movements in January and February have also been observed in some streams (Moyle 2002). Most upstream migration takes place at night and tends to occur in surges, although small numbers may move upstream more or less continuously over a two- to four-month period (Moyle 2002). Adult Pacific lamprey are known to ascend some obstacles that are barriers to other fish by alternately swimming and using their sucker mouths to attach and rest (Moyle 2002).

### Occurrences Within the Plan Area

Pacific lampreys are present in several areas of the San Lorenzo River watershed, but are not reported present in any of the other streams within the HCP Area. Lampreys were caught or observed in twelve of the sixteen mainstem reaches and sixteen of nineteen of the tributary reaches of the San Lorenzo River sampled in 2002 (H.T. Harvey and Associates and Entomological Consulting Services 2003). These reaches include 0 through 10 of the San Lorenzo River from the estuary to the confluence with Kings Creek, and reaches in Zayante Creek (reaches 13a, b, c, and d), Bean Creek (14b), Fall Creek (15), Boulder Creek (17c, 17d), Bear Creek (18a, 18b) and Branciforte Creek (21a, 21b). Several Pacific lamprey ammocoetes were captured during electrofishing surveys in Newell Creek downstream of Loch Lomond in August 2007 (HES 2007). Electro-fishing on Wilder Creek, Peasley Gulch and Majors Creek on the North Coast Unit did not capture any lampreys and no observations of lampreys were reported. Lampreys were not mentioned as a species present in the streams associated with the Coast Dairies' property, which includes Liddell, Laguna, Y, and Yellow Bank creeks.

### **2.7.9 California Red-legged Frog (*Rana draytonii*)**

#### Status and Distribution

The California red-legged frog (*Rana draytonii*) was listed as threatened under the ESA on May 23, 1996 (USFWS 1996), and a recovery plan was approved in May 2002 (USFWS 2002b). In 2010, the USFWS revised the Designated Critical Habitat for California red-legged frog, and it now includes central coast watersheds from Wilder Creek north into San Mateo County (Unit SCZ-1) (USFWS 2010b). California red-legged frogs historically occurred in coastal mountains from Sonoma County, California, south to northern Baja California, and along the Sierra Nevada foothills from Shasta County to Kern County (Jennings and Hayes 1994). This species is apparently extirpated from much of the southern portions of its historical range and now occurs mainly in coastal areas and in a few isolated populations in the Sierra Nevada foothills (USFWS 2002b).

#### Life History

A comprehensive summary of California red-legged frog biology is included in the Recovery Plan (USFWS 2002b), but several research reports are now available that update some of this information. Perhaps most significantly is the use of terrestrial habitats by adults (see material below), which has important management implications.

Breeding must occur in water, which is usually pooled or slow moving and includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, irrigation ponds, siltation ponds, water treatment ponds, creek backwaters, and any other freshwater pool. Although breeding sites are sometimes characterized by dense bordering and emergent vegetation cover (willows, cattails, tules, sedges), stock ponds that are essentially devoid of emergent and riparian vegetation can also be highly productive sites. One of the most important aspects of breeding habitat is warm water. This usually occurs along the shallow edges of ponds and creeks where vegetation does not shade the sun, which warms the water. Often, deeper water is nearby, which provides larvae and frogs some protection from predators, such as raccoons, egrets, and herons (Hayes and Jennings 1989; Reis 1999). Water that is rich in



nutrients, that has areas of moderately deep water (2.3 to 3.9 ft), a complex biological community, and which is characterized by forage base for all life history stages is important. The typical forage base includes extensive aquatic vegetation for cover and tadpole forage, and a complex invertebrate fauna and small vertebrate (e.g. mice) populations as prey for adults (Hayes and Tennan 1986; Hayes et al. 2006).

California red-legged frogs breed in the winter (in synchrony with the Mediterranean climate pattern of wet winters and dry summers). Egg laying takes place between late November and April, with the peak season occurring in February (USFWS 1996; Scott and Rathbun 2001), although timing seems to be closely tied to local conditions. Fertilized egg masses are usually attached to an emergent prop (including dead and live twigs and stems) just under the surface of the water; changes in water depth can be fatal for the developing embryos. Egg masses average 500-2,000 embryos, although up to 6,000 have been recorded (Jennings and Hayes 1994). Eggs hatch within 6 to 14 days, depending on water temperature (warm water promotes faster embryo development). Tadpoles transform or metamorphose to sub-adult frogs usually by July to September (Storer 1925; Jennings and Hayes 1994), although in some sites overwintering larvae have been documented (Fellers et al. 2001).

#### Habitat Characteristics

Young California red-legged frogs (metamorphs) are typically found in slow-moving, shallow riffle habitats in creeks, and along the margins of ponds, where they often can be seen during the day (as opposed to adults, which are mostly nocturnal). It is believed that metamorphs are the life stage that is most prone to dispersal.

Adults often are associated with emergent vegetation or dense riparian vegetation and associated deep (approximately 2 to 3 feet), slow-moving water (Jennings and Hayes 1994). Creek habitats usually are characterized by an open canopy, plentiful basking surfaces (e.g., exposed rocks, logs, or sand), and readily accessible riparian cover (Reis 1999). Exotic predators such as bullfrogs (*Rana catesbeiana*) and centrarchid fish (bass and sunfish) are usually absent where California red-legged frogs occur (Alvarez et al. 2004; Christopher 2004; D'Amore et al. 2009). Adults reach sexual maturity in approximately 2 to 3 years, and most adults only live for one breeding season, although some individuals are believed to live 8 to 10 years (Scott and Rathbun 2001).

There are several studies of radio-tagged adult *Rana draytonii* (Scott and Rathbun 2001; Bulger et al. 2003; Fellers and Kleeman 2007; Tatarian 2008). Because these studies were carried out in different habitats, and during different periods of the year, it is important to consider the details of each study before applying information to a different site for management purposes.

However, in summary, most frogs move very little within or between seasons. If there is dense upland undergrowth (blackberries and poison oak) associated with a creek or pond, some adults will move up to 100 meters inland for periods of several days, probably to forage. However, during the dry summer months, they periodically return to the water, probably to rehydrate. If water conditions become adverse during any time, due to drying, flooding, or salinity, frogs will leave the water and take refuge in deep riparian leaf litter or in rodent burrows near the aquatic habitat. Some adults may travel several kilometers to more suitable aquatic habitat. Depending on the site, some adults will move seasonally between breeding habitats and more suitable

summer habitats, often based on water persistence, quality, and temperatures. It is believed that these seasonal movements are relatively inflexible, which sometimes makes the inadvertent alteration of natural water regimes or the construction of barriers to their terrestrial movements lethal (Rathbun et al. 1997).

It is believed that once a frog learns a seasonal migratory routine, or establishes a home range within a perennial and stable aquatic habitat, it will try and re-establish itself if moved. It is thus thought that translocations are largely not beneficial to individual frogs or local populations of frog (Rathbun and Schneider 2001; Bland 2006).

#### Occurrences Within the Plan Area

Information on known California red-legged frog occurrences within the Plan Area covered by this HCP was gathered from focused surveys along the North Coast creeks (Bryan Mori Biological Consulting Services 2010, Dana Bland & Associates 2002, ENTRIX 2002, and Environmental Science Associates 2001), literature reviews, records in the California Natural Diversity Database (for the Santa Cruz, Davenport, and Felton 7.5-minute quadrangles) and discussions with local consulting biologists and agency personnel.

California red-legged frogs occur in all the coastal creeks north of Santa Cruz within the Plan Area, including the following creeks listed from the south to north: Moore Creek, Wilder Creek, Old Dairy Gulch Creek, Lombardi Creek, Baldwin Creek, Majors Creek, Laguna Creek, Yellow Bank Creek, and Liddell Creek. Although focused surveys for frogs along those creeks were last conducted in 2001 (Env. Science Assoc. 2001), conditions have not changed since then along the creek sections within the Plan Area and nearby vicinity, and therefore, frog populations are expected to be similar to that observed in 2001. Very few California red-legged frog records exist from the San Lorenzo River basin, and no records exist for California red-legged frogs in City Urban Center Unit aquatic habitat (i.e. San Lorenzo River mouth, Neary Lagoon, Arana Creek).

#### Habitat Conditions

California red-legged frog habitat conditions for each of the three units within the HCP region (i.e., north coast creeks, City urban center, and the San Lorenzo River basin which includes Loch Lomond Reservoir) are detailed below. A concise evaluation of the specific habitat components are described for each unit, along with known records of the frog. Generally, the north coast unit creeks do not provide breeding habitat for this frog because there are swift winter creek flows and a lack of secondary or off-channel areas with still water during the frog's winter breeding period. However, several creeks have lagoons at the ocean mouth, and numerous ponds adjacent to the creeks do provide suitable breeding habitat for the California red-legged frog.

The Urban Center Unit lacks red-legged frog records and habitat is marginal at best.

The San Lorenzo River unit also lacks records of red-legged frogs within the Plan Area, but there are a few records of this frog in tributary creeks.

## **NORTH COAST UNIT**

### ***LIDDELL CREEK***

The Env. Science Assoc. (2001) Existing Conditions report and the ENTRIX (2004) 2003 habitat characterization reports indicate that portions of Liddell Creek provide suitable sheltering or dispersal habitat for California red-legged frogs. The ESA surveys yielded multiple California red-legged frog observations along the middle branch of Liddell Creek and elsewhere on the Coast Dairies properties (Env. Science Assoc. 2001). Pool and flatwater habitat account for 73 percent of the habitat from the creek mouth to 1.29 miles upstream of the lagoon. The pool units in this reach provide summer cover and foraging habitat that ranges from poor to fair summer foraging habitat depending on localized conditions of water depth and extent of in-stream vegetative cover. The channel becomes more confined from river mile (RM) 1.29 to the diversion dam (2.54 miles upstream of the lagoon) (ENTRIX 2004). Pool and flatwater habitat account for 89 percent of the habitat units in this reach, but instream cover is less complex and extensive than in the lower reach. The habitat units present in this reach provide suitable sheltering or dispersal habitat for California red-legged frogs.

California red-legged frogs are known to breed in several sediment ponds constructed for the currently idle cement quarry adjacent to the upper reaches of Liddell Creek (Dana Bland & Associates 2009). The quarry was permanently closed in 2010, but the ponds are currently still monitored for frogs (EcoSystems West 2010, 2011).

### ***YELLOW BANK CREEK***

The 2001 Env. Science Assoc. (2001) Coast Dairies existing Conditions Report indicates that most of Yellow Bank Creek and adjacent farm ponds within the property boundaries offers excellent breeding and summer foraging habitat for California red-legged frog. The report cites numerous observations of California red-legged frogs along Yellow Bank Creek.

### ***LAGUNA CREEK***

The June 2001 habitat characterization indicates that portions of Laguna Creek and its lagoon provide suitable summer foraging and dispersal habitat and marginal breeding habitat for California red-legged frogs (ENTRIX 2002). A total of 86 adult red-legged frogs were observed in Laguna Creek during the June 2001 study (ENTRIX 2002).

***Lagoon:*** The lagoon is deep but the perimeter of emergent bulrush and spikerush provide breeding habitat (egg mass deposition sites) for this species, particularly in the southeast corner, which is well protected from high-water flows from the creek and heavy surf (ENTRIX 2002). California State Parks began a major restoration project at the Laguna Creek lagoon in 2010 to enhance habitat for California red-legged frogs and tidewater goby (Halbert 2010).

***Creek:*** Most of the suitable summer habitat for California red-legged frogs in Laguna Creek occurs from the creek mouth to 1.43 miles upstream of the lagoon (ENTRIX 2004). The pools in this reach have low canopy cover, many open sites for basking, and several backwater pools with complex cover. The vast majority (83) of the red-legged frogs observed during the ENTRIX (2002) survey were observed in this reach in 2001.

Little suitable summer habitat for red-legged frogs was observed in the upper reaches of Laguna Creek (ENTRIX 2002). Only three adult red-legged frogs were observed. The frog observations and suitable habitat were limited to the few sunlit pools where fallen trees created gaps in the canopy, thus providing basking habitat.

***Diversion pond:*** Most of the diversion pond is filled with sediment and lacks overhanging or emergent vegetation. Therefore, in its current condition, the diversion pond probably does not provide suitable breeding or summer habitat for California red-legged frogs (ENTRIX 2002).

***Other Laguna Creek Watershed aquatic habitat:*** There are three upland ponds on private land in the Laguna Creek watershed, two of which are within a 1-mile radius of the diversion (ENTRIX 1997). One of the two ponds in the one-mile radius survey area was dry during the 1997 survey. Suitable breeding habitat seemingly exists at the other pond, which is used for recreation.

#### ***MAJORS CREEK***

Twenty California red-legged frogs were observed along Majors Creek during the June 2001 habitat survey (ENTRIX 2002). The habitat characterization indicates that Majors Creek offers summer foraging and dispersal habitat for California red-legged frogs and limited potential breeding habitat, primarily along the lower reach.

***Lagoon:*** Due to stream modifications, Majors Creek now lacks a well-defined lagoon (Berry, personal communication, 2004). All that remains is a shallow pool devoid of perimeter emergent vegetation with no potential as breeding habitat for California red-legged frogs (ENTRIX 2002).

Sixteen of the 20 Majors Creek red-legged frog observations occurred along the lower reach of Majors Creek (creek mouth to 0.71 miles upstream) (ENTRIX 2002). Scattered backwater pools with small patches of emergent vegetation characteristic of California red-legged frog breeding habitat also exist along this reach. The entire reach appears to offer fair to good summer foraging habitat.

Breeding and summer foraging habitat seem nearly absent from the upper reaches, most of which lacks sunlit backwater or quiet pools. Only four of the 20 frogs observed during the 2001 study were found along this reach.

***Diversion pond:*** Dense vegetation borders most of the diversion pond, but swift flows during the winter make it unlikely that frogs breed here (ENTRIX 2002). California red-legged frogs have been observed at the diversion dam occasionally over the years by City staff (Berry, personal communication, 2012) and during focused surveys as recently as September 2010 (Bryan Mori Biological Consulting Services 2010).

#### ***BALDWIN CREEK***

Baldwin Creek offers excellent California red-legged frog habitat. During the habitat assessments conducted in May 2001 (Kawamoto Environmental Services (KES) 2001), at least four California red-legged frogs were seen in the lowest section of Baldwin Creek in the area between the impoundments and the railroad tunnel culvert. In this section, the creek flows



through a defined stream channel with a riparian overstory of willow and alder. California red-legged frogs were also observed between the culvert and private residence in an area with large alders and many pools. In addition, a large, deep potentially suitable pool has been formed at the residence on the east bank (KES 2001). California State Parks conducted frog surveys in 2002 and found egg masses, juveniles and adults, and has since implemented a restoration plan (Halbert 2001).

#### *LOMBARDI CREEK*

Within the Dimeo Lane Landfill (City of Santa Cruz), California red-legged frogs occur along Lombardi Creek in the North Canyon bypass pond and West Canyon bypass pond (where egg masses were observed in 1999) and in the South Outlet (Dana Bland & Associates 2002). The 2002 study also found red-legged frogs downstream of the landfill along Lombardi Creek. Habitat values along Lombardi Creek include breeding/rearing habitat (bypass ponds), summer foraging habitat (bypass ponds and Lombardi Creek channel), and dispersal corridors (Lombardi Creek channel). More recent monitoring of activities at the Dimeo Lane Landfill also documented red-legged frogs along this stretch of Lombardi Creek and the landfill ponds (G. Kittleson, personal communication, 2010). In 2005, California State Parks restored the lower portions of Lombardi Creek with native vegetation and created pools to enhance habitat for frogs and goby (Spohrer 2000).

#### *OLD DAIRY GULCH*

Old Dairy Gulch originates on Wilder Ranch State Park, flows through the Santa Cruz Sand Plant, under Highway 1 and the railroad tracks, and into a small lagoon at its mouth with the Pacific Ocean. The creek has dense willow riparian vegetation with no slow water areas in the winter. The lagoon is densely vegetated with tules. The creek provides seasonal foraging habitat and dispersal corridors, and the lagoon provides breeding habitat. California red-legged have been observed along the creek, in the lagoon, and are known to breed in all the adjacent ponds on the Santa Cruz Sand Plant property (Dana Bland & Assoc. 2010).

#### *WILDER CREEK*

For much of its length within Wilder Ranch State Park, Wilder Creek provides all California red-legged frog habitat types and components. Jennings and Hayes (1994) identified this creek habitat as optimal, as reflected by the large resident frog population. The KES (2001) Wilder Creek surveys recorded California red-legged frogs from the lagoon habitat to upstream small tributary pools. In the lagoon, California red-legged frogs were found in the dense marsh vegetation several feet from the water and on the overgrown silty banks near the water's edge. In the redwood forest area, they were basking on bedrock outcrops up to 4 feet above the water surface and on cobble substrate a few feet from the stream (KES 2001). The potential for occurrence of breeding sites along this creek is high where off-channel ponds or still water occur. Wilder Creek restoration (dam removal) occurred in the fall of 2000 and involved monitoring for CRLF prior to and during the work (Hernandez 2001).

#### *MOORE CREEK*

The City of Santa Cruz Moore Creek Preserve provides summer and potential breeding habitat for California red-legged frogs. Juveniles produced at nearby ponds (University of California at Santa Cruz Arboretum and to the west of the Preserve) may also migrate to Moore Creek soon

after metamorphosis. The creek also offers potential dispersal corridor habitat (Bulger 1999). California red-legged frogs have been observed in seasonal ponds at the headwaters of Moore Creek and at Antonelli Pond near the mouth of the creek (CNDDDB 2010).

## **SAN LORENZO RIVER BASIN UNIT**

### *SAN LORENZO RIVER*

Very few records for California red-legged frogs exist for the San Lorenzo basin. The only two recorded historical San Lorenzo basin occurrences are specimens from Love Creek near Ben Lomond (Los Angeles County Natural History Museum, collection date unknown) and from a pond near Granite Creek, Scotts Valley (Museum of Vertebrate Zoology, UC Berkeley, collected in 1959) (Barry, personal communication, 2004). California red-legged frogs have also been reported recently from Mountain Charlie Gulch, a tributary in the Felton area of the San Lorenzo River basin (CNDDDB 2010), Bean Creek north of Scotts Valley (Kittleson, pers. obs. 2005 and 2015) and possibly from Quail Hollow County Park near Zayante Creek (Berry, personal communication, 2004). As noted above for the north coast creeks unit, the creeks in the San Lorenzo watershed provide little or no breeding habitat for the California red-legged frog because swift winter flows preclude successful egg hatching and larval rearing. Because much of the property surrounding these creeks is privately owned, few surveys have been conducted. Mountain Charlie Gulch and Bean Creek are likely occasional summer foraging habitat in localized areas adjacent to ponds on private property. Red-legged frogs are likely absent from the main stem of the San Lorenzo, which is generally too wide, deep, and swift to support red-legged frog breeding or foraging activity. Small tributaries and secondary channels are more likely to support red-legged frogs (Hayes and Jennings 1989).

## **CITY URBAN CENTER UNIT**

This unit includes the mouth of the San Lorenzo River, Neary Lagoon and Arana Creek. No records for California red-legged frog exist within this unit (CNDDDB 2010). Numerous fish surveys and monitoring surveys for fish have occurred over the last decade or more along the lower reaches of the San Lorenzo River in association with vegetation management and levee upgrades, but no red-legged frogs have been observed there. The River no longer forms a natural lagoon at its mouth, and thus no suitable amphibian habitat exists there.

Neary Lagoon is now a man-made feature that does not have natural flow to/from an ocean connection. Tributary streams and urban runoff flow to the lagoon through an extensive culvert storm drain system. Neary lagoon outlets to the Pacific Ocean through a flood control pump station with a 900 linear foot outlet culvert that drains across Cowell Beach. It is surrounded by urban development, and annual maintenance is performed to remove sediment and emergent vegetation. Habitat management goals and objectives at Neary lagoon are documented in the 1992 Neary Lagoon Management Plan. Surveys for wildlife have been conducted at the Neary Lagoon since the 1990s, but no red-legged frogs have ever been observed. (G. Kittleson, personal communication, 2010).

### 2.7.10 Western Pond Turtle (*Actinemys marmorata*)

#### Status and Distribution

The WPT (*Actinemys marmorata*) is listed as a California species of special concern by the Department of Fish and Game, and is the only native aquatic turtle in the state (Zeiner et al. 1988; Jennings and Hayes 1994; Germano and Rathbun 2008). Historically, it occurred in most Pacific slope drainages from Washington State to Baja California in Mexico, but is now considered endangered in Washington State and rare in the southern end of its range (Bury and Germano 2008). Fragmentation of WPT habitat by agriculture, urban development, and habitat loss are the primary causes of its regional decline (Bury and Germano 2008), although in many areas turtle populations probably have not declined due to their use of man-made aquatic habitats.

#### Life History

In central coastal California, mating spans from late April to mid-July (Rathbun et al. 2002; Scott et al. 2008), depending on local conditions. Some females produce two clutches per year. The eggs hatch in about 3 months and some nestlings will remain in the nest through the following winter (Rathbun et al. 2002). Hatchlings typically are found in water less than about one foot in depth with adjacent dense submergent or emergent vegetation for refuge (Jennings and Hayes 1994). Female WPTs in one central California population were found to reach reproductive maturity in as little as four years, and this was attributed to the mild climate, which contributes to a faster growth rate (Germano and Rathbun 2008). WPT are presumed to be long-lived (Germano and Rathbun 2008), perhaps to at least 42 years of age (Holland 1994).

WPTs are omnivorous. Food consists mostly of small to moderate-sized aquatic and terrestrial invertebrates (especially insects and crustaceans), but vegetation and carrion may also be consumed (Holland 1994). It is believed that they only feed in water (Bury 1986). Hatchlings prey mainly on nekton (zooplankton) and the larvae of small aquatic insects and other invertebrates.

Nesting females, eggs, and hatchlings are probably prone to high predation rates, especially by abnormally high raccoon populations associated with urban areas (Rathbun et al. 2002). In addition to water regimes altered by human activities, other possible adverse impacts on WPT populations include predation by, or competition from, introduced species such as bullfrogs and non-native fish (Holland 1994; Jennings and Hayes 1994).

#### Habitat Characteristics

WPTs occupy rivers, streams, lakes, ponds, seasonal wetlands, and intermittent streams where permanent and extended seasonal pools exist. They also use similarly structured man-made aquatic habitats, such as reservoirs, water treatment ponds, and stock ponds. Although they prefer fresh water, they also tolerate slightly brackish water, such as coastal lagoons. Adult turtles are often found in still or slow-moving water in sunlit waterways, but they also swim easily in swiftly moving water. When active, WPTs spend much of their time basking (Cook and Martini-Lamb 2004). When active, they typically bask fully exposed on logs, rocks, or exposed banks, although this behavior may be less common in the coastal fog zone. They will also bask at the water surface, often in floating algae mats, where they are much more difficult to locate,

even in favorable habitat. Unless habituated to people, basking turtles are exceptionally wary and dive rapidly into deep water if threatened or approached.

WPTs use terrestrial habitat for nesting, refuge during times of year when creeks dry or flood, and basking. Some individuals may refuge in upland habitats for up to 191 days, usually between October and February (Rathbun et al. 2002). Female turtles usually leave water to nest in late afternoon and travel to sparsely vegetated grasslands and coastal scrub areas with compacted and dry soils (Rathbun et al. 2002). In this study in central coastal California, nests averaged 28 m from the nearest water, but were found as far as 80 m from water. A radio-tracking study at Loch Lomond Reservoir in Santa Cruz County documented three female turtles that nested four times, with an average distance to water of 23 m (Allterra Environmental 2009). All the turtles in a population may not use terrestrial habitats equally, or at all, and distances from water can vary considerably depending on local conditions (Rathbun et al. 2002). Turtles can move seasonally up to 2-3 km in streams (Rathbun et al. 1992).

Elsewhere in Santa Cruz County (*outside of the Plan Area*), western pond turtle behavior and habitat preferences in coastal streams have been studied through mark/ recapture and radio-telemetry studies. The relatively large, reproducing pond turtle populations on the north coast in Waddell Creek lagoon and in south county in the lower Pajaro River provide pertinent regional information. Davis (1998) studied winter habitat use by turtles in Waddell Creek and lagoon. Davis found the overwhelming majority of the Waddell turtle population are concentrated in the lagoon-associated ponded areas. Few turtles make use of the remaining upstream watershed. Davis noted that upland overwintering turtles primarily used riparian forest with dense native understory where they were buried in leaf litter or soil. Both upland basking in warm weather and hibernation during the coldest periods were observed.

Crump (2001) found that in lower Waddell Creek, turtles nested 30 m -100 m upland from aquatic habitat at sites with a low risk of winter inundation. Crump also found that all pond turtle nesting during the study period occurred in adjacent active agricultural fields and horse pasture, despite to availability of other potentially suitable undeveloped grasslands within range. Abel (2010) documented that in Waddell Creek, the majority of active-season, summer turtle observations were made of basking turtles in aquatic habitats. Abel noted that summer season upland turtle observations were limited to females seeking nesting sites and short upland forays by both sexes between stream and pond habitats

Ongoing western pond turtle studies in the lower Pajaro River in South Santa Cruz County documented the extensive range and use of the river corridor. Of particular note was a single adult male's movement from the Pajaro lagoon to over 12 km upstream between June 2009 and September 2010. Overwintering turtles were observed both instream in partially submerged woody debris piles and within leaf litter and rodent burrows in willow-cottonwood riparian habitat. Upland nesting was documented within grassland habitat 50 m – 60 m from aquatic habitat. (Biosearch and Kittleson, 2017). Nest mortalities by predators were also documented in 2012 as a result of damage to the nests caused by maintenance mowing and off-road vehicle disturbance. (Alvarez, et. al. 2017)



### Occurrences Within the Plan Area

The streams and associated terrestrial habitat within the North Coast watersheds provide breeding, aquatic, and wintering habitat for WPTs. However, the North Coast creek surveys recorded WPTs only from Wilder Creek and single occurrences from isolated ponds in the Yellow Bank and Moore Creek watersheds. During the KES (2001) habitat assessment of Wilder State Park, only one turtle was observed (in the Wilder Creek Lagoon) and one empty shell was found in the Wilder Creek restoration reach. The reasons for WPT scarcity from seemingly high quality aquatic habitat in the North Coast watersheds are unknown, but may include a shortage of suitable undisturbed egg deposition sites in associated terrestrial habitat, predation, scarcity of nekton forage for juvenile turtles or absence of sufficient cover at aquatic habitats.

The San Lorenzo River watershed seemingly offers moderate quality breeding, foraging, and overwintering habitat for the turtles. For example, Sycamore Grove along the San Lorenzo River provides potentially suitable nesting habitat for this species, based on the 1995-reconnaissance survey (City of Santa Cruz Department of Public Works et al. 1979). Turtles have been recorded from Highlands Park near Ben Lomond (CNDDDB 2010), Quail Hollow County Park (Kittleson, pers. obs.), the Glenwood Open Space Preserve in Scotts Valley (Largay, 2018, pers. comm.), and from Newell Creek and Loch Lomond Reservoir in the San Lorenzo basin (Allterra Environmental 2009). The Highlands County Park population is clearly reproductively successful, as the CDFG record indicates that children were seen collecting juvenile turtles at the Highlands Park pond (CNDDDB 2010).

WPTs are declining in Neary Lagoon, from a high of 10 adults in 2007 to 3 adults for the last two years. All WPT that have been studied in Neary Lagoon have been mature adults. No hatchling or juvenile WPT have been trapped and marked at Neary. Only one (1) juvenile turtle has ever been positively documented at Neary Lagoon, and that was limited to a photograph of a juvenile basking next to a known, marked adult. Potential negative impacts on the Neary Lagoon WPT population include inadvertent mortality during machine tule removal, operation of the Neary Lagoon pump station, and competition from introduced red-eared slider turtles (*Trachemys scripta*) and largemouth bass (*Micropterus salmoides*). At least one slider mortality has been documented during active tule-removal operations. No tule removal-related WPT mortalities have been documented, to date.

Raccoons are common at Neary Lagoon Preserve and predation of adult red-eared sliders has been documented. Based on these observations the assumption must be made that Neary Lagoon's pond turtles are also subject to raccoon predation pressure. Neary Lagoon's location in an area totally surrounded by urbanization also likely negatively affects WPT reproduction, because terrestrial habitat has reduced suitable oviposition sites accessible from the lagoon. If continued over time, the lack of reproductive recruitment will likely result in WPT extirpation in Neary Lagoon.

A 1996 assessment of Arana Creek in the eastern part of the City of Santa Cruz (HRG 1996) indicated that the aquatic habitat within Arana Creek is potentially suitable for WPTs, but none were found during those surveys. This portion of Arana Gulch is also surrounded by urban development and lacks suitable nesting habitat. The lower reaches of Arana Gulch have brackish

water, unsuitable for freshwater amphibians and reptiles. The mouth of Arana Gulch was modified into the current Santa Cruz Harbor many decades ago.

#### Habitat Conditions

Each of the three units is briefly discussed below with regard to WPT habitat and known occurrences within the Plan Area.

### **NORTH COAST UNIT**

#### *LIDDELL CREEK*

WPTs were not observed during the 2003 Liddell Creek survey (ENTRIX 2004). Liddell Creek pools that were rated as marginal for California red-legged frogs in the lower reach (because of lack of appropriate water depth and basking sites) were marginal to unsuitable for turtles for the same reasons and because suitable nearby terrestrial oviposition sites were absent. Appropriate accessible terrestrial and aquatic basking sites for turtles were also scarce in the reach from RM 1.29 to the diversion dam.

#### *YELLOW BANK CREEK*

Descriptions of the in-channel agricultural ponds on Yellow Bank Creek (Env. Science Assoc. 2001) suggest that the aquatic habitat is well suited to WPTs. However, no observations of WPTs were reported for these ponds.

#### *LAGUNA CREEK*

The coastal lagoon and associated terrestrial habitat to the south appears to have the greatest potential basking, foraging, and oviposition habitat for WPTs in Laguna Creek (ENTRIX 2002). Elsewhere in the reach extending to 1.43 miles upstream of the lagoon, some pools appeared to be deep enough for basking and foraging, but suitable terrestrial oviposition habitat is not apparent. Potential foraging and basking sites are also absent from river mile 1.43 to the diversion dam. The Laguna Creek diversion pond is too shallow and unvegetated to support WPT foraging and basking (ENTRIX 2002).

#### *MAJORS CREEK*

The Majors Creek “lagoon” (discussed above) is not suitable for WPTs, but pools and backwaters along the lower reaches of Majors Creek were rated moderate to favorable aquatic habitat for WPTs because the sites have open canopy, complex cover, abundant forage, and appropriate depth. The diversion pond seems to offer high quality cover and basking and foraging habitat for WPTs (ENTRIX 2002). However, winter and spring operations for sediment management associated with runoff from storm events can cause the diversion pond to fluctuate from one to ten feet in depth, which may destabilize the aquatic habitat enough to discourage WPT colonization and recolonization.

#### *LOMBARDI CREEK*

WPT are not known to occupy the freshwater bypass ponds at the City of Santa Cruz Resource which are surveyed annually for CRF (Kittleson, pers. obs). No WPT observations have been recorded downstream of the landfill in Lombardi Creek, or downstream of Highway 1 in the willow riparian zone and lagoon.

### *MOORE CREEK*

The Bulger (1999) red-legged frog survey did not evaluate WPT occurrence and habitat along Moore Creek, but Bryan Mori recorded a single occurrence in an ephemeral step pool near the headwaters (CNDDDB 2010). Moore Creek Preserve includes substantial meadow habitat that offers many potential oviposition sites. Ephemeral aquatic habitats similar to that sampled by Mori can function as “nursery” habitat for WPTs if water remains through June and alternate foraging habitat exists within about 1,640 ft (Barry, personal communication, 2004).

### *NEARY LAGOON*

WPTs are well-documented from Neary Lagoon, although the population is not considered a self-supporting breeding population. Surrounding upland areas were developed into condominiums and apartments after 1972 with conditions that the developers would restore the lagoon through dredging, assist in creating park facilities and dedicate a 10-foot-wide easement for public access and maintenance along the lagoon edge. The lagoon was dredged in the mid 1970’s and recreational facilities were developed gradually between 1975 and 1986. Current management practices are based on the approved 1992 Neary Lagoon Management Plan (Jones and Stokes, 1992). Much of the program involves removal of excessive tule (*Scirpus*), cattail (*Typha*), and yellow flag iris (*Iris*) growth with the general goal of keeping approximately 7 acres of open water and 7 acres of freshwater marsh for habitat diversity, flood control, improved water circulation and aesthetics. “Basking platforms” have also been placed in the lagoon to increase the number and variety of secure basking sites, a critical habitat requirement for WPTs. The current CDFW Lake and Streambed Alteration Agreement requires removal of non-native red-eared sliders encountered during WPT trapping efforts.

## **SAN LORENZO RIVER BASIN UNIT**

### *SAN LORENZO RIVER*

Slower flowing sections of the San Lorenzo River with good sunlight penetration are potentially suitable for WPTs, but suitable oviposition habitat, which is limited by the availability of open south-facing meadows with appropriate soil, may be scarce in forested or developed reaches of the river. Turtles have been recorded from Highlands Park near Ben Lomond (CNDDDB 2010), Quail Hollow County Park (Kittleson, 2013 pers. obs.), and the Glenwood Open Space Preserve in Scotts Valley (Largay, 2018, pers. comm.). Anecdotal accounts of WPT from the 1970’s in impoundments at San Lorenzo River summer dams above Boulder Creek have been recorded (Stroud, 2007, pers. comm.) There are no recorded WPT observations within Henry Cowell State Park, although suitable habitat exists throughout the middle main stem of the San Lorenzo.

Despite the lack of recent pond turtle observations in the mainstem San Lorenzo River, single adult pond turtles were identified in the levee-confined lower reach of the river in summer/fall 2014-2016. There are no documented records of juvenile or hatchling WPT in the lower San Lorenzo River and lagoon.

A recent study of the Newell Creek and Loch Lomond Reservoir WPT population captured 12 large adult turtles and observed only one hatchling (Allterra Environmental 2009). The authors

concluded that recruitment was very low for this population because the lack of juveniles and small adults.

### **3.0 COVERED ACTIVITIES**

#### **3.1 Introduction**

This section describes the “Covered Activities” under the Plan including new construction as well as those activities that the City routinely performs, including operation, maintenance and rehabilitation of the City’s water supply and water system facilities; operation and maintenance of the City’s municipal facilities; and management of City lands. These activities are necessary to allow the City to provide safe and reliable services, and most of these activities have been ongoing for many years.

#### **3.2 Construction of the North Coast Pipeline and Rehabilitation of Diversion Structures**

The entire North Coast System (NCS) is located within the Coastal Zone of Santa Cruz County (Figure 1). The NCS includes five distinct pipeline reaches (Liddell, Laguna, Laguna/Liddell, Majors and the North Coast Pipeline Reach [NCP Reach]). The system extends above ground and underground through developed and undeveloped areas, and traverses along or beneath roadways.

Rehabilitation work on the NCS would include replacement of the supply pipelines and rehabilitation of the diversion structures. The pipeline replacement work would include replacement of the pipelines in their current alignments or the construction of new alternative alignments, designed to avoid sensitive habitats (e.g., potentially sensitive riparian areas). Due to the size of the NCS and funding limitations, work on each of the five pipeline reaches would likely occur independent of each other and could include a mix of existing and new alignments. It is also possible that the pipeline routing may require a change from the present “gravity-flow” system to a “pumped” system for the Laguna or Majors reaches.

Under the proposed Project, rehabilitation of the 120-year old diversion structures also would occur. Modifications to these structures, which are located above the anadromous reaches on the creeks, would include the installation of a cofferdam and a temporary bypass system, dewatering, earthwork, reinforced concrete demolition and construction, metal work fabrication and installation, stone protection, and miscellaneous electrical and mechanical services, including a pneumatically operated spillway gate. This work would enable the diversion structures to facilitate passage of suspended sediment and bed load downstream in a more natural manner, minimizing the need for manual clearing of these materials and deposition in downstream habitat.



The City of Santa Cruz maintains an 8- to 10-foot right-of-way (ROW) along the existing pipeline route in most areas. The 18-mile NCS includes:

- approximately 5.5 miles of the system located within developed areas (mountain residential and City of Santa Cruz)
- approximately 1.5 miles of the system extending beneath City surface streets from the Meder Street extension to High Street
- approximately 4 miles of the system running along Highway 1 from Laguna Creek on the west to Wilder Ranch State Park entrance on the east (Jones & Stokes 2000)
- the remaining 12.5 miles of the system running through undeveloped areas (Coast Dairies Property, Wilder Ranch State Park, and Moore Creek Preserve)

### **3.2.1 General Construction Actions**

The following activities would be involved in construction of replacement pipeline.

#### **3.2.1.1 Trenching**

In most instances, the new pipeline would be placed in trenches, approximately 3 feet deep (minimum depth). The trenching operation would be carried out with a chain trencher, a tracked or wheeled excavator, or backhoe. If solid rock is encountered during the trenching process, a rock saw or other heavy equipment (e.g., excavator) would be used. Trench widths would be a minimum of 3 feet wide. This width would help to reduce the amount of soil displaced and to minimize land disturbance. Excavated material would be placed adjacent to the trench. Following placement of the pipe, the trench would be backfilled and compacted. The ground surface would be restored as closely as possible to its original condition.

#### **3.2.1.2 Directional Drilling**

Directional drilling would be used in areas where trenching would need to be avoided (i.e., across wetlands and flowing watercourses). Through the control of a directional drill head, a boring can be made horizontally, or in an arc, to install the water pipe. Once a boring is completed, it is reamed to a desired diameter, and then the assembled piping system is pulled through the boring. Directional drills can operate over distances ranging from 100 to 5,000 feet, depending on size. Directional drilling requires installation of sending and receiving pits to allow the drilling fluid to be collected and reclaimed. For this project, drill pits would be located at both ends of the drilled segment and would range in width from approximately 34 to 55 feet. This approach avoids creating open trenches; however, due to the potential of inadvertent drilling fluid return (aka frac-out), directional drilling will not be used unless a frac-out contingency plan has been approved by the Service. At a minimum, the plan will prescribe the measures to ensure protection of water quality and related biological resources (e.g., aquatic resources, and special-status plants and wildlife) including: a) Procedures to minimize the potential for frac-out associated with directional drilling activity; b) Procedures for timely detection of frac-outs c)

Procedures for timely response and remediation in the event a frac-out; and d) Monitoring of drilling and frac-out response activities by a qualified biologist.

#### **3.2.1.3 Sliplining**

Sliplining is another construction technique that avoids creating open trenches and that could possibly be used for pipeline construction. The sliplining method involves accessing the existing pipeline at strategic points to insert polyethylene pipe lengths that are joined into a continuous tube.

#### **3.2.1.4 Jack and Bore**

Jack and bore construction would be used to complete relatively short (100 to 200 feet), trenchless crossings of the railway and Highway 1. Access pits would be excavated on either side of the feature to be crossed, and then an augur would be used to bore underneath the rail line. As the augur advances, a casing or carrier pipe would be pushed (jacked) behind the augur head. Jack and bore drill pits would be approximately 67 feet wide.

#### **3.2.1.5 Pipeline Suspension or Attachment**

At stream crossings with deeply incised banks and/or inadequate banks for directional drilling or trenching, the pipeline may be attached to an existing bridge or overpass. In addition, a cantilever type structure could be constructed to support the pipe above the stream channel.

#### **3.2.1.6 Construction Access**

Access for construction is an important consideration for this project, due to the various types of terrain and habitats within the Project area. Most access would occur using ½-ton and ¾-ton trucks.

Construction activity would be restricted to easements obtained for the construction and operation of the pipeline. A summary of potential construction access for each reach is included below as well as whether the pipeline would be installed above or below ground.

- **Liddell** – General access to this reach is generally good and would likely occur via the Dirst access road from Laguna Creek to the south, and the RMC Pacific Materials Quarry (formerly RMC-Lonestar Quarry) access road to the north. The pipeline construction in this area would likely consist of all aboveground installation, most of it adjacent to the access road. There would be a couple of pipeline stretches along this reach (immediately downstream of the diversion structure and the crossing through the Rattlesnake Ridge area) that would not be placed immediately adjacent to the road, but would likely be above ground as well.

- **Laguna/Liddell** – Access downstream of the Y area varies from good to poor, with wetlands and a riparian corridor occurring downstream of the “Big Oak.” Access to this area would likely occur via the Dirst access road. While both aboveground and buried piping are options in this reach area, above ground pipe construction may be necessary due to the presence of wetlands and riparian habitat.
- **Laguna** – Access immediately downstream of the diversion structure (along Smith Grade Road) is good and access would occur via Smith Grade Road. Downstream, there are two small stream crossings as well as a larger stream crossing at the “Laguna Gorge.” Access in this area is extremely limited because it is heavily wooded and contains steep slopes. General access on the west-side of “Laguna Gorge” is much improved, but there are several areas of unstable soils immediately adjacent to the private residential access road. Pipeline construction would likely include a combination of aboveground and buried installation in this reach area.
- **Majors** – Access in this reach area varies from poor to good and would likely occur via the Majors access road off of Highway 1. Access is limited in the heavily wooded and steep canyon area downstream of the diversion structure. The existing pipeline is immediately adjacent to the riparian corridor downstream of the diversion structure. Aboveground construction in the canyon portion of this area in the existing access road would be the most viable option.
- **NCP-Hwy 1 Area** – Access varies from fair to good and generally improves downstream of the Majors Reach crossing. Most access to this stretch of pipeline would occur via Highway 1. While there are several narrow and wide stream/ravine crossings along this reach area, the pipeline would most likely be buried.
- **NCP-In City Area** – Access varies from poor to good in this area. Construction in residential and commercial areas (where the pipeline traverses adjacent to existing structures) would present the greatest access challenges. Access for this portion of the pipeline would occur via Meder Street, Cardiff Place, High Street, Coral Street, Encinal Street, and State Highway 9. Buried pipeline alignments would be likely in this area.

### 3.2.1.7 Heavy Equipment and Machinery

Anticipated equipment for most phases of this project would consist of tracked excavators, soil compactors, and ½-ton and ¾-ton trucks (dump and hauling). At pump station locations, additional equipment could include a mobile crane and concrete delivery trucks. A directional drill rig for the directional drilling and an auger for the jack and bore construction that will occur at the railroad crossings may also be required. Diesel fuel is required for machinery and heavy equipment; refueling such equipment would be limited to designated areas (such as one of the staging areas) so as not to expose sensitive habitats to the possibility of a fuel spill. Additionally, best management practices (BMPs), such as a spill contingency plan and containment areas

would be incorporated during the construction period. Other BMPs such as vegetable oil-based hydraulic fluids, which are standard for operating construction equipment near environmentally sensitive areas, would be used for this phase of the project.

### **3.2.2 Construction Staging Areas**

Primary staging areas would likely be established at several locations along the western side of Highway 1, with smaller staging areas located adjacent to access roads in the various pipeline reach and diversion areas. Most of these areas are privately owned. No staging areas would occur on the marine terraces. In general, primary staging areas would be established on relatively level ground in existing open spaces. These staging areas would not exceed a maximum size of 300 feet by 150 feet (45,000 square feet) and would be used for materials and equipment storage, preliminary pipeline fabrication, and project management. Secondary staging areas would not exceed a maximum size of 60 feet by 30 feet (1800 square feet) and would be used for temporary storage of materials and equipment. These areas would also support daily activities related to pipeline segment fabrication.

### **3.2.3 Construction Schedule**

Pipeline rehabilitation has already begun. The period of construction for each of the pipeline reaches will vary according to seasonal, budgetary and other limitations. While winter operations will be avoided if practicable to ensure protection of amphibians and reduce potential for erosion and stream sedimentation, there will likely be occasions when projects run into the winter season. An assessment of the fine details of the various pipeline reaches will be made thru project-specific design and environmental review processes. In general, the construction period depends on whether the pipe is buried underground or installed above ground and the actual length of the pipeline reach.

## **3.3 Water Supply Operations**

### **3.3.1 Water Diversions**

The City of Santa Cruz Water Department has six sources of water supply in its system. These include the North Coast Diversions (including Liddell Spring, Reggiardo Creek, Laguna Creek and Majors Creek), the San Lorenzo River (including Felton Diversion and Diversion at Tait Street), Newell Creek Dam and Reservoir (commonly referred to as Loch Lomond Reservoir) and the Live Oak Wells. The current total annual water demand in the service area averages about 3.6 billion gallons, of which the majority occurs in the six-month May-October peak season. The Live Oak Wells draw from groundwater and are not addressed in this HCP. Notably, current diversion volumes are very similar to historic diversions, with seasonal changes more a function of availability and water quality, rather than due to increased demand. This is primarily due to the effectiveness of the City's award-winning conservation program.



The HCP will provide coverage for existing water diversion facilities including operation, rehabilitation, replacement, repair and maintenance of existing infrastructure and related facilities such as water measurement devices, scientific measuring devices, and water quality monitoring stations. The level of diversion for each facility is variable and is based on bypass flows negotiated for the protection of anadromous salmonids for the City's Anadromous Salmonid HCP. Minimum bypass flows associated with the diversions are discussed below under each diversion description.

#### Liddell Spring Diversion

The Liddell Spring Diversion was developed in 1913 and is a natural spring located at the headwaters of the East Branch of Liddell Creek, approximately 2.5 miles upstream from the mouth of Liddell Creek. The spring box/diversion structure consists of a concrete box with a corrugated locking door. The structure sits on top of the natural spring and is approximately 25 feet above Liddell Creek. Access to the spring box is via an access road through the RMC Pacific Materials quarry. The water right for the diversion is a pre-1914 right. There are currently no permits or other legal requirements that specify limits on diversion rates or quantities or require a bypass flow at the diversion.

The Liddell Spring Diversion operates year round and produces approximately 1.2 to 1.7 million gallons per day with a maximum diversion capacity of approximately 2.7 cfs. The flow diverts water directly from the spring into a 16-inch pipeline that then connects to the North Coast Pipeline via the Laguna Creek pipeline. The flow is controlled by an inline slide gate valve. The valve may be shut during storms and a separate drain valve is most often cracked open to allow sediment transport and passing of the peak of the hydrograph. Sediment is also removed via pumping when it inundates the drain valves during significant storms. When not diverted, the spring flow passes under the access road adjacent to the spring through a culvert and discharges into a tributary to the East Branch of Liddell Creek. The minimum bypass flow that will be required under the Anadromous Salmonid Habitat Conservation Plan in the anadromous reach of Liddell Creek is 0.25 cfs.

#### Laguna/Reggiardo Creek Diversions

The Reggiardo Creek Diversion is located on Reggiardo Creek approximately 300 feet above its confluence with Laguna Creek. Water rights for the Reggiardo Creek Diversion were acquired along with Laguna Creek in about 1912 (Camp, Dresser & McKee 1996). A concrete dam spans the full width of the creek and is approximately 8 feet high. Immediately behind the concrete dam, the channel is filled with sediment. A small pond is created at the crest of the concrete dam.

The Reggiardo Creek Diversion operates year round, 24 hours a day. Due to inundation by sediment, the current diversion rate ranges from .05-.09 cfs. Historic maximum diversion rates ranged from 1.6-2.8 cfs. Surface water diverted from Reggiardo Creek enters an 8-inch pipe and flows by gravity approximately 850 feet into the upstream side of the Laguna Creek diversion pond. A valve is located at the discharge of the pipe allowing flow to be regulated or shut off completely.

The Laguna Creek Diversion was developed as a water source in 1890 and remains in use currently. Since the diversion is part of a pre-1914 water right, there are currently no legal restrictions on diversion rates or quantity from the diversion nor is there a bypass flow requirement. Water from the diversion is transported through a 14-inch pipeline to the junction of the transmission pipeline from Liddell Spring. After joining at the Liddell junction, the raw water is transferred via the North Coast Pipeline to the water system.

The Laguna Creek Diversion operates year round and has no seasonal restrictions nor bypass requirements. The maximum diversion capacity is approximately 7 cfs. During storm events the diversion intake is shut down as turbidity rises above 25 NTU. When turbidity begins to fall below 25 NTU the diversion is turned back on.

The intake passively diverts water from the impoundment pool through a 5/32 inch woven-wire intake screen. This screen acts to keep debris from entering the intake pipeline and is periodically cleaned of debris by hand. Water enters a flume that conveys flow to the 14-inch pipeline. A pneumatically operated (air pressure) slide gate at the inlet of the pipe is used to open or close the inlet. The minimum bypass flow that will be required under the Anadromous Salmonid Habitat Conservation Plan in the anadromous reach of Laguna Creek is 2 cfs.

#### Majors Creek Diversion

Diversion on Majors Creek has occurred since 1882 to service certain areas within the City. The Majors Creek Diversion was purchased by the City in 1916. The water right for the diversion was established in 1881 and the City operates the diversion under the pre-1914 water right (Camp, Dresser & McKee 1996).

Water from the diversion is conveyed through a 10-inch pipeline to the North Coast Pipeline. The Majors Creek Diversion is located approximately 300 feet lower in elevation than the other North Coast diversions, thus use of the Majors Creek Diversion is presently limited by the hydraulic loading from the other north coast sources. A check valve is located at the lower end of the Majors Creek transmission pipeline to prevent backflow from other sources (Camp, Dresser & McKee 1996).

The Majors Creek Diversion operates year round and has no seasonal restrictions nor bypass requirements. The Majors Creek diversion has an approximate diversion capacity of 2 cfs, due to constraints on the pipeline from hydraulic loading from other sources. During storm events as turbidity rises above 25 NTU the diversion is shut off and the entire stream flow passes over the dam. As turbidity drops below 25 NTU, the diversion is turned back on. The minimum bypass flow that will be required under the Anadromous Salmonid Habitat Conservation Plan in the anadromous reach of Majors Creek is 0.25 cfs.

#### Newell Creek Diversion and Newell Creek Reservoir

The Newell Creek Diversion consists of the Newell Creek Reservoir impounded by the Newell Creek Dam (commonly referred to as Loch Lomond). Newell Creek Reservoir is located on Newell Creek approximately 1.7 miles upstream of the confluence with the San Lorenzo River. The Newell Creek Reservoir is a drinking water reservoir and is the City's only water storage

facility. Newell Creek Reservoir is approximately 2.5 miles long with an approximate width of 1,500 feet. Newell Creek extends 3 miles upstream of the upper end of the reservoir. In 2009 the capacity of Newell Creek Reservoir was determined to be 8,646 acre-feet (McPherson et al. 2011).

The Newell Creek Diversion (License No. 9847) is an appropriative right for diversion to storage not direct diversion to use. This license allows for a maximum of 5,600 acre feet or 1,825 million gallons per year to be collected from September 1 to July 1 and requires a year round release of 1 cfs to Newell Creek downstream of the reservoir and release of the natural flow during July/August (due to the fully appropriated status of the San Lorenzo watershed) if the natural inflow exceeds 1cfs. The minimum bypass flow that will be required under the Anadromous Salmonid Habitat Conservation Plan in Newell Creek is 0.25 cfs. Withdrawals from Newell Creek Reservoir under the Newell Creek water right can occur from January 1 through December 31 and is limited to 3,200 acre feet or 1,042 million gallons per year. Water that is removed from storage is passed through a valve on the dam face and flows by gravity to the Felton Booster Pump Station for delivery to the Graham Hill Water Treatment Plant.

Legal action taken by the San Lorenzo Valley Water District (SLVWD) subsequent to the date the City obtained the Newell Creek license, resulted in a court decision that provides SLVWD up to 313 acre feet or 102 million gallons per year from Newell Creek Reservoir. This leaves a maximum withdrawal for the City of approximately 2,890 acre feet or 940 million gallons per year from Newell Creek Reservoir.

Felton Diversion on the San Lorenzo River also provides water to Newell Creek Reservoir under two separate diversion to storage water rights permits. This water does not count against the provision in the Newell Creek license nor the SLVWD decision. Details on the Felton Diversion are provided in Section 1.1.6 below.

Newell Creek Dam has five water intakes spaced at 20 foot intervals from 550 to 470 feet above sea level respectively, allowing withdrawals from the level with the best water quality, usually either 510 or 490 feet.

Newell Creek Reservoir is oxygenated by a hypolimnetic aerator during the summer/fall months. The Newell Creek Diversion bypass is provided through a valve at the base of the Newell Creek Dam located approximately 10 feet from the toe of the dam. The water released from this bypass is from the level of draw that is also used for production – which is aerated by the aforementioned hypolimnetic aerator, as well as by the diffuser at the outlet from the dam to Newell Creek just below the dam. Due to the small size of Newell Creek Reservoir, spilling often occurs in years of average to above average rainfall.

#### Felton Surface Water Diversion at San Lorenzo River

The Felton Diversion is located on the San Lorenzo River just downstream of the Zayante Creek confluence and approximately five miles upstream of the Tait Street Diversion on the San Lorenzo River. The Felton Diversion consists of a three-foot-high concrete weir spanning the stream channel with an inflatable rubber dam attached to the top of the weir structure. When not in operation, the dam is completely deflated and lays flat against the riverbed. The dam is eight

feet high when fully inflated. A pump station is located on the west bank adjacent to the dam and weir structure. Water from the diversion is diverted into a screened intake sump and transferred via a pipeline to the Felton Booster Station located near Graham Hill Road. The flows are transferred via the Felton Booster Station to Newell Creek Reservoir for storage and later use.

The City of Santa Cruz has appropriative water rights at the Felton Diversion. The Felton Diversion is implemented by two permits (Nos. 16123 and 16601) which allow a maximum annual diversion of 3,000 acre feet to Newell Creek Reservoir for storage and later use.

The Felton Diversion operates according to two Memorandum of Agreements (MOAs) signed with the California Department of Fish and Game (Agreement Between City of Santa Cruz and State of California Department of Fish and Game for Streamflow Maintenance and Operation of Fishway at Felton Diversion Project on San Lorenzo River for the Protection and Preservation of the Fish and Wildlife Resources, 1971 (CDFG 1971) and Memorandum of Agreement between California Department of Fish and Game and the City of Santa Cruz Regarding Operation of the Felton Water Diversion, 1998 (Hunter 1998). The maximum rate of withdrawal for October 1 to May 31 is 20 cfs with a minimum bypass flow of 25 cfs for October and 20 cfs for the period November 1 through May 31. In September, the diversion rate is 3500 gpm with a 10 cfs bypass requirement – though diversion in September is often impossible/unnecessary. Additionally, the City's Anadromous Salmonid Habitat Conservation Plan requires a minimum 40 cfs bypass flow at the Felton Diversion. The Felton Diversion does not operate in the summer June through August.

The City operates the inflatable dam at the Felton Surface Diversion according to the MOA (1998) cited above, to allow adult steelhead and coho salmon to migrate upstream. Operations are based on streamflow conditions during winter months and include specific operational changes based on low, moderate and high streamflow conditions as outlined below.

For low flow conditions, during November 1 through March 31 when the mouth of the San Lorenzo River is open and streamflow is 40 cfs or less and the City is diverting water, the dam is inflated to allow 20 cfs bypass flow through the fish ladder and diversion to Loch Lomond. During the same period, if the City is not diverting, the City inflates small air bladders beneath the deflated dam for the purpose of concentrating flows near the center of the deflated dam. The small air bladders are inflated to such a degree that the depth of flow within the zone of concentrated flow crossing the dam is 8 inches or greater.

For moderate streamflow conditions, during November 1 through March 31 when the mouth of the San Lorenzo River is open and streamflows are between 40 and 200 cfs, the City can divert water by inflating the dam and allowing 20 cfs bypass flow through the fish ladder. During these moderate streamflow conditions, the City keeps the dam deflated during the first one or two rainstorms to flush sediments and organic matter from the channel. During these conditions of winter operation, migrating fish can pass over the deflated dam.

In high streamflow conditions (exceeding 200 cfs) from November 1 through March 31, when the City is diverting, the dam is inflated such that the fish ladder is operational. When



streamflow exceeds approximately 300 cfs, the slide gate on the fish ladder is opened approximately 8 inches to increase attraction flow to the ladder entrance. When streamflows have equaled or exceeded 300 cfs for five consecutive days and adult steelhead or salmon are observed holding downstream of the dam, on the following day the dam is partially deflated and the slidegate closed in the evening and overnight. This allows the steelhead and salmon the opportunity to jump and swim over the partially deflated dam. When streamflows exceed 2,000 cfs the City fully deflates the dam.

#### San Lorenzo River Diversion and San Lorenzo River Wells (Nos. 1, 3, and 4)

The San Lorenzo River Diversion is located approximately 1 mile north of Highway One on the west bank of the San Lorenzo River at the terminus of Tait Street. The diversion consists of a low diversion dam (approximately three feet in height) that spans the width of the river and a concrete intake structure. The San Lorenzo River Diversion also includes three wells (Nos. 1, 3, and 4) located on the east side of the river. The wells range in depth from 85 to 104 feet.

Water rights at the San Lorenzo River Diversion and Wells consist of two licenses (Nos. 1553 and 7200) for appropriative rights to a maximum combined diversion rate of 12.2 cfs year round. There is no annual limit specified in the licenses nor are there downstream release requirements included in the licenses. Water is diverted on a continuous basis, interrupted only for excessive turbidity due to storms, short term water quality degradation resulting from spills of potentially harmful materials, mechanical breakdown, or routine maintenance.

Surface water is directed to the intake by the low diversion dam. The intake structure is concrete, built parallel to the stream bank, and extends downstream from the dam. The intake structure is protected by a debris rack and the downstream end of the intake is fitted with a hydraulic slide gate that is normally open during high flows and closed during low flows. This ensures the intake screens remain submerged and also maintains a continuous flow of water through the intake back into the river. A pipeline carries water from the intake to the pumping clearwell, where three vertical turbine pumps pump the water to the Graham Hill Water Treatment Plant.

The wells operate seasonally, generally July through September and water is delivered to the pumping clearwell on the west side of the river. The groundwater is then pumped into a common transmission line to the Graham Hill Water Treatment Plant. These wells account for about five percent of total volume of water diverted at this San Lorenzo River facility and less than three percent of total annual production from all water sources.

### **3.3.2 Reservoir Operations**

Reservoir operations focus on activities that occur at the Newell Creek Reservoir to provide a safe, reliable source of water for water customers. The activities are required by either the California Division of Dam Safety or the California Safe Drinking Water Act through the California Department of Health and Safety and are included for coverage in the HCP. Covered activities include reservoir water quality treatment and dam facility maintenance.

### Chemical Algaecide Treatment of Reservoir

Newell Creek Reservoir is a lacustrine environment and although not nutrient enriched, nevertheless can experience blue green algal blooms during the summer months due to available nutrients, warm water temperatures, and abundant sunlight. When algal blooms do occur or are predicted to occur, chemical algaecide applications are made to the Newell Creek Reservoir to protect against degradation of beneficial uses (e.g., objectionable taste and odor, production of disinfection by-product precursors and cyanotoxins, and oxygen depletion and subsequent fish kills). These algaecide applications are regulated by a National Pollutant Discharge Elimination System (NPDES) permit and implementation is described in the City's Aquatic Pesticide Application Plan (APAP).

The Water Department conducts weekly water quality sampling at one station in the lake to assess overall algae population. Species present at the surface and at the levels of the two upper water intakes (elevations 550 and 530 feet respectively) are identified and counted and may be analyzed for chlorophyll. When known nuisance species are on the increase (i.e., *Anabaena*, *Aphanizomenon*, etc.), sampling is increased to daily and when the counts and chlorophyll values indicate a bloom appears certain, algaecide is applied.

The applications generally occur once or twice between the months of April through September. A private applicator or City staff under the direction of a licensed applicator may conduct the application. The lake shallows are surveyed by staff prior to application to identify any Pacific Pond Turtle, fish breeding or early fish life stage presence. If located, these areas are not treated or treated at a reduced concentration, per direction of the City's SWRCB NPDES permit for aquatic algaecide application. The treatment area is tested the day after treatment to confirm that no high levels of copper are present. Weekly copper monitoring is continued at the surface and 20 foot depth intervals until copper returns to near pre-treatment levels. The fish release below the dam into Newell Creek is also sampled weekly. Finally, upstream and downstream copper sampling may occur on a regional scale to provide context for the copper dynamics observed in the reservoir and feedback on permit compliance. Other algaecides – though less effective than copper carbonate – (including peroxygen (PAK 27)) have also been used at the reservoir and procedures for such basically mirror those for copper carbonate.

### Testing Deluge and Gate Valves

Testing of the deluge and gate valves on the dam involves opening the deluge valve and seeing water released and closing the valve and not seeing water released. Additionally, the five intake gates in the lake are closed and the pipeline in the dam is drained to determine that the gates are holding as determined by no water passing through them.

The procedures can result in the discharge of approximately 100,000 gallons of moderate to low oxygen (1-6 ppm at a range of 9-17 C° approximately) water discharged to Newell Creek immediately below the dam. The deluge and gate valve flushing typically occurs in the late summer (though may occur any time of year) for a period of several hours on an annual or semi-annual basis. The rate of discharge is approximately 5-10 cfs during the testing period. The discharge is released into boulders/broken concrete below the dam to prevent scour of the streambed and also provide aeration. Dissolved oxygen measurements are taken during release just below the Newell Creek Dam road crossing to confirm aeration of released water. Releases

are “metered” out so changes in streamflow are minimized and designed to mimic natural rise and fall of the hydrograph. Releases are also recorded by a stream gaging station located several hundred feet downstream of the dam. Though release may be conducted during the season when lake coppering could be occurring, releases do not have copper levels higher than that allowable by the Basin Plan as the target dosage for the lake is well below that limit.

#### Woody Debris Removal on Reservoir Face

Woody debris removal is conducted annually in the late fall when the fire hazard is low (after rains and during burn season). The work requires approximately 4-10 days to complete. A log boom is used to remove the wood at the top of the spillway and a boat, rubber tired skidder and hand crews are used to remove the woody debris from the inside of the dam face. Heavy equipment is excluded from the dam face to minimize soil disturbance. The wood is then piled on the inside face of the dam, cut up with a chainsaw, and burned. Large woody debris pulled from the lake is retained in the wood lot below the dam for restoration projects if possible.

### **3.4 Water System Operation and Maintenance**

Water system operation and maintenance includes activities conducted to maintain operations of the water diversions and water transmission lines, and associated diversion features such as fish screens and fish ladders.

These activities are covered under the HCP and include operation, rehabilitation, replacement, repair and maintenance of existing infrastructure and related facilities such as water measurement devices, scientific measuring devices, and water quality monitoring stations.

#### **3.4.1 Sediment Management**

Laguna, Reggiardo, and Majors Creek diversions on the North Coast are concrete impoundments that can collect sediment and debris during storm flows. Sediment management at these diversions primarily focuses on managing bedload and suspended sediment during storm flows with an attempt to mimic the natural hydrograph as much as possible. Each diversion has a dual slide gate valve mechanism in the dam face. The upper gate is opened during the ascending limbs of sediment-transporting storms if it is free of sediment prior to the storms, and then closed on the receding limb of the storm. The receding limb is identified either onsite with staff plates, or through real-time dataloggers installed at the Laguna and Liddell diversions, with these gages serving as a surrogate for Majors and Reggiardo Creek – which have no real time communications. If sediment does collect behind the impoundments, the impoundments are dredged. Dredging is conducted during the dry season during low flows (August – October) with heavy equipment and/or hand tools and the material is removed from the site as soon as possible.

The Laguna Creek, Reggiardo Creek, and Majors Creek diversions will be rehabilitated in the future and this project is covered under the HCP. The rehabilitation will make part of the dam face movable so that during stormflows a portion of the dam can be dropped to allow sediment

and flow to proceed downstream. At the end of the stormflows, the dam will again be raised to allow diversion.

Although the Liddell Spring Diversion is located on top of a natural spring and is not an in-channel diversion structure, sediment can still accumulate in the spring box during large storm events. When needed, the City removes the sediment with hand tools, suction pumps or vacuum equipment and removes the material from the site immediately or after brief temporary storage. As previously mentioned, sediment is also allowed to “meter out” continuously by leaving the drain valve slightly ajar – thereby preventing accumulation in the spring box and providing an informal small instream flow to an unnamed tributary to the east branch of Liddell Creek.

Sediment management procedures for all the North Coast Diversions are currently being refined through an SAA process with the Department of Fish and Game.

### **3.4.2 Fish Ladder and Screen Maintenance**

The only City facility with a fish ladder is the Felton Diversion on the San Lorenzo River. The ladder is a standard Denil fish ladder located at the western side of the weir that operates when the dam is inflated. The ladder consists of a fishway with a removable fish trap. The fish ladder is operated according to the MOA described in Section 3.3.1. The ladder is inspected 2-3 times per week and manually cleaned and cleared of debris as needed. Debris removed from the ladder is removed from the site.

The fish screens at all the diversions are inspected regularly and cleaned by hand of any debris. The San Lorenzo River at Tait Street Diversion has two Johnson-type well screens that are cleaned by compressed air back flush at intervals ranging from 10 minutes to 2 hours when the diversion is on. The screens are protected by a debris rack that is inspected daily and manually cleaned as needed.

### **3.4.3 Pipeline Operations**

Adequate operation of the water transmission lines requires system flushing and repairs and specialized operations including pumping well return to prevent sand accumulation and valve blow-offs to prevent breaks in the transmission lines.

#### Conveyance Pipeline System Inspections and Repairs

The City’s two major unfinished water conveyance lines are the Newell Creek Conveyance Pipeline and the North Coast Conveyance Pipeline. Both lines are critical to safe and reliable transmission of water to customers. Pipeline routes are regularly inspected for leaks and pipeline rights of way are maintained to allow for inspection of the pipeline. Usually an eight-foot swath is mowed to allow inspection. Inspection occurs in the fall and spring of each year, and when decreases in flow indicate a leak. Inspection is conducted by production, recreation, distribution, and water resource management staff of the City Water Department. Inspection includes walking the route by foot or traveling the route with an all-terrain vehicle.



Pipeline repairs are conducted on an as needed basis and are identified through the operations and production staff. Repairs may result from damage to the pipeline through natural causes (earthquakes, landslides, etc.) or through deterioration of infrastructure over time. The Newell Creek Conveyance Pipeline is located primarily in upland areas though limited sections are adjacent to Newell Creek and the San Lorenzo River. Discharges from leaks on this pipeline may cause erosion and turbid runoff to surface waters when located adjacent to waterways. Staging areas for repair projects may be required depending on the location of the repair and may include areas for storage of construction materials and construction equipment. Pipeline repairs may also require trenching and construction of temporary access ways.

#### Finished Water Pipeline System Flushing and Repairs

The finished water pipeline distribution and conveyance system includes approximately 300 miles of pipeline in the water distribution area which includes the entire City of Santa Cruz, as well as a portion of unincorporated Santa Cruz County and a small portion of the City of Capitola. The distribution line must be kept clean of bacteria and contaminants and requires testing for hydrant capacity as well as pipeline repairs.

Regular maintenance activities that occur on the distribution system may include the flushing of the line for fire hydrant testing; repair of main breaks; sediment removal; taste and odor control; control of color, high turbidity, low chlorine residuals, or bacterial growth; corrosion control; or response to customer complaints. Flushing is a water quality practice required by the California Department of Public Health. These maintenance activities occur year round on various parts of the distribution system according to management priorities. SOP nos. 7102-01 and 7102-02 provide procedures to be followed when flushing any part or portion of the distribution line. The SOPs provide details on dechlorination and flushing procedures as well as follow up water quality testing for turbidity and chlorine residual. Dechlorination is accomplished by addition of sodium sulfite tablets to the discharge flow. For main flushing, hydrant testing or main dewatering through a blowoff, a dechlorinating diffuser assembly is typically used. Additionally, “Vactor” trucks are used to prevent discharges when possible. Pipeline repairs may also require trenching and construction of temporary access ways. Most repairs do not involve sensitive habitat, but though those that do are done in consultation with the Service and include avoidance and minimization measures, as described in chapter 5, *Conservation Strategy*.

#### Pumping Well Return to the San Lorenzo River

Even during moderate river flow, sand accumulates in the pumping clearwell of the San Lorenzo Wells. To reduce damage to equipment and prevent re-deposition in the Graham Hill Water Treatment Plant, sump pumps remove sand from the clearwell, pump it to an adjacent decanting basin and ultimately returns decanted water to the river without any elevation in turbidity.

#### North Coast Valve Blow Off to the San Lorenzo River

The North Coast Pipeline delivers water from the North Coast sources to the Coast Pump Station, which ultimately delivers water to the Graham Hill Treatment Plant. At the Coast Pump Station (at Tait Street) water from the pipeline is discharged to the San Lorenzo River when pressure within the pipeline threatens to rupture the line. The discharge prevents pressure from

blowing out the North Coast Pipeline (subsequently preventing environmental impacts related to such blowouts) when sources are changed and during situations such as emergencies.

Recently installed pressure relief valves minimize the potential for this occurrence.

The North Coast Pipeline Blow-off occurs year round but only when the North Coast sources are on. The approximate amount of discharge during this operation ranges from 5-10 cfs. The water is discharged over rip rap to the San Lorenzo River downstream of the intake.

#### Dewatering of Creeks for Maintenance and Repairs

The City performs various types of instream work including, repair and maintenance of diversion facilities, sediment management, fish ladder and fish screen maintenance and repair, pipeline operations and maintenance, flood control and stormwater maintenance, vegetation management, and aquatic habitat management. During the course of these activities it is often necessary to dewater and otherwise disturb portions of stream channels. In order to minimize effects of these activities on aquatic species, including protected species, the City captures aquatic species in the project area and relocates them to suitable habitat outside the project area. Fish may be captured by electrofishing, seining, or dip netting. California red-legged frogs or WPTs may be captured by hand, dip net or seine and relocated to areas of suitable habitat just outside the work area.

### **3.5 Municipal Facility Operations and Maintenance**

Municipal facility operations and maintenance activities include flood control maintenance, stormwater maintenance, emergency repairs and response, and vegetation management. These activities occur on City facilities and properties in the HCP Program Area. These activities are covered under the HCP and include operation, rehabilitation, replacement, repair and maintenance of existing infrastructure and related facilities.

#### **3.5.1 Flood Control Maintenance**

Flood control maintenance is conducted to prevent flooding of city waterways and damage to public and private property. Flood control preventative activities are conducted in July through October on an as-needed basis. Emergency response during storms is conducted if damage to life, property, or public safety is imminent. Flood control maintenance includes debris/obstruction removal, sediment management/removal, and vegetation management.

#### Debris/Obstruction Removal

Debris/obstruction removal is necessary when a material is either deposited or washes downstream into a waterway and creates a hazard to property or infrastructure. Under these hazardous conditions, the City may conduct debris/obstruction removal, including log jam modification (cutting larger logs into smaller segments that may float downstream in larger flows, moving with cranes, etc.) and vegetation removal. These activities are only conducted in an emergency setting where property, life, or public safety is threatened and are done in consultation with NOAA, USFWS, and DFW staff as appropriate. During and immediately after flood events, City staff inspects conditions at bridges, road culverts, diversions, pipelines, and

other public infrastructure to ascertain whether threat to structures are imminent and will only take action if the structure or property is in immediate danger. Such work is typically overseen by environmental monitors and involves standard avoidance and minimization measures for streamside projects.

#### Sediment Management/Removal

The City takes a preventative approach to sediment management by implementing BMP's for stormwater facilities including vacuuming storm drains before the winter season and cleaning culverts, vaults and ditches before winter, usually from August through October. See description in Section 3.2 for stormdrain maintenance program. Work is completed with mechanized equipment and hand tools. Mechanized equipment used for this work is kept outside of the stream channel.

The San Lorenzo River Flood Control Project includes 18 drainage discharge structures which are maintained to prevent flood waters from backing into neighboring areas and to prevent spills from entering the river. Branciforte Creek also has several drainage discharge structures to be cleaned. The drainage discharge structures are cleaned on an annual or biannual basis. An excavator is used to remove sediment that has built up near the drainage gates. The amount of sediment averages 2 cubic yards per drainage discharge structure. The sediment is dewatered on site and the dried sediment is spread above ordinary high water on the riverbank to be removed by storm flows during the winter.

Sediment removal is only done as necessary to maintain and/or restore capacity of storm water conveyance facilities or to prevent flood events. The nature and exact location of sediment removal in flood control areas is not know from season to season and is dependent on variation of winter storms flows, upper watershed events that produce sediment, and flood control monitoring data that documents aggraded areas that may not meet flood control standards established by the Corps. In general sediment removal in the channel is not likely to be needed annually and will be conducted out of the active stream channel.

#### Vegetation Management

Vegetation management focuses on trimming or removing riparian vegetation that may impede storm flows, result in bank erosion, or result in damage to property. In the majority of waterways, mature riparian trees are not removed, but riparian shrubs may be trimmed from ground level to 6-8 feet in height. Mature riparian trees are removed in the San Lorenzo Flood Control Channel and Branciforte Creek Flood Control Channel per maintenance requirements of the Corps. Cuttings are removed from the work area and recycled as green waste at the landfill. Work is generally conducted in late August and may last from a few days to a few weeks depending on the area.

### **3.5.2 Stormwater Maintenance**

Stormwater maintenance is conducted on the City's stormwater conveyance system and at the sanitary landfill. The City has an adopted Stormwater Management Program and has fulfilled the requirements for the NPDES Phase II General Permit for Discharges of Storm Water from

Small Municipal Separate Storm Sewer Systems. The Stormwater Management Program is designed to reduce discharge of pollutants to the maximum extent practical and to protect water quality. The Stormwater Management Program includes inspection and cleaning of streets, public areas, and other City facilities, and structural retrofits.

#### Inspection and Cleaning

The street sweeping program is conducted daily and covers approximately 35 miles of streets daily. Manual hand sweeping is conducted “on call” in order to clean up after a particular event or accident.

Cleaning of City-owned areas (such as alleys) is conducted with a garden hose, without the use of soap. Prior to hosing, spills and large debris are cleaned or picked up. Also, aluminum grates with small mesh size are inserted into nearby storm drains inlets to prevent small debris from entering the storm drain system. Catch basins in public parking lots are cleaned with a Vactor annually. Wastewater from the cleaning is collected and disposed into a sanitary sewer line. City staff oversees these cleaning events to ensure proper disposal of the wastewater.

The City maintains numerous medians, parks and other landscape areas. The primary pollutants of concern from these sources are sediment from erosion, nutrients from fertilizer use and organic matter, and heavy metals and toxic organics from pesticides/herbicide use. Medians and embankments are planted with vegetation and maintained for both aesthetics and erosion control.

#### Storm Drain Inspection and Cleaning

The City recognizes that a variety of urban pollutants can flow to and accumulate in the storm drain system. In response to this, the City implements an annual storm drain inspection and cleaning program, “Team Clean”, to remove pollutants prior to them being transported by storm waters. The City is currently developing a Geographic Information System (GIS) for storm drains to identify a cleaning frequency for catch basins and inlets. A maintenance tracking software system is under development and will help with scheduling and tracking inspections, cleanings, upgrades, and tracking flooding of storm water facilities. The City also conducts TV camera inspections of at least 5,000 feet of storm drain line each year. These inspections are very helpful in evaluating the conditions of storm drain lines and identifying repair needs.

Cleaning is completed both through the use of a Vactor truck and through hand cleaning. Storm drain lines are plugged at both ends and the Vactor truck, using reclaimed water, “jets” the line and then vacuums the line to remove sediment and material. The resulting sediment and material are disposed of in the sanitary sewer or landfill after dewatering at the Wastewater Treatment Plant. In general, the City operates according to the following schedule for inspecting and cleaning all inlets, catch basins, pipelines, pump stations, and other portions of the storm drain system.

- Problem basins (known basins that collect sediment and trash): Inspect and clean at least monthly or more frequently during wet season.
- Intensive use basins (located in high use areas of the City): Inspect and clean semi-annually. Clean monthly during September and October.



- Commercial basins (located in commercial areas): Inspect and clean annually.
- Residential basins (located in residential areas): Inspect on an eight-year cycle and clean as necessary.
- Pump stations along San Lorenzo River: inspect weekly and cleaned at least annually.
- Large diameter storm water pipelines (including inlets, culverts and vaults): Inspected annually and cleaned at least on a five-year cycle.
- Small diameter storm water pipelines (including inlets, culverts, and vaults): Inspected on a two-year cycle, cleaned as needed or on a fifteen-year cycle.

#### Structural Retrofits of Storm Drain Inlets and Basins

The City selects structural retrofit projects only if feasibility of long-term maintenance, operation and grant funding has been determined. The City focuses on two types of structural controls to improve water quality associated with the storm drain system. The first are dry-weather diversion systems to divert flow to the sanitary sewer for ultimate treatment at the Wastewater Treatment Facility. The second are in-line treatment systems such as sediment basins and oil/water separators. Additional projects such as sealing slide/flap tide gates along the San Lorenzo River to prevent spills from entering the river have been identified as a priority when funding is available.

#### Sanitary Landfill Stormwater Management - Bypass System & Stormwater Outfall

The Santa Cruz Landfill was constructed within a south-draining canyon of Lombardi Creek and is connected to a southerly-draining tributary canyon along its west side. As a result, surface waters historically accumulated near the upstream limit of wastes within the “northern” and “western” canyon areas. Because the existing system of pumping surface water around the landfill created the potential for migration of surface water into the landfill, the City constructed a freshwater bypass system in 1996 along the west side of the facility. The freshwater bypass system prevents rainwater from infiltrating into the landfill where it may form leachate.

The freshwater bypass system is comprised of two bypass tunnels and two ponds that collect and reroute the north upstream canyon drainage around the landfill and into the lower portions of Lombardi Creek at the southern boundary of the landfill. Surface waters are controlled by several different diversion methods. Water collected from the North canyon slopes is collected in V-ditches and drains to the North Canyon Pond. Water from the West Canyon slopes is collected in lined trenches and drains to the West Canyon Pond. The ponds catch sediment and withhold stormwater until it drains into the stormwater system located in the southern area of the landfill. Both ponds drain into the storm drain runoff collection system. The two ponds are located along the western edge of the landfill. The City may also construct an additional sediment pond in the future; that action is covered by the HCP.

The South Canyon stormwater outfalls include the final outfall for the freshwater bypass system and the final stormdrain for the landfill. The stormwater outfall systems transfer stormwater from the bypass and pond system and the southern areas of the landfill into Lombardi Creek.

Cleaning of the stormwater outfall structures is dependent on the time of year. During summer the outfalls do not collect much sediment. During the rainy season, the outfalls may collect sediment and may need to be cleaned. The typical schedule for the cleaning of the outfalls has been every other year. This cleaning is strictly dependent on the amount of sediment that has accumulated and is not completed on a routine maintenance schedule. Cleaning of the outfall is conducted typically in September through October before the rainy season. The cleaning process can take up to two hours depending on the amount of sediment in the pipes and the outfall structures. The Vactor truck cleans out the structures by inserting a high-pressure hose into the pipe and forcing trapped materials down to the outfall structure where it is vacuumed by the vacuum truck. Sediment is removed using a small tractor and hand tools down gradient of the outfall structures. The sediment is taken to a non-lined area of the landfill and dewatered and reused at a later date.

#### Sanitary Landfill Stormwater Management -Sediment Management/Clean Out of Bypass Ponds

Part of the activity associated with collecting stormwater in the bypass ponds is the deposition of sediment in the ponds. The freshwater bypass system relies on maintaining adequate capacity in the ponds during rainy events. If the capacity of the ponds is limited due to buildup of sediment, there is a higher chance for freshwater flow into the landfill. Adequate operation of the freshwater bypass system therefore depends on maintenance of sediment built up in the collection ponds.

The maintenance work conducted on the freshwater bypass ponds may include dewatering the ponds, intake and outfall structure cleaning, sediment removal, and vegetation removal.

Dewatering the ponds involves using pumps and directing the water into the freshwater bypass tunnel system. A long-reach excavator is used to remove the sediment in the pond. The average amount of sediment removed from the ponds is approximately 500 cubic yards of material. The sediment removal takes place during the dry season (September through October). The sediment that is removed is taken to a non-lined area of the landfill where it is dewatered and reused at a later date. Once the excavation has been completed, jute matting is applied to all areas where native soil has been scarified and a native seed mix is then applied to the jute matting. This material is in place and seeded prior to the winter rains.

The ponds are not cleaned on a regular basis, but rather on an as needed basis based on conditions following the winter season. If no significant amounts of sediment are deposited during the winter season, the ponds can remain undisturbed for several years without being cleaned. The City has completed an approved CalRecycle partial closure on the landfill areas adjacent to the ponds which has decreased erosion and prevented landfill sediment from entering the ponds. If large amounts of sediment from tributary areas are deposited into the ponds, then they are cleaned annually. A conservative estimate to clean each pond is approximately two days.

### Leachate Management

The goal of the operation of the Leachate Collection and Removal System (LCRS) is to prevent leachate from entering into Lombardi Creek and prevent the public from coming into contact with leachate. The LCRS consists of four major components: a groundwater interceptor trench-barrier wall at the toe of the RRF, two Class II surface ponds; a leachate transport pumping station and electric control building; and a transport pipeline.

There are two leachate collection ponds located at the south toe of the RRF, up gradient of the groundwater interceptor trench-barrier wall. The leachate collection ponds serve to collect leachate resulting from rainfall and underground springs and prevent the leachate from entering into Lombardi Creek. The ponds are operated in a sedimentation and overflow scheme. The ponds are approximately 11 feet deep including 2 feet of freeboard. The primary and overflow ponds have nominal capacities of 100,000 and 175,000 gallons respectively. The leachate sediments settle in the primary collection pond and the leachate overflows to the transfer pump station manhole. At the base of this pond is a 4-inch clean-out where operations vacuum out the sediments on an as needed basis.

The leachate transport pumping station was built between the two ponds, and houses three submersible 200 gpm wastewater pumps. Leachate flows by gravity to the pumping station or into the overflow pond when storage is required. Pumping to the Wastewater Treatment Plant is frequent enough so that the overflow pond is empty most of the time. The pump station was designed so that one pump could meet the peak month flow requirements; the third pump was provided as a backup. Most of the solids in the leachate settle out in the sedimentation pond, minimizing cleaning of the overflow pond and leachate transport line.

In the case that the leachate line would require repair due to some damage from some natural event (i.e., earthquake), the City would undertake repairs as expeditiously as possible, normally within 24-48 hours depending on damage. The process by which the line repair would be undertaken would include assessment by City engineers for fixing the break, assessment of equipment and operation needs, obtaining necessary permits and building the repair.

### **3.5.3 Emergency Operations and Response**

Emergency operations are developed in response to specific emergency incidents. Anticipated types of incidents that may occur in the Plan Area include natural events such storms, floods, fire, earthquakes, as well as hazardous spills and other non-natural emergency events. These incidents may result in log jams, flooding, damage to bridges and levees, mudslides, structures damaged by high surf, and spills into waterways.

Emergency operations may include the use of heavy equipment near waterways and removal of debris and structures in waterways. Operations are completed according to the City's Emergency Management Plan. The overall project manager during emergency situations is the City Manager with support from Fire and Public Works departments.

### **3.5.4 Vegetation Management**

Vegetation management is conducted at City properties and facilities, pipeline rights-of-way, water diversions, tanks, pump stations, and open space and watershed lands. Vegetation management is conducted to provide access to City facilities, provide protection from fire, prevent proliferation of non-natives and illicit activity, and to improve habitat and water quality at some facilities.

Vegetation removal is done through cutting, flaming, pulling, mowing or targeted herbicide application consistent with the City's Integrated Pest Management Program. Removal areas are targeted based on facility maintenance needs, safety, non-native plant invasion potential, available resources and funds, and other natural resource management priorities. Planting may also occur for landscaping or restoration purposes and is typically focused on native or drought tolerant species. Generally speaking, vegetation removal is limited to the dry spring and summer months, while planting is limited to the early winter period when rooting potential is maximized. However, these activities may not occur on a regular or seasonal schedule, nor occur at a specific time of day or rate of frequency, and may occur at any time as needed.

Vegetation management for fire protection involves mowing (usually to an eight-foot width), removal of fire prone species such as broom and eucalyptus, and maintenance on young, low growing native species through thinning and removal of non-natives. Ladder fuel reduction includes removing vertical limbs with chain saws and removing dense smaller trees to establish larger trees in a well-spaced stand. Herbicides, under the direction of the City's IPM program, may also be utilized for maintenance of fire breaks on the City's watershed property outside of the Newell Creek reservoir drainage basin.

Vegetation management for pipeline right-of way access is done primarily through hand trimming and mowing. An eight-foot right of way along the pipeline right of way is maintained the length of the pipeline. Mowing is done monthly in late spring and summer months. Trimming in riparian and other woodland areas is done by hand and maintains canopy, downed trees and snags to the extent possible. All trees are inspected before being felled and downed wood is left and not lopped. All work is done outside of the nesting season if possible. If it is necessary to work during the nesting season, trees are inspected for active nests and active nests are buffered.

Vegetation management for habitat and water quality improvement includes non-native removal through hand trimming and limited herbicide application according to the City's Integrated Pest Management Program. Tule removal is conducted in Neary Lagoon to create more open water habitat. The tule removal program is conducted biannually in August through September. The work is conducted in the central portion of the lagoon and the arms of the lagoon. Tules are removed to an approximate ratio of 1:1 marsh to open water. The work is completed with a floating backhoe known as an Aquamog. The Aquamog enters the lagoon from an access area on the west side of the lagoon near the Wastewater Treatment Plant. The Aquamog is driven into the lagoon from the bank of the lagoon. The Aquamog is fitted with either a tulerake or a clambucket. Prior to initiating removal, work areas are designated on maps. Tules are ripped from the sediment using the Aquamog and transported to a designated staging area by harvester.



or shallow-draw barge and piled for removal by excavator. Material is then moved to a temporary dewatering area prior to off-haul.

### **3.6 Land Management**

Land management activities include recreation, facility maintenance and management, and sensitive habitat management. These activities occur on City Water Department watershed lands including the Loch Lomond Recreation Area in Newell Creek Watershed, and the Zayante and Laguna watershed properties in the HCP Program Area, as well as other anadromous salmonid recovery priority watersheds in Santa Cruz and southern San Mateo counties. Habitat management activities would also occur at the City-owned Moore Creek Preserve. The HCP includes coverage for operation, rehabilitation, replacement, repair and maintenance of existing infrastructure and related facilities.

#### **3.6.1 Management of Recreational Areas**

The City of Santa Cruz operates the Loch Lomond Recreation Area in the Newell Creek Watershed. The Water Department operates with a staff of resource planners, rangers and maintenance personnel. The areas are operated to provide appropriate recreational opportunities for the public, to preserve and maintain habitat areas and to provide drinking water source (i.e. watershed) protection at Loch Lomond and surrounding Newell Creek watershed lands.

#### **3.6.2 Facility Maintenance and Management**

Activities associated with facility maintenance and management include facility repair, trail maintenance and management, trail construction, and road maintenance and decommissioning. These activities occur on all the open space properties owned by the City and in the Newell Creek and Zayante Creek watershed properties.

##### Facility Repair

Facility repair includes repair to trails during or after natural events such as winter storms, earthquakes or landslides. The City does not undertake this activity on a regular basis, only on an as needed basis. In cases where a project has been identified as needed to ensure public safety and prevent degradation to sensitive resources, the City prepares a project description, obtains repair specifications, obtains project specific permits and constructs the project. Standard best management practices (as described in California Department of Fish and Wildlife Streambed Alteration Agreements and USFWS biological opinions) are required for facility repair work near riparian corridors and streams. More detail on such measures can be found in Section 4.3.

##### Trail Maintenance and Management

Trail maintenance and management occurs year round on open space properties and watershed lands. Trail maintenance and management is a preventative activity to keep trails in good physical conditions to avoid blow-outs due to natural events. Trail maintenance can include

installing drainage improvements such as culverts, dips and bars and realigning trail segments to avoid sensitive habitats and steep slopes. Remediation of existing erosion areas is implemented annually as needed. Informal and unauthorized trails are discouraged or removed as resources permit. Ranger patrols are provided to ensure appropriate use of trails and adherence to closures or restrictions.

### **3.6.3 Road Maintenance and Decommissioning**

Road maintenance and decommissioning occurs on the Newell Creek and Zayante Watershed properties owned and operated by the Water Department. Road maintenance and decommissioning is conducted on the watershed lands to maintain access on vital roads. Road maintenance occurs annually on the property, from May-September and can take a few days to several weeks to complete. Road decommissioning is a new activity for the Department and is in its initial stages of planning and implementation but is expected to continue over the next 20 years. All road work is conducted with the support of a Registered Professional Forester and Certified Erosion Control Specialist, with engineers also being involved on more difficult road projects.

Roads are maintained to provide access for patrolling the properties for security and trespass concerns (off road vehicles, poaching, camping, etc.), for fire access, resource management and restoration, and for maintenance of drainage infrastructure. Roads not necessary for these purposes, or which are significant sediment sources which cannot be treated by maintenance activities, will be decommissioned.

#### **Road Maintenance**

Road maintenance takes place on “restricted use” or seasonal roads within the Newell Creek and Zayante watershed lands and on City park properties. Maintenance is done on the paved maintenance road to the Loch Lomond Recreation Area and unpaved roads in the watershed lands. Maintenance activities focus on maintaining culverts and trash racks, maintaining proper energy dissipation at outlets, clearing bank slough and conducting bank stabilization, and hand digging rolling dips and/or water bars as necessary to maintain appropriate drainage. Drainage maintenance is usually done with hand tools and bank slough is accomplished with hand tools or a small tractor or loader. Large fill failures or crossing failures are emergency repairs, and are not considered standard maintenance.

Unpaved roads are managed as “restricted use” roads. The restricted use refers to roads that are not appropriate for driving in the winter under saturated conditions. These roads are generally maintained as out-sloped dirt roads, with rolling dips and/or water bars to manage drainage. Culverts are utilized to route drainages that the road would otherwise intercept, through the road prism, or in a few areas where in-sloping had to be maintained to pick up bank seepage, or control drainage away from a landslide or road fill failure. These roads have been historically maintained as dirt surface roads, with no wet season use. In an attempt to reduce road surface sediment production, to improve access for patrols or emergencies, and to extend the season that the roads can be traveled, these roads can be rocked. At this time, the main road on the Newell Creek watershed lands, from the dam to the Bear Creek access is envisioned for rocking. The

east side road in the recreation area may be treated with drain rock at stream crossings, or at road segments which could introduce sediment into water courses, but is not as vital to upgrade for patrol.

Additional maintenance activities for roads would include culvert replacement and road reshaping. These activities would not occur annually as the prescriptions described above, but would rather be done according to management priorities. Culvert replacement or upgrades would occur in July – September with hand tools and heavy equipment. Projects could take several days to several weeks to complete. The City Water Resources Department is planning for a 20-year rotational schedule for culvert replacement and upgrades. Road reshaping would occur approximately every five years and would include reshaping roads to maintain outslope drainage as appropriate for the road and topography. Reshaping work is done within the existing road width and cut fill area for most roads and no additional disturbance is done to adjacent areas. After reshaping, the roadbed is rocked and straw and seed are applied to bare soil areas as necessary. Once reshaping has been accomplished for identified roads, the frequency of repeat treatment would be approximately every 8-10 years.

#### Road Decommissioning

Road decommissioning is planned for several miles of roads in the Newell Creek and Zayante Creek watershed lands. Road decommissioning varies according to topography, road placement and construction technique when the road was built. Many segments of the roads proposed for decommissioning traverse relatively mild slopes and have few drainage structures (culverts). These road segments would be more severely outsloped than a drivable road, or sloped as close to natural grade as possible without generating excessive levels of disturbance. Where water may still concentrate on the road, frequent, large water bars will also be constructed. A small bulldozer (D-6) could adequately decommission these roads, possibly with the assistance of an excavator or backhoe.

These road segments would require all fill to be removed from the down slope portion of the road. This material would then be placed on top of the roadbed cut surface (keyway) and compacted against the existing cut bank. Compaction could be track walking or tamping with excavator in more benign areas. In the more difficult, steep areas, the fill would be engineered (with compactor, sheepsfoot, etc.) and watered per geotechnical recommendations. A severe out-slope would be constructed to bring the contour to as close as natural grade as possible. The area of disturbance associated with road decommissioning is the 14-16 foot width of the roadbed plus an additional 15-20 feet for the recontouring of the more benign roads, and 20-30 feet for the more difficult ones.

Culvert removal will consist of excavating the culvert fill with an excavator or backhoe, down to native grade, and removal of the culvert. The area of disturbance associated with culvert removal would typically consist of the 14-16 foot wide roadbed, plus the area to the outer edge of the fill (10- 20 feet). The road length at a particular crossing would typically vary from 20-50 feet. Depending on the grade of the channel to be reestablished, and other channel conditions, additional work may be necessary for grade control and energy dissipation above and below the culvert removal site. It is anticipated that most channel adjustments from culvert removal would occur within 30-50 feet of the existing crossing. Gabion sized rock to small rip-rap, or

placement of large wood in the channel, may be necessary for channel stabilization upstream and/or downstream of the removed crossing. Erosion control measures for surface stabilization following removal would be required (straw, seed, straw rolls, blankets etc.), and the area replanted with native species, particularly conifer and riparian species.

Road decommissioning would take place during June – September. Road segments would be chosen so that they could be decommissioned, stabilized for erosion, and replanted within one season. Once decommissioned, maintenance would be reduced to any follow-up erosion control and further planting/care necessary for an additional period of one to two years until the area is stabilized and growing.

### **3.6.4 Habitat Management**

Habitat management includes resource management activities to improve, preserve and maintain existing sensitive habitats and species on City properties. Activities include habitat management and restoration, and public education.

#### Aquatic Habitat Management

Aquatic habitat management is conducted to protect and enhance aquatic habitat for fish, amphibians, and reptiles.

Fisheries habitat management and restoration is dependent on funding availability and resource management priorities. Fisheries restoration projects focus on adding or protecting fisheries habitat, stabilizing stream bank erosion problems, and removing fish passage barriers. Projects are completed in accordance to the methods detailed in the California Salmonid Stream Habitat Restoration Manual (Flossi et al. 1998) and appropriate state and federal permits are obtained prior to doing the work. Project types and respective equipment details are variable. For example, equipment used may range from chainsaws (for dropping trees into the streams), to excavators and log skidders for placement of large wood/boulders/gravel and related materials which must be brought into an area where there is existing access from roads. Hand crews are also typically involved in instream projects.

These activities take place during the summer/ fall period, when work conditions are dry, and the critical spawning and smolting periods are over. These projects could occur annually for smaller focused projects to every few years for larger projects (longer stream reaches, complex construction). It is estimated that the time length of the projects will vary from 2 to 6 weeks.

Work is conducted during the dry season to minimize soil disturbance and streambed mobilization. Cofferdams are constructed as necessary to prevent degradation of aquatic resources/beneficial uses, and work sites will have standard erosion control measures (i.e., silt fences, seeding and mulching) implemented prior to October 15<sup>th</sup> each year. Before and concurrent with construction, biotic surveys and contractor outreach are conducted as necessary to ensure that special-status species are not impacted negatively by such work. Equipment is not fueled within 50 feet of creeks. Geomorphologists and aquatic biologists are retained as necessary to consult on projects for design and implementation. Ongoing physical profiling and



biological surveys of project sites occurs post-implementation to demonstrate effectiveness and provide feedback for future projects.

For amphibian and reptile species, exclusion fencing is installed to prevent access to stream corridors. Educational signage is provided at all parks and open space areas that support sensitive amphibian and reptile species. All other typical avoidance and minimization measures are employed for work involving special status amphibian and reptile species as necessary/directed by permit conditions and as described in section 4.3.

#### Terrestrial Habitat Management

For plant species, grazing, mowing and limited herbicide application and manual non-native removal are the activities.

Grazing is conducted annually on the Newell Creek dam, typically in the late spring, as a means to keep down brush which might compromise the integrity of the dam or prevent adequate inspection of the dam.

Mowing is done along fuel break areas, pipeline rights of way, property boundaries, and some trails. Mowing is done in late spring and summer after vegetation begins to dry and usually is accomplished within one to two weeks depending on the area. A tractor mounted flail or rotary mower is used. Most areas are mowed to a width of eight feet.

Non-native removal is completed year round and is based on needed management and removal prescriptions for non-native species. City or volunteer crews use hand tools or mechanical tools (chain saws) as necessary to remove vegetation. Material is removed from the site or chipped and spread on site. Limited herbicide use may also be employed to expedite removal of non-natives, per the guidance of the City's IPM policies.

Habitat restoration and management activities at Moore Creek Preserve could include removal of non-native species and use of grazing to maintain open areas for use by OTB. Management activities at the Moore Creek Preserve would be conducted in accordance with a Habitat Management Plan subject to approval by the Service.

## **4.0 CONSERVATION STRATEGY**

### **4.1 Introduction**

This chapter sets out the HCP Conservation Strategy, which consists of multiple components that are designed collectively to achieve the HCP overall planning goals and objectives of the conservation of Covered Species and the habitats on which they depend while at the same time allowing the City to carry out its O&M activities. The chapter describes the Plan's biological goals and objectives and identifies a set of measures designed to minimize and mitigate for the potential impacts of Covered Activities on Covered Species. The measures are broken down into General Measures (GM) and Species-Specific Measures (SSM). The Conservation Strategy also includes programs for monitoring and adaptive management.

The conservation strategy was developed to recognize that, unlike regional habitat conservation plans that cover extensive development activities that result in the permanent loss of substantial amounts of habitat, Covered Activities under this Plan tend to have discrete, mostly temporary impacts spread across the Plan Area over time. As such, the conservation strategy is focused on efforts to avoid and minimize the permanent loss of habitat and to minimize the potential for injury or mortality to occur to individuals of the Covered Species during the carrying out of the Covered Activities. For effects remaining after implementation of the avoidance and minimization measures that would warrant mitigation, conservation opportunities have been identified that would allow the City to establish up front credits that could be drawn upon as needed.

## **4.2 General Biological Goals and Objectives**

The HCP is designed to meet the conservation needs of Covered Species through incorporation of goals and objectives developed around the species-specific needs of Covered Species and the needs of the natural communities on which Covered Species depend.

**Biological Goal #1:** Maintain habitat quality in the Plan Area for Covered Species by restoring habitat temporarily disturbed by Covered Activities.

Objective 1.1: Decompect and revegetate work areas with an appropriate assemblage of native riparian, wetland, and upland vegetation suitable for the area. Return stream contours to the original condition at the end of project activities, unless consultation with the Service has determined that it is not beneficial to the species or feasible.

**Biological Goal #2:** Contribute to the permanently protected and managed lands in the Plan Area that support populations of Covered Species.

Objective 2.1: Increase the amount of lands protected or managed for Covered Species within areas identified as having high quality habitat for conservation.

**Biological Goal #3:** Pursue conservation actions that will result in conservation benefits to Covered Species.

Objective 3.1 Contribute to habitat enhancement and restoration through in-kind services or monetary contributions to organizations undertaking conservation work.

## **4.3 General Conservation Measures**

### **4.3.1 Introduction**

The City will implement conservation measures during construction and O&M activities to avoid and minimize incidental take or adverse effects on individuals, populations, or habitat of

Covered Species to the maximum extent practicable. The following conservation measures will be incorporated into the Covered Activities, as appropriate, to ensure that the effects of Covered Activities are avoided, minimized, and mitigated.

#### **4.3.2 General Minimization and Best Management Practices**

**GM-1.** During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

**GM-2.** All refueling, maintenance, and staging of equipment and vehicles will occur at least 65 ft. from any riparian habitat or water body. The City will ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the City will ensure that the contractor has prepared a plan to allow a prompt and effective response to any accidental spills. All workers will be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

**GM-3.** The spread or introduction of invasive, non-native plant species will be avoided to the extent practicable. The City will provide a tailgate worker training session for City crews and all other construction personnel that will outline measures to prevent introduction and spread of invasive, non-native plant species on to or off the project work area. The training session will include dissemination of a 2-3 page handout that will contain photographs and descriptions of the most prevalent invasive plant species in the work area. Workers will be instructed to notify the project monitor if any of the species are observed in the work area. The project monitor will determine if the project has the potential to dislodge and transport any reproductive plant parts (i.e., reproductive stems, rhizomes or seeds) within or outside the work area. If reproductive plant parts are found to be dislodged and may be transported during the project, the monitor will require that the tires and other earth-related equipment pieces be inspected to ensure no invasive species are transported within or from the site. As part of project construction and regular maintenance activities, occurrences of invasive, non-native plants in the project areas will be removed and properly disposed as per current CalIPC recommendations.

**GM-4.** Prior to any on-site work in areas where Covered Species may occur, a qualified member of the City's Water Resources Management staff will conduct a tailgate training session in which all construction personnel will receive training regarding measures (below) that are to be implemented to avoid environmental impacts. This training will include a presentation of the potential for sensitive species to occur at the site and measures to protect habitat including aquatic habitat and avoid impacts to the species. All personnel working on the site will receive this training and will sign a sign-in sheet showing they received the training.

**GM-5.** Prior to the commencement of work, the limits of the work area will be clearly marked with orange construction fencing to prevent workers from impacting habitat outside the work area. No work will occur outside the designated marked work area.

**GM-6.** Each morning before work begins, a Service-approved biological monitor will survey the work site and habitat immediately surrounding the work site for conditions that could impact Covered Species, and will remain on-site whenever work is occurring. No work will be allowed to begin each morning until the monitor has inspected the work site.

**GM-7.** To protect water quality, water pumped from construction areas will be discharged into a basin created out of straw bales lined with filter fabric.

**GM-8.** To reduce the potential for erosion after work is completed, project sites will be decompacted and revegetated with an appropriate assemblage of native riparian, wetland, and upland vegetation suitable for the area. Planted material may include native seed mixes, pole cuttings, or container stock as appropriate.

**GM-9.** Stream contours will be returned to the original condition at the end of project activities, unless consultation with the Service has determined that it is not beneficial to the species or feasible.

**GM-10.** To control erosion during and after project implementation, the applicant will implement best management practices, including:

- a. Install straw wattles/silt fencing to break up and filter surface runoff.
- b. Install rice straw, jute netting, or native duff to cover bare soil after work is completed except in OTB habitat (see section 5.4.4). Avoid use of plastic mesh netting at all sites, as this can entrap native animals such as snakes.
- c. Install exclusion fencing to prevent heavy equipment from entering muddy/unstable areas.
- d. Installation of rolling dips and revegetation on accessways utilized for repairs.
- e. Installation of energy dissipators on pump/dewatering equipment outlets.
- f. Revegetation with site-specific native materials, where appropriate.
- g. Conduct activities outside of the channel whenever feasible by timing work to the low flow season or by utilizing equipment or methods that do not require access in the channel.
- h. Conduct activities during the low flow season (June through October) unless that conflicts with seasonal restrictions in SSM.
- i. Avoidance of disturbance of retained riparian/wetland vegetation where practicable.
- j. Utilization of “floating” platforms for mobilization of heavy equipment in saturated soil conditions, as appropriate.



- k. Repair by high-lining HDPE pipeline to ensure longevity of pipeline repairs and to avoid site disturbance/unnecessary excavation and subsequent erosion impacts. Where placing pipeline in trench is not feasible because of topographic features, the pipeline will be elevated on piers above ground, as opposed to placement directly on the ground, to avoid potential for creating a barrier to movement/habitat use by species.
- l. Limit removal of riparian vegetation to pruning/trimming where practicable.
- m. Minimize excavation in the active stream channel to that which was historically permitted.
- n. Isolation of the channel from flowing water through temporary bypass before beginning work (i.e. aquadam, coffer dam, etc.).
- o. Store construction and erosion control materials outside of the stream channel and cover loose soils/excavations during non-work hours and wet periods.

**GM-11.** A Service-approved biologist or biological monitor will remove from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes to the extent practicable.

**GM-12.** The City has adopted an Integrated Pest Management Program (IPM) to govern the use of pesticides and herbicides in parks and other landscaped areas such as street medians. Any application of pesticides or herbicides by the City would be in compliance with the labeling instructions and applicable State and local law. Other than algaecides, pesticides, herbicides and fertilizers are not applied adjacent to watercourses and riparian areas or in proximity of other covered species habitat. A copper-based algaecide is applied at Loch Lomond under a SWRCB general permit.<sup>6</sup> Copper-based algaecides were evaluated in the March, 2000 biological opinion (1-1-98-F-21) issued for the California Water Quality Standards and Numeric Criteria for Toxic Pollutants, in which the Service concluded that the use of copper algaecides was not likely to jeopardize listed species, including the California red-legged frog (McGinnis and Spear 2000). Furthermore, the CEQA process for the City's enrollment in the general permit involved specific analysis for impacts on Western Pond Turtle and determined that use of algaecides was likely to have minimal effects on turtles (Blankenship and Associates 2010).

**GM-13.** Upon locating individuals of Covered Species that are dead or injured initial notification will be made to the Ventura Fish and Wildlife Office at (805) 644-1766 within three working days of its finding. Written notification will be made within five calendar days and will include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information. Written notification will be sent to the Ventura Fish and Wildlife Office at 2493 Portola Road Suite B, Ventura, California 93003.

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<sup>6</sup> The City is not requesting take coverage under the HCP for pesticide or herbicide application.

Dead California red-legged frogs may be placed with the California Academy of Sciences. If necessary, the City will work with the Service to locate contacts for the deposition of dead insects and other species.

**GM-14.** If directional drilling is planned for any pipeline repairs or rehabilitation, an Inadvertent Drilling Fluid Return Response Plan or “frac-out” contingency plan will be developed and implemented in consultation with and concurrence of Ventura Fish and Wildlife Office staff prior to initiation of drilling activity. At a minimum, the plan will prescribe the measures to ensure protection of water quality and related biological resources (e.g., aquatic resources, and special-status plants and wildlife) including: a) Procedures to minimize the potential for frac-out associated with directional drilling activity; b) Procedures for timely detection of frac-outs c) Procedures for timely response and remediation in the event a frac-out; and d) Monitoring of drilling and frac-out response activities by a qualified biologist. An example of a frac-out contingency plan can be found in Appendix A.

### **4.3.3 Species-Specific Measures During Construction of the North Coast Pipeline**

#### **4.3.3.1 Covered Plant Species**

The following SSM will apply to all covered plant species in the Plan Area during construction related Covered Activities.

**SSM-1.** Prior to the initiation of construction activities, covered plant species population boundaries or critical habitat for covered plant species will be clearly delineated with visible flagging or fencing, which will remain in place for the duration of construction activities. Flagged areas will be avoided during construction activities in that area. Warning signs will be posted on the temporary fencing to alert excavators and other workers not to proceed beyond the fence. All protective fencing will remain in place until all repairs have been completed. Signs will include the following language:

**"NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER."**

If the area cannot be avoided and it is determined that the activity will adversely affect the covered plant species, the activity will be conducted outside of the bloom period for that species. In the appropriate season prior to construction, seed from the covered species (BLS, robust spineflower and Santa Cruz tarplant) will be collected from plants within the impact area and stored. Soil excavation activities in areas where covered plant species are known to occur will ensure that the topsoil will be segregated to preserve the viability of the seed bank. To adequately capture the seed bank, the top 2 inches of soil will be removed and appropriately stored. Upon completion of the project, the salvaged (top 2 inches) soil will be replaced in the area affected and seed collected from plants within the impact area will be hand broadcast onto the revegetated area.

Success of the revegetation efforts will be monitored for a minimum of five years, wherein the number of covered plant species growing within the revegetated area will be inventoried. The

revegetation will be deemed successful if the site attains 50% of the pre-disturbed number of plants. If no covered plant species are detected in Year 1, the City will develop and implement remedial measures, in coordination with and subject to the concurrence of the Service. If revegetation is not successful after year five, the City will develop and implement alternative restoration plans with the concurrence of the Service. Occurrences of invasive, non-native plant species will be removed from the revegetated area until success criteria are achieved.

**SSM-2.** Appropriate dust control measures, including periodically wetting down the work areas, will be used as necessary for any project-related construction activities that generate dust.

#### **4.3.3.2 Ohlone Tiger Beetle (*Cicindela ohlone*)**

The following measures will minimize the number of OTB immatures and adults that could otherwise be injured or killed as a result of project-related activities.

**SSM-3.** Locate Project Within Previously Disturbed Areas: To the extent practical, new habitat disturbance will be minimized by locating components of this project either within the footprint of or adjacent to previously disturbed areas (such as the existing pipeline alignment) or paved areas. Micro-siting of the new pipeline within the project alignment will be utilized to the extent practical to avoid impacts to active OTB larval burrows that are encountered. Alternatively, the City may implement new technologies that would minimize or avoid new ground disturbance.

**SSM-4.** Educational Awareness Training Session for All Construction Workers: Prior to the start of any construction-related activities, a Service-approved entomologist will conduct a training session for all construction personnel. This training will include a description of the OTB life stages that might be encountered by workers, information about its natural history and habitat, and measures to be observed to avoid and minimize impacts to the beetle and its habitat during all work activities. The training will also include a discussion of why sensitive habitat areas are fenced and procedures workers will follow if any OTB life stages are encountered.

**SSM-5.** Delineate Boundaries of the Impact Area: In portions of the project located on Watsonville loams occupied by the OTB, temporary fencing and signs will be erected before any vegetation clearing or ground disturbing (i.e., excavation, trenching, grading, etc.) activities occur to clearly delineate the boundaries of the project's impact area. Warning signs will be posted on the temporary fencing to alert equipment operators and other construction workers not to proceed beyond the fence. Protective fencing will remain in place until all construction and revegetation activities have been completed. Signs will include the following language:

**"NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER."**

**SSM-6.** Identify Locations for Refueling, Worker Parking, and Staging Areas Outside of Sensitive Habitat: Whenever possible, locations for refueling, maintenance, and staging of equipment and vehicles will be situated outside of sensitive habitat areas. Similarly, worker's vehicles will be parked in designated areas outside of sensitive habitat areas. The City will ensure that contamination of sensitive habitat does not occur during such operations, including

accidental spills. All workers will be informed of the appropriate procedures to prevent spills and response measures should an accidental spill occur.

**SSM-7. Relocate Observed Life Stages of the Covered Species:** To avoid the need to relocate adult OTBs, pipeline construction activities at Moore Creek or Younger Ranch will not occur during the flight season (January 15 to May 30), unless monitoring surveys indicate that adults are no longer active. A pre-construction survey will be performed by a Service-approved entomologist to salvage any larvae and other life stages of the OTB. During the pre-construction training session, all construction personnel will be shown pictures of the OTB larval and adult life stages, and instructed to cease construction activities and contact the project's Service-approved entomologist, who would be permitted to handle and translocate the endangered beetle should any be observed during the Covered Activities. If a larva is found in an earthen tunnel, a new tunnel of the same depth will be created outside of the impact area and the larva placed in it. Burrows with active larvae that cannot be avoided will be salvaged and relocated within the Moore Creek Preserve.

**SSM-8. Dust Control:** Dust can clog the spiracles of adult beetles and larvae, the latter of which are active throughout much of the year. Appropriate dust control measures, such as periodically wetting down the work areas, will be used as necessary for any project-related activities that generate dust. Care will need to be exercised to avoid saturating areas supporting life stages of the OTB.

**SSM-9. Revegetation of Coastal Terrace Prairie Habitat:** OTB adults and larvae prefer patches of bare to sparsely vegetated soil in this grassland habitat. Revegetation of disturbed portions of the project area at locations known to support the OTB will use only grasses and forbs indigenous to the coastal terrace prairie habitat. Also, weed control will be part of the revegetation activities. Dense ground covers, weed matting, aggregate, and mulch can degrade habitat conditions and will not be used.

**SSM-10.** All excavated soil will be retained and used to refill the trench after installation of the new pipeline. To maintain the pre-construction soil profile, soil from the bottom of the trench will be returned to the trench's bottom. Similarly, topsoil will be re-deposited as top soil. No off-site soils or other materials will be utilized to refill the trench.

### **Mitigation for Residual Impacts**

Avoidance of impacts to OTB through construction techniques such as sliplining and directional drilling is preferred over a translocation program for OTB. The City will coordinate with the Service to determine whether impacts to OTB would be avoided by using these methods in and around OTB habitat through the duration of the pipeline construction project. In the event that construction of the pipeline can be completed without disturbing Watsonville loam soils, incidental take of OTB will not occur and the City will not be required to provide mitigation for the species.

To anticipate the potential need to relocate individual OTB and to provide mitigation for OTB as a result of habitat disturbance, the City would, within 90 days of permit issuance, augment the existing management activities (City of Santa Cruz Parks and Recreation Department 2002) at an



11-acre portion of the City-owned Moore Creek Preserve to benefit OTB. The Moore Creek Preserve contains habitat for OTB and is currently occupied by OTB. The augmented management actions would include:

- Habitat assessment to establish baseline conditions
- Periodic grazing
- Fencing
- Signage

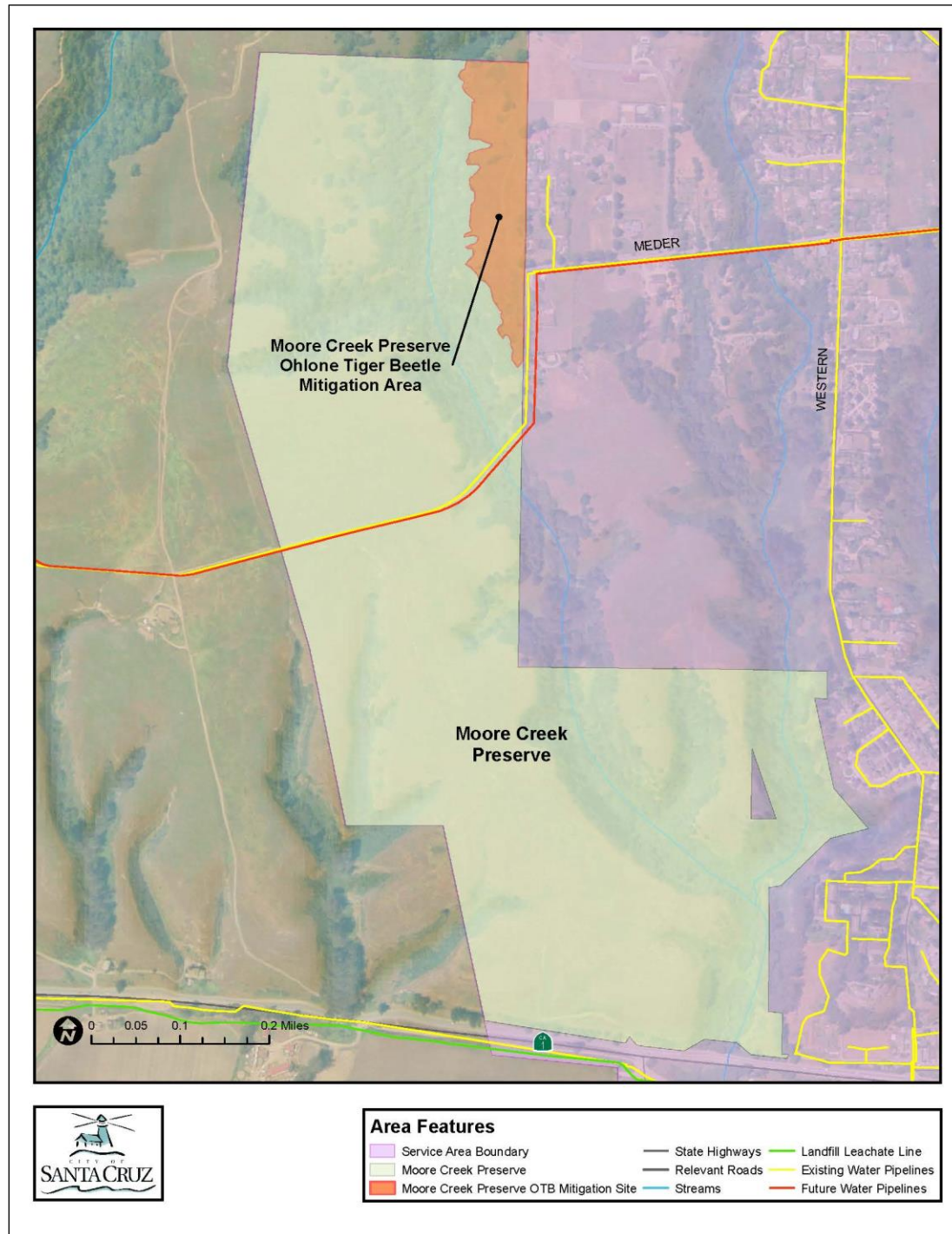
To anticipate the need to translocate OTB out of the work area and into Moore Creek Preserve, the City will prepare an OTB translocation plan for Service review and approval within six months of permit issuance.

The augmented management actions at Moore Creek Preserve will be continued until the end of pipeline construction. If pipeline construction avoids disturbance of Watsonville loam soils, the continuation of the augmented management actions at Moore Creek Preserve will not be required under this Plan. In that event, the City may, at its option, continue the augmented management actions, including possibly through a Safe Harbor Agreement with the Service.

If pipeline construction activities will require disturbance of Watsonville loam soils, then the City will manage a portion of the Moore Creek Preserve as mitigation and as a translocation site for OTB. An OTB Habitat Management Plan will be prepared for the 11-acre area and submitted to the Service for review and approval prior to the start of construction in OTB habitat. If required, as described above, the Habitat Management Plan will include, but not be limited to the following: guidelines for biological surveys; methods for exotic, non-native species control and establishment of areas of bare ground; and annual reporting to the Service. The Habitat Management Plan will include details regarding in perpetuity management of the 11 acres as well as the roles and responsibilities of the City and designated entities in implementing the Habitat Management Plan. Three-year success criteria, based on habitat conditions preferred by the OTB, will be developed to evaluate habitat restoration progress and demonstrate that the goals have been achieved.

In the event that Moore Creek Preserve is used for OTB mitigation as a result of pipeline construction, the City will establish a non-wasting endowment to fund the OTB management plan, the size of which would be determined through a Property Analysis Record (PAR) or similar analysis approved by the Service prior to the start of construction. The endowment will be held by an eligible third party approved by the Service. If Moore Creek Preserve is used for OTB mitigation, the City will record a conservation easement in favor of an appropriate third-party entity approved by the Service over the 11-acre habitat area within six months of the start of construction.

**Figure 2: Moore Creek Preserve Mitigation Area**



#### **4.3.3.3 Mount Hermon June Beetle (*Polyphylla barbata*)**

##### **Minimization Measures**

Construction of the proposed new North Coast Pipeline will not cross any areas mapped as Zayante sands by the Natural Resources Conservation Service (Bowman and Estrada 1980), thus it will not impact any habitat for the MHJB. Thus, no minimization measures are proposed for this Covered Activity.

##### **Mitigation for Residual Impacts**

Since construction of the proposed new North Coast Pipeline will not impact any mapped areas of Zayante sands, no residual impacts from the project are anticipated. Thus, no mitigation is proposed.

#### **4.3.3.4 Tidewater Goby (*Eucyclogobius newberryi*)**

##### **Minimization Measures**

The North Coast Pipeline alignment does not directly cross tidewater goby habitat. Construction has the potential to result in mobilization of sediments and their introduction to streams tributary to tidewater goby habitat. The pipeline is suspended on a trestle at most locations where it crosses streams, so in-water work will be avoided. Implementation of general measures GM-1 – G M-11 will avoid and minimize any potential effects to tidewater goby.

##### **Mitigation for Residual Impacts**

Effects will be fully avoided by the measures described above. No residual impacts are anticipated.

#### **4.3.3.5 Pacific Lamprey (*Entosphenus tridentata*)**

##### **Minimization Measures**

Extensive fisheries surveys of north coast streams performed by the City of Santa Cruz and others have not yielded any Pacific lamprey, nor are they otherwise known to occur in streams crossed by the North Coast Pipeline and therefore will not be affected by the project.

##### **Mitigation for Residual Impacts**

Extensive fisheries surveys of north coast streams performed by the City of Santa Cruz and others have not yielded and Pacific lamprey, nor are they otherwise known to occur in streams crossed by the North Coast Pipeline and no residual impacts are anticipated.

#### **4.3.3.6 California Red-Legged Frog (*Rana draytonii*)**

##### **Minimization Measures**

The measures for avoidance and minimization of adverse impacts to CRLF during construction of the new North Coast Pipeline project are those typically employed for construction activities

that may result in short-term impacts to individuals and their habitat. The focus of these measures is on scheduling activities at certain times of year, keeping the disturbance footprint to a minimum, and monitoring.

**SSM-11.** The City will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until the City receives approval from the Service that the biologist(s) is qualified to conduct the work.

**SSM-12.** A Service-approved biologist will survey the work site 48 hours prior to the onset of activities. If CRLF, tadpoles, or eggs are found, the approved biologist will determine the closest appropriate relocation site within the same watershed. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only Service-approved biologists will participate in activities associated with the capture, handling, and moving of CRLF.

**SSM-13.** Before any activities begin on a project, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the CRLF and its habitat, the importance of the CRLF and its habitat, general measures that are being implemented to conserve the CRLF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

**SSM-14.** A Service-approved biologist will be present at the work site until such time as all removal of CRLF, instruction of workers, and disturbance of habitat have been completed. After this time, the contractor or City will designate a person to monitor on-site compliance with all minimization measures and any future staff training. The Service-approved biologist will ensure that this individual receives training outlined in measure SSM-13 above and in the identification of CRLF. The monitor and the Service-approved biologist will have the authority to stop work if CRLF are in harm's way.

**SSM-15.** The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas to the extent practicable. Where impacts occur in these staging areas and access routes, restoration will occur as identified in the general BMP measures above.

**SSM-16.** Work activities will be completed between April 15 and October 15 to the extent practicable. Should the City need to conduct Covered Activities outside this period, the City will coordinate with the Service on a case-by-case basis prior to conducting such activities.

**SSM-17.** If a work site is to be temporarily dewatered by pumping, intakes will be completely screened with wire mesh not larger than five millimeters (mm) to prevent CRLF from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.



**SSM-18.** The Declining Amphibian Populations Task Force's (DAPTF) Fieldwork Code of Practice (DAPTF 1998, Appendix B), as it may be revised in the future, will be followed to minimize the possible spread of chytrid fungus or other amphibian pathogens and parasites.

**SSM-19.** During electrofishing in areas known to provide CRLF habitat a Service-authorized biologist shall be present. The biologist shall work ahead of electrofishing team to survey for CRLF. Electrofishing shall be halted if CRLF are present and shall not resume until CRLF disperse or if otherwise authorized by the Service.

### **Mitigation for Residual Impacts**

To offset the effects of residual impacts, the City will provide off-site mitigation. To calculate the cost of off-site mitigation, the following organizations were surveyed to determine the cost of one acre of riparian revegetation within the North Coast area of Santa Cruz County: California State Parks, Santa Cruz Land Trust, Santa Cruz County Resource Conservation District, and a private habitat restoration company (Central Coast Wilds). The average cost for one acre of riparian revegetation was \$10,000. To compensate for potential adverse effects that may occur as a result of Covered Activities, including up to 0.50 acre of permanent impact to CRLF habitat, the City will provide \$5,000 to the Santa Cruz County Resource Conservation District In Lieu Fee Program or State Parks specifically to fund restoration activities for CRLF.<sup>7</sup> The benefits from restoration of 0.50 acre of habitat is intended to fully offset the potential impacts associated with impacts to scattered CRLF habitat, including a total of 0.50 acre of permanent impact over the life of the Plan.

The City may also partner with one or more of the following departments or organizations to fund additional off-site CRLF mitigation:

- City of Santa Cruz Parks & Recreation Department, for maintenance and restoration of the Moore Creek Preserve, a park known to be occupied by CRLF as well as some of the other Covered Species;
- County of Santa Cruz Resource Conservation District, for riparian habitat restoration projects within the known range of CRLF on the North Coast;
- Land Trust of Santa Cruz County for acquisition or restoration of habitat occupied by CRLF;
- State Parks as possible; and
- Other agencies as the opportunity arises (e.g., Elkhorn Slough Reserve, Watsonville Wetlands Watch, Bureau of Land Management for Coast Dairies projects, etc.).

Any additional CRLF mitigation options that the City pursues will be coordinated with and approved by the Service.

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<sup>7</sup> The \$5,000 figure is an estimate of current costs for the mitigation, but this amount could change once the fee schedule is determined for the In-Lieu Fee Program. The City agrees to fund the required mitigation at the final rate when it is determined by the RCD at a future time.

#### 4.3.3.7 Western Pond Turtle (*Actinemys marmorata*)

##### **Minimization Measures**

The measures for avoidance and minimization of adverse impacts to WPT during construction of the new North Coast Pipeline project are those typically employed for construction activities that may result in short-term impacts to individuals and their habitat. The focus of these measures is on scheduling activities at certain times of year, keeping the disturbance footprint to a minimum, and monitoring.

**SSM-20.** The City will annually submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities will begin until proponents have received approval from the Service that the biologist(s) is qualified to conduct the work.

**SSM-21.** A Service-approved biologist will survey the work site 48 hours prior to the onset of activities. If WPT adults, juveniles, or eggs are found, the approved biologist will determine the closest appropriate relocation site. The approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Only Service-approved biologists will participate in activities associated with the capture, handling, and moving of WPT.

**SSM-22.** Before any activities begin on a project, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include a description of the WPT and its habitat, the importance of the WPT and its habitat, general measures that are being implemented to conserve the WPT as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

**SSM-23.** A Service-approved biologist will be present at the work site until such time as all removal of WPT, instruction of workers, and disturbance of habitat have been completed. After this time, the contractor or City will designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist will ensure that this individual receives training outlined in measure SSM-22 and in the identification of WPT. The monitor and the Service-approved biologist will have the authority to stop work if WPT are observed in harm's way.

**SSM-24.** The number of access routes, number, and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas to the extent practicable. Where impacts occur in these staging areas and access routes, restoration will occur as identified in the general BMP measures above.

**SSM-25.** Work activities will be completed between April 1 and November 1 to the extent practicable. Should the City need to conduct activities outside this period, the City may conduct such activities after providing notification to the Service.

**SSM 26.** Work within open grasslands within 100 m of occupied aquatic habitat will be avoided to the extent practicable.

### **Mitigation for Residual Impacts**

Restoration of 0.50 acre of habitat as described under CRLF residual impact mitigation will also compensate for potential adverse effects that may occur as a result of Covered Activities, including up to 0.50 acre of permanent impact to WPT habitat.

The City may also conduct restoration of its own watershed property on Newell and Zayante Creeks or partner with one or more of the following departments or organizations to fund additional off-site WPT mitigation:

- City of Santa Cruz Parks & Recreation Department, for maintenance and restoration of the Moore Creek Preserve, a park known to be occupied by WPT as well as some of the others Covered Species;
- County of Santa Cruz Resource Conservation District, for riparian habitat restoration projects within the known range of WPT on the North Coast;
- State Parks as possible;
- Land Trust of Santa Cruz County for acquisition or restoration of habitat occupied by WPT; and
- Other agencies as the opportunity arises (e.g., Elkhorn Slough Reserve, Watsonville Wetlands Watch, Bureau of Land Management for Coast Dairies projects, etc.).

Any additional off-site WPT mitigation options that the City pursues will be coordinated with and approved by the Service.

## **4.3.4 Species-Specific Measures During Operations and Maintenance Activities**

The City will implement conservation measures during O&M activities to avoid and minimize incidental take or adverse effects on individuals, populations, or habitat of Covered Species to the maximum extent practicable. The following conservation measures will be incorporated into the Covered Activities, as appropriate, to ensure that the effects of Covered Activities are avoided, minimized, and mitigated.

### **4.3.4.1 Covered Plant Species**

The following SSM will apply to all covered plant species in the Plan Area during O&M related Covered Activities.

**SSM-27.** Prior to the initiation of O&M activities, covered plant species population boundaries or critical habitat for covered plant species will be clearly delineated with visible flagging or fencing, which will remain in place for the duration of O&M activities. Flagged areas will be avoided during O&M activities in that area. Warning signs will be posted on the temporary fencing to alert excavators and other workers not to proceed beyond the fence. All protective

fencing will remain in place until all repairs have been completed. Signs will include the following language:

**“NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER.”**

If the area cannot be avoided and it is determined by a Service-approved biologist that the activity will adversely affect the covered plant species, the activity will be conducted outside of the bloom period for that species. In the appropriate season prior to construction, the number of plants to be impacted by the project will be determined. Seed from the covered species (BLS, robust spineflower and Santa Cruz tarplant) will be collected from plants within the impact area and stored. Soil excavation activities in areas where covered plant species are known to occur will ensure that the topsoil will be segregated to preserve the viability of the seed bank. To adequately capture the seed bank, the top few inches of soil will be removed and appropriately stored. Upon completion of the project, the soil will be replaced in the area affected and seed collected from plants within the impact area will be hand broadcast onto the revegetated area. Success of the revegetation efforts will be monitored for a minimum of five years, wherein the number of covered plant species growing within the area will be inventoried. The revegetation will be deemed successful if the site attains 50% of the pre-disturbed number of plants. If no covered plant species are detected in Year 1, the City will develop and implement remedial measures, which may include additional site management and revegetation, upon concurrence from the Service. Occurrences of invasive, non-native plant species will be removed from the revegetated area for a minimum of five years.

**SSM-28.** Appropriate dust control measures, such as periodically wetting down the work areas, will be used as necessary for any project-related O&M activities that generate dust.

**4.3.4.2 Ohlone Tiger Beetle (*Cicindela ohlone*)**

The primary O&M activities that may affect the OTB are vegetation trimming, mowing, and clearing to allow pipeline inspections and protection from fire, and as-needed repairs to existing infrastructure and facilities. These activities result in removal or reduction of vegetative cover and ground disturbances, such as excavation, trenching, and grading, or creation of temporary access routes to repair sites. The following measures are designed to minimize the effects of the covered O&M activities on the OTB by reducing incidental take of individuals and the degradation of habitat conditions.

**SSM-29.** Use Existing Access Routes Whenever Practicable: To the extent practicable, existing access routes will be used to transport maintenance and repair equipment and vehicles to work and repair sites. When a new route is necessary in terrestrial habitats characterized by Watsonville loams and occupied by the OTB, staff will attempt to identify a route that causes the least amount of ground disturbance and requires the least amount of vegetation clearing.

**SSM-30.** Delineate Boundaries of the Impact Area: For non-emergency repair work in areas characterized by Watsonville loams and occupied by the OTB, temporary fencing and signs will be erected by a Service-approved biologist before any vegetation clearing, excavation, or grading



activities occur to clearly delineate the boundaries of the project's impact area. If new access routes are utilized, these will also be clearly demarcated for workers. Warning signs will be posted on the temporary fencing to alert excavators and other workers not to proceed beyond the fence. All protective fencing will remain in place until all repairs have been completed. Signs will include the following language:

**"NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER."**

**SSM-31. Relocate Observed Life Stages of the Covered Species:** To minimize the potential for killing or harming individuals of the species, a Service-approved entomologist permitted to handle OTB will be present during all planned Covered Activities that are conducted at Moore Creek or Younger Ranch during the flight season (January 15 to May 30). An entomologist will also be required to be present at other work sites that are documented to be occupied by OTB in the future. If a larva is found in an earthen tunnel, a new tunnel of the same depth will be created outside of the impact area by the entomologist and the larva placed in it. If an adult OTB is found on the soil surface, it will be relocated and released by the entomologist outside of the impact area on the soil surface. For Covered Activities conducted outside of the flight season, a pre-construction survey will be conducted in work areas containing appropriate soils. If OTB are detected, an entomologist permitted to handle OTB will relocate the individuals. Unplanned Covered Activities conducted in response to events that pose a risk to human life or property may proceed even if an entomologist cannot be present due to time constraints. In such cases, an entomologist will review the site afterwards to assess potential impacts.

**SSM-32. Dust Control:** Dust can clog the spiracles of adult beetles and larvae, the latter of which are active throughout much of the year. Appropriate dust control measures, such as periodically wetting down the work areas, will be used as necessary for any project-related activities that generate dust. Care will need to be exercised to avoid saturating areas supporting life stages of the OTB.

**SSM-33. Revegetation of Coastal Terrace Prairie Habitat:** OTB adults and larvae prefer patches of bare to sparsely vegetated soil in this grassland habitat. Revegetation of disturbed portions of the project area at locations known to support the OTB will use only grasses and forbs indigenous to the coastal terrace prairie habitat. Also, weed control will be part of the revegetation activities. Dense ground covers, weed matting, aggregate, and mulch can degrade habitat conditions and will not be used.

#### **4.3.4.3 Mount Hermon June Beetle (*Polyphylla barbata*)**

The primary O&M activities that may affect the MHJB are vegetation trimming, mowing, and clearing to allow pipeline inspections and protection from fire, and as-needed repairs to existing infrastructure and facilities. These activities result in removal or reduction of vegetative cover and ground disturbances, such as excavation, trenching, and grading, or creation of temporary access routes to repair sites. The following measures are designed to minimize the effects of the covered O&M activities on the MHJB by reducing incidental take of individuals and degradation of habitat conditions.

**SSM-34. Use Existing Access Routes Whenever Practicable:** To the extent practicable, existing access routes will be used to transport maintenance and repair equipment and vehicles to work areas. When a new route is necessary in terrestrial habitats characterized by Zayante sands, staff will attempt to identify a route that causes the least amount of ground disturbance and vegetation clearing.

**SSM-35. Delineate Boundaries of the Impact Area:** For planned repair work in areas characterized by Zayante sands, temporary fencing and signs will be erected by a Service-approved biologist before any vegetation clearing, excavation, or grading activities occur to clearly delineate the boundaries of the project's impact area. If new access routes are utilized, these will also be clearly demarcated for workers. Warning signs will be posted on the temporary fencing to alert excavators and other workers not to proceed beyond the fence. All protective fencing will remain in place until all repairs have been completed. Signs will include the following language:

**"NOTICE: SENSITIVE HABITAT AREA. DO NOT ENTER."**

**SSM-36. Cover Exposed Soils:** Adult males of the MHJB actively search for breeding females during the evenings between about May 15 and August 15. During this adult activity season, both sexes burrow into duff and soils during the daytime. If repairs occur during any portion of the MHJB flight season, all exposed soils within the impact area will be covered by tarps, plywood, erosion control fabric, or another suitable impervious material. Exposed soils will be covered between the hours of 7pm and 7am daily. This will prevent adult males from burrowing into the exposed soils and subsequently being injured or killed by soil disturbance (i.e., digging, grading, covering, relocation, etc.).

**SSM-37. Dust Control:** Dust can clog the spiracles of adult beetles and accumulated dust on plants may cause them to experience a decline in vigor or even die, which would affect the roots that larvae of the MHJB may feed upon. Appropriate dust control measures, such as periodically wetting down the repair areas, will be used as necessary for any project-related activities that generate dust.

**SSM-38. New Outdoor Lighting:** Adult MHJBs are active at dusk and may be distracted by incandescent, mercury vapor, sodium, and black light sources, which can disrupt normal behaviors and breeding activities. Thus, any outdoor lighting installed or replaced as part of repairs performed in habitats characterized by Zayante sands will use bulbs certified to not attract nocturnal insects.

**SSM-39. Revegetation Elements That Degrade MHJB Habitat:** Because MHJB adults emerge from the soil to attract and search for mates, turf grass, dense ground covers (such as ivy), weed matting, aggregate, and mulch can degrade habitat conditions and will not be used at repair sites. Revegetation of habitat disturbed due to repairs or new access routes that are characterized by Zayante sands will use only plants indigenous to the sandhill habitats. Also, weed control will be part of the revegetation activities.

#### 4.3.4.4 Tidewater Goby (*Eucyclogobius newberryi*)

Covered Activities with the most likelihood to affect tidewater goby involve maintenance of the flood control channel and sediment management in particular. The following measures will be implemented to minimize and avoid effects to tidewater goby from these activities. These measures are consistent with measures generally employed for such projects (USFWS 1997b).

**SSM-40.** If work areas are to be de-watered, as many tidewater gobies as possible will be removed prior to draining the site. After barriers are constructed, tidewater gobies will be captured, transported in buckets, and released in the most appropriate (i.e., similar water quality parameters) habitat immediately adjacent to the de-watered area. If a seine is used, it will be pulled in a deliberate manner with care being taken to avoid rolling the lead line inward. The number of tidewater gobies will be estimated prior to release. Electrofishing will not be conducted in areas where tidewater gobies may occur. All debris and aquatic and emergent vegetation in the pumped area will be carefully inspected for tidewater gobies and other vertebrates. As the work site is de-watered, remaining pools will be inspected for tidewater gobies. As many individuals as possible will be captured using dipnets and other appropriate tools and moved as described above. Handling time for tidewater gobies will be minimized to the maximum extent practicable.

**SSM-41.** If, in the judgment of the Service, the most practical means of conserving tidewater gobies at a particular work site is to hold them in captivity until the completion of the project, individuals will be collected as described above and held in aquaria that provide the proper conditions for the species. Tidewater gobies that are held in this manner will be maintained by a person or institution with experience in their husbandry. During the time they are in captivity, they will be kept apart from tidewater gobies from other locations and will not be used for any other purpose. The tidewater gobies will be released at the earliest possible time, in coordination with the Service, after post-project conditions have become suitable for the species.

**SSM-42.** Only qualified personnel authorized by the Service (Service-approved biologists) will participate in activities associated with the capture, handling, and monitoring of tidewater gobies. The City will provide the Service with the names and credentials of personnel who they desire to conduct these activities for review and approval at least 15 days prior to the onset of the activities. No project activities will begin until the Service notifies the City and Corps in writing that the biologist(s) is qualified to conduct the work.

**SSM-43.** Prior to the onset of activities that result in disturbance of potential tidewater goby habitat or individuals, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include: a description of the tidewater goby; a description of the species' habitat; the importance of the species and its habitat; the general measures that are being implemented to conserve the species as they relate to the project; and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session.

**SSM-44.** A Service-approved biologist will monitor the work site until all removal of tidewater gobies, instruction of workers, and habitat disturbance have been completed. After this time, the City will designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist will ensure that this individual receives training in the identification of tidewater gobies and on the topics outlined above in measure SSM-43. The monitor and the Service-approved biologist will have the authority to halt any action that might result in impacts that exceed the levels anticipated by the Service in this biological opinion. If work is stopped, the City will notify the Corps and Service immediately.

**SSM-45.** If a work site is to be temporarily de-watered by pumping, intakes will be completely screened with wire mesh not larger than three millimeters (mm) to prevent tidewater gobies from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

**SSM-46.** If project activities could degrade water quality, the existing water quality parameters will be determined (e.g., salinity, temperature, dissolved oxygen, and turbidity) prior to the onset of work. Water samples will be taken in a manner that minimizes disturbance, injury, or mortality of tidewater gobies. Results will be used to monitor water quality parameters during and after maintenance and sediment removal activities.

**SSM-47.** Maintenance of the flood control channel and sediment management will be conducted between July 1 and October 31. Should the City need to conduct these activities outside this period, it will notify the Service to obtain concurrence.

**SSM-48.** If the substrate of the natural stream channel is altered during work activities, it will be graded or otherwise restored to approximate natural conditions after the work is completed.

**SSM-49.** The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated, and these areas will be outside of riparian and wetland areas.

The San Lorenzo River Flood Control Channel Project also includes gravity outlet drainage discharge structures in the San Lorenzo River Lagoon where tidewater goby may occur. Small amounts of sediment are removed near the drainage gates. Prior to sediment removal in areas where tidewater goby may be present, surveys using visual methods, dip-nets, and seines will be conducted to determine whether tidewater goby are actually present at the site.

**SSM-50.** If tidewater goby are present, the work area will be isolated using fine mesh nets and tidewater goby in the enclosed work area will be removed using seines and dip nets and released to suitable habitat outside the work area. This work will be supervised by a qualified fishery biologist.



**SSM-51.** Sediment removal will be limited to the summer low-flow period to the extent practicable (generally between May and July). The use of best management practices will be implemented to reduce the probability of sediment and/or contaminated material from entering the river.

**SSM-52.** Potential effects on tidewater goby related to water diversion will be mitigated through implementation of the following instream flow provisions. A minimum bypass of at least 2.0 cfs will be provided downstream of the Laguna/Reggiardo diversion; a minimum bypass of at least 8.0 cfs will be provided downstream of the Tait Street diversion at all times.<sup>8</sup>

#### **4.3.4.5 Pacific Lamprey (*Entosphenus tridentata*)**

Larval Pacific lamprey inhabit soft sand and mud substrate where they burrow and feed. When sediment is removed from the streambed in areas that support lamprey, it may contain larval lamprey. It is generally not practical to verify presence or absence prior to sediment removal activities. In order to minimize potential effects on Pacific lamprey, the following measure will be implemented:

**SSM-53.** A Service-approved biologist will be present during sediment removal activities. Lamprey will be removed by electrofishing while removal of anadromous salmonids is occurring. A Service-approved biological monitor will also observe the sediment as it is removed and look for lamprey larvae. Any lamprey encountered will be collected, immersed in water, and transferred to suitable nearby habitat outside of the work site.

**SSM-54.** Potential effects on Pacific lamprey related to water diversion will be mitigated through implementation of the following instream flow provisions. A minimum bypass of at least 2.0 cfs will be provided downstream of the Laguna/Reggiardo diversion in all years; a minimum bypass of at least 8.0 cfs will be provided downstream of the Tait Street diversion at all times.<sup>9</sup>

#### **4.3.4.6 California Red-Legged Frog (*Rana draytonii*)**

The measures to avoid and minimize impacts to CRLF during O&M activities are the same as those listed above in section 4.3.3.6, which focus on scheduling of activities, keeping the footprint of activities to a minimum, and removal and monitoring of individuals from the work site as needed.

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<sup>8</sup> These flow commitments are being developed for anadromous salmonids in the City of Santa Cruz Anadromous Salmonid HCP but will also benefit USFWS-jurisdictional species.

<sup>9</sup> These flow commitments are being developed for anadromous salmonids in the City of Santa Cruz Anadromous Salmonid HCP but will also benefit USFWS-jurisdictional species.

#### **4.3.4.7 Western Pond Turtle (*Actinemys marmorata*)**

Measures to avoid and minimize impacts to WPT during O&M activities are the same as those listed above in section 4.3.3.7, which focus on scheduling of activities, keeping the footprint of activities to a minimum, and removal and monitoring of individuals from the work site as needed. To avoid and minimize impacts to WPT during the biannual vegetation and sediment removal from Neary Lagoon, a biologist captures the WPT (currently only three adults) and transports them to a CDFW-approved facility where they are held and fed for four to six week period of time, and then returned to Neary Lagoon when the work is completed.

Conservation measures for the WPT at Loch Lomond Reservoir include hand clearing of vegetation, including through use of weed whippers or grazing by goats, as needed. Furthermore, female WPT have not been observed in the vicinity of the dam (Allterra Environmental 2009). Habitat will be kept open and suitable for turtle nesting along an abandoned section of road 2 miles upstream where breeding has been observed in the past. In addition the City monitors for illegal motorized vehicle use (e.g., dirt bikes), and places barriers (e.g., tree trunk) to prevent vehicle entry as needed. The City implements an on-going recycling program for used fishing line to reduce entanglement danger and conducts regular trash removal to reduce attraction for predators such as raccoons. And finally, the City is planning to install refugia for juvenile WPTs, such as floating rafts, to provide more cover during periods when the lake is low and shallow shoreline habitat is reduced.

## **5.0 ASSESSMENT OF IMPACTS AND LEVEL OF TAKE**

### **5.1 Introduction**

Future City Covered Activities have the potential to occur almost anywhere along the City's facilities and pipeline corridor. Therefore, it is not possible to predict exactly where and when activities will occur within those areas during the HCP permit duration. The estimates of expected magnitude of potential impacts and the proportion of temporary versus permanent impacts were based on a review of City activities in the Plan Area in recent years and available species locality data.

### **5.2 Direct Effects**

Direct effects occur when biological resources are altered, disturbed, destroyed, or removed during the course of new construction or O&M activities. During new construction and O&M activities, direct impacts could occur by damaging or killing individuals of the species and by removing habitat occupied by the species.

### **5.3 Indirect Effects**

The ESA Section 7 regulations define “indirect effects” as “those that are caused by the proposed action and are later in time, but still are reasonably certain to occur” (50 C.F.R. § 402.02). Indirect effects could occur from invasive species, siltation, erosion, and fugitive dust. Invasive species can out-compete and displace native species. Disturbances and disturbed sites allow invasive species to become established and invade adjacent native communities. Temporary indirect impacts from human disturbance associated with the construction crews could occur to individuals in or immediately adjacent to work areas.

### **5.4 New Construction – Impacts to Covered Plant Species Associated with Construction of the North Coast Pipeline**

#### **5.4.1 Introduction**

Populations of covered plant species have been documented or have the potential to occur along portions of the North Coast Pipeline. The types of direct and indirect effects to each covered plant species would be similar and are therefore collectively discussed for all covered plant species below.

#### **5.4.2 Direct Effects**

Construction activities could result in the disturbance of covered plant species located within the Plan Area by damaging or killing individual plants and by removing habitat occupied by the species. These direct effects could potentially result in the loss of habitat and individuals. Chapter 5 identifies avoidance and minimization measures that will reduce or eliminate the potential adverse effects from Covered Activities. Specifically, the City would implement conservation measure SSM-1 and SSM-24 to minimize direct effects, which requires that covered plant species population boundaries will be clearly delineated with visible flagging or fencing prior to beginning the covered activity.

#### **5.4.3 Indirect Effects**

Potential indirect effects that could result from Covered Activities include increased invasive species, siltation, erosion, and fugitive dust.

##### Invasive Weeds

Invasive species can out-compete and displace native species. Disturbances and disturbed sites (e.g. construction areas) allow invasive species to become established and invade adjacent native communities. Chapter 5 identifies measures that will reduce the potential for invasive plant species to colonize work sites in the Plan Area. Specifically, GM-3 requires that the spread or introduction of invasive exotic plant species be avoided to the extent practicable, and that when practicable, invasive exotic plants in the project areas will be removed.

#### Fugitive Dust

Increased levels of fugitive dust in the vicinity of work sites could alter plant metabolic processes such as photosynthesis and respiration, which can result in reduced growth, vigor and reproduction. Dust deposited on leaves of plants can reduce photosynthetic rates by reducing gas exchange and light quantity and quality. Reduction in photosynthetic rates could reduce plant growth, vigor and reproduction.

The City will implement dust reduction procedures in SSM-2 and elsewhere that will minimize the potential adverse effects from fugitive dust.

#### Erosion and Siltation

Increased erosion and subsequent down slope and downstream siltation could adversely affect plant populations that are immediately adjacent to the activity. The City will implement erosion control measures that will minimize the potential for adverse effects to occur as a result of increases in erosion and siltation. Specifically, the City will implement GM-8 GM-9, and GM-10 to minimize the potential effects related to erosion and siltation.

### **5.4.4 Conclusion**

Effects to covered plant species as a result of new construction and maintenance activities are expected to be minimal after implementation of the avoidance and minimization measures.

## **5.5 New Construction – Impacts to Covered Wildlife Species Associated with Construction of the North Coast Pipeline**

### **5.5.1 Ohlone Tiger Beetle (*Cicindela ohlone*)**

#### **5.5.1.1 Introduction**

Since there are no accurate estimates of the numbers of OTBs that reside in the areas of occupied habitat within the Plan Area, it is not possible to quantify the exact number of individual animals that could be taken directly or indirectly by the proposed new construction or O&M activities. Population monitoring at other known OTB locations by Richard Arnold indicates that beetle numbers may fluctuate rather dramatically from year to year, and within areas of suitable habitat they often occur in a patchy distribution pattern. Also, depending upon the time of year when construction occurs, one or more life stages of the OTB may not be apparent, which complicates obtaining an accurate estimate of take. For these reasons, the level of incidental take is expressed as the estimated acreage of known occupied habitat. A worst case scenario is assumed for estimating the level of take. If similar levels of O&M activities from recent years continue in future years, then actual take levels during the life of the incidental take permit will be substantially less than estimated.



For the covered insect taxa, the assessment of impacts included a desktop GIS analysis as well as field surveys to assess habitat conditions and survey for the covered taxa at locations where impacts might occur based on the findings of the GIS analysis. Since the OTB is closely associated with grassland habitats underlain by Watsonville loams, GIS shapefiles for soils data were obtained from the Natural Resources Conservation Service for the Plan Area.

The soils data were overlaid in GIS onto an aerial photograph of the Plan Area to examine habitat types. Then a GIS file illustrating the City's water main system was overlaid to identify locations where the soils and existing habitat conditions appeared potentially suitable for either insect within the Plan Area. Field surveys of these locations were performed by entomologist Richard Arnold to verify that habitat conditions were suitable and to conduct presence-absence surveys for OTB life stages. Additionally, all Watsonville soil locations for the North Coast Pipeline alignment were visited to ensure that there were no new areas that support the OTB.

The GIS analysis revealed that the proposed North Coast Pipeline project crosses an estimated 14,411 linear feet of Watsonville loam soils. Vegetation types included grassland, scrub, forest, agriculture, and ruderal. Presence-absence surveys for the OTB were conducted during the spring of 2011 by Arnold. The surveys determined that the beetle occupied a much smaller subset of the loam soils.

#### **5.5.1.2 Direct Effects**

OTB adults, active larval burrows, and new egg burrows were found in the spring of 2011 by Arnold along the 3,645 linear feet of the proposed North Coast Pipeline alignment, specifically in the Moore Creek Open Space Preserve and at the neighboring Younger Ranch property. Thus, the proposed North Coast Pipeline project has the potential to directly impact life stages of the OTB by causing mortality of eggs, larvae, pupae, and adults within the construction zone and along access routes where vegetation is removed and Watsonville loam soils are disturbed. The City, in coordination with the Service will evaluate the use of techniques such as sliplining and directional drilling to avoid the need to disturb Watsonville loam soils.

Both permanent and temporary habitat loss is expected to occur during the life of the incidental take permit. It should be noted, however, that life stages of the OTB were observed in the spring of 2011 within the existing pipeline alignment at both of these properties, suggesting that the long-term impacts of the proposed new pipeline may be somewhat less than described.

Assuming a worst case scenario, a total of 3,645 linear feet of coastal terrace prairie habitat occupied by the OTB will be affected by construction of the new pipeline. Assuming a 16 ft. right-of-way for construction activities, the estimated total disturbed habitat area measures about 1.34 acres. If construction techniques selected by the City will require disturbance of Watsonville loam soils, the City will implement a translocation program for individual OTB encountered during construction.

#### **5.5.1.3 Indirect Effects**

Implementation of the minimization measures below will largely avoid potential indirect effects of new construction activities on the OTB. However, since OTB larvae are active throughout much of the year, dust is the primary factor that may cause indirect impacts to the OTB. Dust is likely to be generated during vegetation clearing, grading, and trenching activities.

#### **5.5.1.4 Conclusion**

Direct effects to the OTB due to new construction are expected to total about 1.34 acres. However, this impact area was previously disturbed when the existing North Coast water pipeline was constructed and the OTB has subsequently recolonized it. Thus, the direct effects of the new alignment on the OTB may be more temporary rather than permanent. Indirect effects will be minimized through the implementation of avoidance and minimization measures and are expected to be minimal.

### **5.5.2 Mount Hermon June Beetle (*Polyphylla barbata*)**

#### **5.5.2.1 Introduction**

Since there are no accurate estimates of the numbers of MHJBs that reside in the areas of occupied habitat within the Plan Area, it is not possible to quantify the exact number of individual animals that could be taken directly or indirectly by the proposed new construction or O&M activities. Females of the MHJB do not fly, so they are much more difficult to sample than males. The egg, larval, and pupal stages of the MHJB have not been formally described, so distinguishing them from these life stages of three other non-endangered species of June beetle that co-occur in the Zayante Sandhills region is problematic. Prior monitoring studies by Richard Arnold indicates that population densities of adults and larvae vary substantially at different locations in the sandhills, and also vary from year-to-year at a particular location, factors which further complicate describing the level of incidental take using the number of beetles and its life stages. For these reasons, the level of incidental take is expressed as the estimated acreage of potentially occupied habitat for the MHJB. A worst case scenario is assumed for estimating the level of take. If similar levels of O&M activities from recent years continue in future years, then actual take levels during the life of the incidental take permit may be substantially less than estimated. For the covered insect taxa, the assessment of impacts included a desktop GIS analysis as well as field surveys to assess habitat conditions and survey for the covered taxa at locations where impacts might occur based on the findings of the GIS analysis. Since the MHJB is closely associated with various habitats underlain by Zayante sand, GIS shapefiles for these soils were obtained.

The City has established a mitigation site for MHJB on City-owned habitat in Bonny Doon. The mitigation site supports high quality MHJB sandhills habitat and is occupied by MHJB. The mitigation site consists of 17 acres and was established in 2014 pursuant to the City's low-effect HCP for the Graham Hill Water Treatment Plant Operations, Maintenance, and Construction

Activities that was approved in 2014. The City has used 5.7 acres of the 17 acres to offset impacts to MHJB resulting from activities at the Graham Hill Water Treatment Plant and has 11.3 acres remaining for future impacts to MHJB.

The soils data were overlaid in GIS onto an aerial photograph of the Plan Area to examine habitat types. Then a GIS file illustrating the City's water main system was overlaid to identify locations where the soils and existing habitat conditions appeared potentially suitable for MHJB within the Plan Area. Because the MHJB is usually found wherever the Zayante soils occur, presence-absence surveys were limited to only the City's Bonny Doon mitigation site (summer of 2011). Surveys for the endangered Zayante Band Winged Grasshopper, *Trimerotropis infantilis* (Orthoptera: Acrididae) were also conducted (summer of 2011) at the City's Bonny Doon mitigation site to determine if habitat management activities implemented there might affect the grasshopper.

Since the proposed construction of the new North Coast Pipeline does not cross any Zayante sands, no direct or indirect impacts to the MHJB or its habitat are anticipated to occur.

#### **5.5.2.2 Direct Effects**

The North Coast Pipeline alignment does not cross any Zayante sands so no direct effects to the MHJB or its habitat are anticipated.

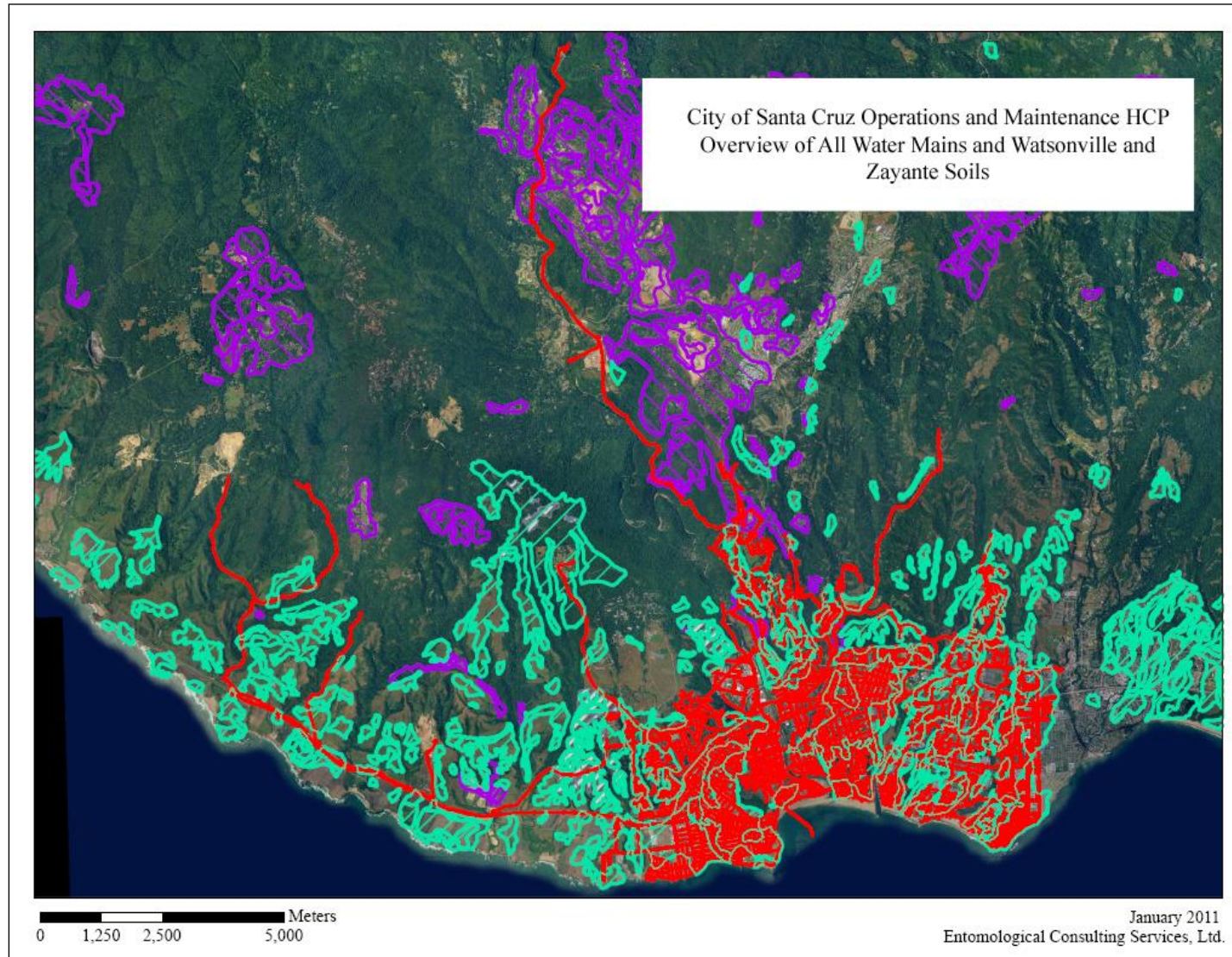
#### **5.5.2.3 Indirect Effects**

The North Coast Pipeline alignment does not cross any Zayante sands so no indirect effects to the MHJB or its habitat are anticipated.

#### **5.5.2.4 Conclusion**

No direct or indirect effects to the MHJB or its habitat will occur due to construction of the North Coast Pipeline project.

**Figure 3: City Water System and Watsonville/Zayante Soils**





### **5.5.3 Tidewater Goby (*Eucyclogobius newberryi*)**

#### **5.5.3.1 Introduction**

Tidewater gobies are known to inhabit, or have recently inhabited, the coastal lagoons of several streams crossed by the North Coast Pipeline, including Laguna Creek, Baldwin Creek, Lombardi Gulch, Old Dairy Gulch, Wilder Creek, Younger Lagoon, and Moore Creek. Tidewater goby also occur in the San Lorenzo River Lagoon, downstream from the terminus of the North Coast Pipeline at the Tait St. Diversion Facility.

#### **5.5.3.2 Direct Effects**

The North Coast Pipeline crosses streams tributary to lagoons but does not directly traverse any potential tidewater goby habitat. No direct effects to tidewater goby are expected from construction of the North Coast Pipeline because no construction activity will be conducted in or near tidewater goby habitat.

#### **5.5.3.3 Indirect Effects**

The potential for indirect effects to tidewater goby from construction of the North Coast Pipeline is from discharge of sediment or contaminants to streams tributary to lagoons where tidewater goby may occur. Construction practices and BMPs to minimize and avoid sediment discharge to water courses, and contain sediment and spills are expected to result in no indirect effects of pipeline construction on tidewater goby.

#### **5.5.3.4 Conclusion**

No direct or indirect effects to tidewater goby from pipeline construction are expected.

### **5.5.4 Pacific Lamprey (*Entosphenus tridentate*)**

#### **5.5.4.1 Introduction**

Pacific lamprey are not known to occur in streams crossed by the North Coast Pipeline and therefore will not be effected by the project.

#### **5.5.4.2 Direct Effects**

Because the Pacific lamprey is not present, no direct effects are expected.

#### **5.5.4.3 Indirect Effects**

No indirect effects to Pacific lamprey are expected.

#### **5.5.4.4 Conclusion**

No direct or indirect effects to Pacific lamprey from pipeline construction are expected.

### **5.5.5 California Red-Legged Frog (*Rana draytonii*)**

#### **5.5.5.1 Introduction**

The North Coast Pipeline new construction will occur over a period of 10-20 years. Therefore, annual effects to CRLF are expected to be minimal. The existing pipeline is currently routed through special status species habitat in many cases and this will be avoided or minimized with the new replacement pipeline. Over the long-term, as the new pipeline is constructed, there will be less right-of-way (ROW) in riparian areas than the existing pipeline, and therefore, less need for maintenance within CRLF habitat. GIS was used to calculate the area of North Coast existing pipeline ROW versus new pipeline ROW within riparian habitat with a standard ROW width of 20 feet and a width of 40 feet at impoundments. The existing ROW calculated is approximately 7 acres and the new ROW is approximately 6.2 acres. Construction of the new pipeline will impact an average of 0.19 acre of riparian habitat per year.

#### **5.5.5.2 Direct Effects**

Construction of portions of the new North Coast Pipeline that cross creeks and riparian areas has the potential to cause injury or mortality to adult or juvenile CRLF from the use of heavy equipment. Temporary dewatering during rehabilitation of diversion structures also has the potential to injure or kill adult or juvenile CRLF if they become entrained in the pump used for dewatering. Additional vehicle traffic on access roads during construction is expected to be minimal; however, vehicles have the potential to cause injury or mortality to adult or juvenile CRLF if any are present. CRLF are not known to breed in the portions of creeks or diversion structures that the new North Coast Pipeline will traverse; therefore new construction is not expected to affect CRLF eggs or tadpoles.

Although work has been proposed to be conducted during the dry season, CRLF can disperse overland in mesic conditions if substantial rainfall occurs. Potential impacts to dispersing frogs in the event of a substantial rain event would be reduced or avoided by ceasing activities to the extent practicable.

Survey, capture, and relocation are intended to reduce the potential for injury or mortality that may occur should CRLF be found in the action area. Relocating CRLF out of harm's way will reduce injury or mortality from equipment, foot traffic, or ground disturbance; however, injury or mortality of CRLF may occur as a result of improper handling, containment, transport of

individuals, or from releasing them into unsuitable habitat (e.g., where exotic predators are present).

Based on experience with similar projects in this vicinity in the past and the footprint of the proposed work, no more than 50 adult and juvenile CRLF will be directly affected by these activities annually. The primary direct effect to CRLF will be from relocating individuals from the construction zone. Handling individuals may cause harassment or injury which will be minimized by use of properly trained biologists to conduct the relocation as stated in SSM-12. Although relocating frogs will protect most individuals, occasionally a frog may be directly injured or killed by equipment during dewatering and construction. The presence of a biological monitor as stated in SSM-14 will minimize this potential effect.

#### **5.5.5.3 Indirect Effects**

CRLF could be affected by potential erosion and sedimentation during project construction activities. There is potential for a temporary increase in erosion and sedimentation along bank shoulders in the project areas due to the loss of natural substrate or vegetation. Implementation of the standard erosion control BMPs and GM-10 will minimize these potential impacts to CRLF.

Work activities, including vibration, may cause CRLF to leave the work site and surrounding areas. This disturbance and displacement may increase the potential for predation, desiccation, and/or competition for food and shelter. Implementation of SSM-12 and SSM-14 for pre-construction surveys and the relocation of individuals would reduce these impacts.

Trash left during or after project activities could attract predators to work sites, which could, in turn, prey on CRLF. For example, raccoons (*Procyon lotor*) and feral cats (*Felis catus*) are attracted to trash and also prey opportunistically on the CRLF. This potential impact will be reduced or avoided by careful control of waste products at all work sites through implementation of GM-1.

The new construction may indirectly affect CRLF adults and juveniles through the temporary loss of cover and foraging habitat within creeks and riparian vegetation. As noted above, this effect is expected to be of minimal area and duration. Implementation of revegetation immediately after construction is completed as described in GM-8 will minimize this potential effect. Indirect effects to CRLF adults and juveniles may include potential for increased exposure to predation of relocated individuals. Use of properly trained biologists to select suitable relocation sites (SSM-12) will minimize this potential effect.

Observations of diseased and parasite-infected amphibians are now frequently reported. Releasing amphibians following a period of captivity, during which time they can be exposed to infections of disease agents, may cause an increased risk of mortality in wild populations. Amphibian pathogens and parasites can also be carried between habitats on the hands, footwear, or equipment of fieldworkers, which can spread them to localities containing species which have had little or no prior contact with such pathogens or parasites. Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can

move short distances through the water. The fungus only attacks the parts of an animal's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. It can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks. Infected animals may spread the fungal spores to other ponds and streams before they die. Once a pond has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. Relocation of individuals captured from the project area could contribute to the spread of chytrid fungus. In addition, infected equipment or footwear could introduce chytrid fungus into areas where it did not previously occur. The possible spread of chytrid fungus or other amphibian pathogens and parasites would be minimized by implementing SSM-18.

#### **5.5.5.4 Conclusion**

The new North Coast Pipeline will not increase the capacity of the system or result in increased levels of water diversion above current levels. Implementation of the new North Coast Pipeline is going to occur in phases over a 10 to 20-year period. As noted above, an average of 0.19 acre of riparian habitat is expected to be impacted by construction of the new pipeline each year. Thus, the annual direct and indirect effects to CRLF of construction of the new pipeline and facilities will be very small.

Over the long term, the new North Coast Pipeline project will have potential beneficial effects on CRLF. Portions of the new pipeline will be relocated from existing alignments to new alignments outside of creek and riparian habitat. The new pipeline will also reduce the number of emergency repairs needed due to failure of the old pipe, reducing overall disturbance to creek and riparian habitats in the future. Rehabilitation of the Laguna and Majors diversions will include automated slide gates and self-cleaning intake screens, reducing the number of vehicle trips to the structures for maintenance over the long term. Maintaining minimum stream flows year round as provided under the Plan may also benefit CRLF foraging habitat within the pipeline area as well as breeding habitat downstream (e.g., in lagoons).

### **5.5.6 Western Pond Turtle (*Actinemys marmorata*)**

#### **5.5.6.1 Introduction**

The North Coast Pipeline new construction will occur over a period of 10-20 years. As noted above, an average of 0.19 acre of riparian habitat is expected to be impacted by construction of the new pipeline each year. WPT are potentially present in low numbers throughout the Plan Area, but annual effects to WPT are expected to be minimal. WPT use upland habitats for basking, overwintering and nesting. Winter season upland movements of 100 m- 300 m away from aquatic habitat have been shown in Santa Cruz County studies. WPT nesting activity has been documented only within 100 m of occupied aquatic habitat. Over the long-term, the new pipeline will have less ROW in riparian areas (6.2 acres) than the existing pipeline (7 acres), and therefore, less need for maintenance within WPT habitat. The new pump station at Majors diversion will be built within the existing footprint and thus is not expected to affect WPT habitat.



Surveys for WPT within the North Coast Unit showed few individuals occur within the portions of streams where the diversion structures and pipeline exist; most potential WPT habitat is located downstream in the agricultural ponds and lagoons. WPT breeding is assumed, but has not been documented in the affected North Coast Pipeline upland habitats. The paucity of hatchling and juvenile WPT sightings in the North Coast lagoons, streams and diversion impoundments reflects both the low population numbers and the cryptic nature of the species in the plan area. The chance for encountering WPT in the course of carrying out Covered Activities is low.

#### **5.5.6.2 Direct Effects**

Construction of portions of the new North Coast Pipeline that cross creeks and riparian areas has the potential to cause injury or mortality to adult or juvenile WPT from use of heavy equipment. Additional vehicle traffic on access roads during construction is expected to be minimal; however, vehicles have the potential to cause injury or mortality to adult or juvenile WPT if any are present. Construction in grasslands adjacent to creeks has the potential to injure or kill WPT eggs if any are present.

Since there are no accurate estimates of the numbers of WPT that reside in the areas of occupied habitat within the North Coast Pipeline Plan Area, it is not possible to quantify the exact number of individual animals that could be taken directly or indirectly by the proposed new construction. Based on experience with similar projects in this vicinity in the past and the footprint of the proposed work, an estimate of no more than 20 WPT will be directly affected by the new pipeline construction annually. Avoiding open grasslands within 100 meters of aquatic habitats to avoid potential WPT nests as described in SSM-26 and the implementation of preconstruction surveys, monitoring, and relocation of individual WPT as stated in SSM-21 and SSM-23 will minimize these potential effects.

#### **5.5.6.3 Indirect Effects**

Indirect effects to WPT adults and juveniles may include potential for increased exposure to predation of relocated individuals. Relocation of WPT to suitable habitat by a properly trained biologist (SSM-21) will minimize this potential effect.

It is unlikely that the minor amounts of temporary disturbance to riparian habitat during the pipeline construction will adversely affect WPT. Creation of small openings in the riparian habitat may create temporary basking habitat for WPT. Revegetation of work sites immediately after construction is completed (GM-8) will minimize this potential effect.

#### **5.5.6.4 Conclusion**

The new North Coast Pipeline will not increase the capacity of the system or result in increased levels of water diversion above current levels. Implementation of the new North Coast Pipeline

is going to occur in phases over a 10 to 20-year period, and WPT occur in low numbers in the work areas. As noted above, an average of 0.19 acre of riparian habitat is expected to be impacted by construction of the new pipeline each year. Thus, the annual direct and indirect effects to WPT of construction of the new pipeline and facilities will be very small.

Over the long term, the new North Coast Pipeline project will have potential beneficial effects on WPT. Portions of the new pipeline will be relocated from existing alignments to new alignments outside of creek and riparian habitat, reducing the acres of pipeline ROW from existing 7 acres to 6.2 acres for the new pipeline. The new pipeline will also reduce the number of emergency repairs needed due to failure of the old pipe, reducing overall disturbance to creek and riparian habitats in the future. Rehabilitation of the Laguna and Majors diversions will include automated slide gates and self-cleaning intake screens, reducing the number of vehicle trips to the structures for maintenance over the long term. Maintaining minimum stream flows year round may also benefit WPT foraging habitat both within the pipeline area as well as downstream.

## **5.6 Operations and Maintenance – Impacts to Covered Plant Species Associated with Operations and Maintenance Activities**

### **5.6.1 Introduction**

O&M Covered Activities that have the potential to affect covered plant species include vegetation control at the diversions and periodic vegetation clearing/mowing along the pipeline ROW. As discussed below, vegetation maintenance of the diversions is not expected to adversely impact covered plant species as these species are not found at the diversion sites. On an annual basis, the City mows portions of the pipeline route to maintain, at minimum, an eight-foot swath immediately adjacent to the pipeline. Mowing the pipeline route allows City personnel to travel the pipeline route more easily by foot or by vehicle to check the system for leaks or other damage.

### **5.6.2 Direct Effects**

Vegetation management for pipeline right-of-way access is done primarily through hand trimming and mowing. An eight-foot right-of-way along the pipeline right of way is maintained the length of the pipeline. Mowing is done monthly in late spring and summer months. O&M activities such as mowing along current pipeline routes typically occurs in previously disturbed areas and are not expected to adversely affect covered plant species, as the covered species are absent. However, if surveys document the presence of a covered species in an area subject to vegetation management, direct effects to plants and habitat (including seedbank) will be minimized through avoidance, mowing after flowering and release of seeds, and soil/seedbank segregation and salvage during pipeline repair or other required ground disturbing activity.

### **5.6.3 Indirect Effects**

Potential indirect effects to covered plant species will be minimized through measures addressing invasive species, erosion and siltation, and dust, and are not expected to adversely affect covered plant species.

### **5.6.4 Conclusion**

The combination of the implementation of avoidance and minimization measures along with the nature and location of O&M activities would result in only minimal direct or indirect effects to covered plant species within the Plan Area.

## **5.7 Impacts to Covered Wildlife Species Associated with Operations and Maintenance Activities**

### **5.7.1 Ohlone Tiger Beetle (*Cicindela ohlone*)**

#### **5.7.1.1 Introduction**

Although construction of the new North Coast Pipeline will not traverse any areas with Zayante sands, the GIS analysis revealed that existing water pipelines and related facilities cross an estimated 80,065 linear feet of Watsonville loam soils in other parts of the Plan Area. Vegetation types included grassland, scrub, forest, agriculture, and ruderal in addition to developed or paved areas. Presence-absence surveys for the OTB were conducted during the spring of 2011 by Arnold and indicated that the beetle occupied a much smaller portion of the Plan Area than predicted by a GIS analysis of soils.

#### **5.7.1.2 Direct Effects**

OTB adults, active larval burrows, and new egg burrows were found along the approximately 3,645 linear feet of the existing North Coast water pipeline alignment in the Moore Creek Open Space Preserve and at the neighboring Younger Ranch property. Thus, routine O&M activities of this existing pipeline segment or repairs to it before the proposed North Coast Pipeline project is completed, as well as any repairs to the new North Coast pipeline after it has been constructed, have the potential to directly impact life stages of the OTB by causing mortality of eggs, larvae, pupae, and adults wherever vegetation is removed or ground disturbance occurs.

Both permanent and temporary habitat loss is expected to occur during the life of the incidental take permit. However, since life stages of the OTB were observed during the spring of 2011 within the existing pipeline alignment, long-term impacts may be less than described. Assuming a worst case scenario, a total of 3,645 linear feet of coastal terrace prairie habitat occupied by the OTB could possibly be affected by repairs of the existing pipeline where it crosses the Moore Creek Open Space Preserve and the Younger Ranch. Assuming a 16 ft. right-of-way for repair

activities, the total area of disturbed habitat is estimated to be 1.34 acres. However, during the life of the permit it is unlikely that this full area will be disturbed by routine O&M activities. Based on past repair history for the existing pipeline, repairs have averaged only about 20 linear feet (0.007 acre) per year. If only routine O&M occurs along this segment of the existing pipeline during the 30-year permit life, then the estimated total disturbed habitat area would only be approximately 0.21 acre. Indeed, the presence of the aforementioned OTB life stages in areas previously impacted suggests that impacts from routine O&M activities may be minimal.

#### **5.7.1.3 Indirect Effects**

Use of the minimization measures in GMs 3, 8, and 10, and SSM 8 will largely avoid potential indirect effects of O&M activities on the OTB. However, since OTB larvae are active throughout much of the year, dust is the primary factor that may cause indirect impacts to the OTB. Dust is likely to be generated during vegetation clearing, grading, excavation activities, as well as vehicles and other equipment.

#### **5.7.1.4 Conclusion**

Impacts to the OTB due to routine O&M and repair activities are expected to be minimal. It is estimated that annual repairs to the existing North Coast Pipeline in the past have averaged only about 20 linear feet per year. If only routine O&M occurs along this segment of the existing pipeline during the 30-year permit life, then the estimated total disturbed habitat area would only be approximately 0.21 acre. Thus, over the life of the incidental take permit, the actual amount of direct and indirect effects on the OTB are likely to be substantially less than the worst case scenario of 1.34 acres of impact.

### **5.7.2 Mount Hermon June Beetle (*Polyphylla barbata*)**

#### **5.7.2.1 Introduction**

The GIS analysis revealed that existing water pipelines and related facilities cross an estimated 16,910 linear feet of Zayante sands throughout the Plan Area. Vegetation types included grassland, chaparral, forest, agriculture, and ruderal in addition to developed or paved areas. Presence-absence surveys for the MHJB were conducted during the summer of 2011 by Arnold at selected locations to determine areas actually occupied by the beetle.

#### **5.7.2.2 Direct Effects**

Throughout the entire Water Department's service area existing water pipelines cross a total of 16,910 linear feet of Zayante sands at various locations in the City Unit and San Lorenzo River Unit of the Plan Area. Repairs to existing pipelines within the approximately 6.21 acres of potential habitat could lead to killing, harm, and harassment of MHJB (16,910 linear ft. x 16 ft. wide work area = 6.21 acres). It is anticipated that pipeline repair during the term of the Permit



could directly impact between 0.21 and 0.42 acre of habitat. Vegetation clearing or grading to create new access routes to some locations may result in direct effects to additional habitat. However, the existing pipelines are often buried in or at the edges of paved streets and in developed areas, and the potential direct impacts related to new access routes is expected to be minimal.

#### **5.7.2.3 Indirect Effects**

Although existing evidence is limited, it appears that subterranean larvae of the MHJB feed on a variety of plants. Thus, vegetation clearing and use of herbicides could reduce the vigor of or kill various larval food plants, which could indirectly affect the MHJB. Similarly, use of vehicles and equipment in areas of Zayante sands may cause compaction of the soils, which could crush subterranean MHJB life stages (both immatures and adults). Dust generated by vehicles and equipment needed for repairs and maintenance or other ground disturbing activities, such as trenching or grading, may adversely affect MHJB adults if these activities are conducted during the adult flight season and the beetle's nocturnal activity period.

#### **5.7.2.4 Conclusion**

Impacts to the MHJB due to routine O&M activities are expected to be minimal. Recent water pipeline repair history indicates that annual repairs occur on approximately 20 linear feet (0.007 acre) of pipeline. Thus, over a 30-year permit term, the total area of disturbance due to O&M activities is expected to range between 0.21 and 0.42 acre out of a total of 6.21 acres where City operations occur in potential MHJB habitat.

### **5.7.3 Tidewater Goby (*Eucyclogobius newberryi*)**

#### **5.7.3.1 Introduction**

Covered Activities with potential to affect tidewater goby are limited to water supply operations, pipeline O&M, flood control maintenance, and stormwater maintenance. Land management activities are conducted on watershed lands well removed from the estuaries where tidewater goby occur and, due to their limited scope and potential for downstream effects, are not expected to have any effect on tidewater goby.

The Laguna Creek Lagoon consistently supports tidewater gobies at varying levels of abundance, even during relatively dry years with low levels of freshwater inflow and under existing diversion levels. There is not a well-developed lagoon at Majors Creek, and tidewater gobies have not been consistently documented there although suitable habitat is present. Tidewater goby populations in the San Lorenzo River Lagoon appear to be somewhat sporadic, and lagoon habitat has been highly altered by urban development and encroachment.

### 5.7.3.2 Direct Effects

Sediment management and removal can occur at drainage discharge structures in the San Lorenzo Lagoon and in the San Lorenzo River and Branciforte Creek flood control channels. Sediment accumulated in the drainage discharge structures is removed as needed by the City under their existing Nationwide Permit (File No. 268761S). Tidewater goby are likely to occur in the lower part of Branciforte Creek from slightly upstream of Ocean Street to the San Lorenzo River confluence and in the San Lorenzo River lagoon downstream of Water Street. Sediment removal may affect all life-stages of tidewater goby including eggs in burrows. Males remain in the burrows when eggs are present and are also vulnerable. Breeding begins in April or May after the lagoon closes to the ocean and may occur all year, with peaks in spring and late summer.

The magnitude of effect of sediment removal activities will depend on the areal extent of the project, the density of goby and/or burrows present, the extent of breeding activity, and the success of translocation efforts. Translocation efforts are relatively ineffective for males and the eggs they are guarding in burrows as well as embryonic goby which are planktonic for a few days after hatching and very small (4-5 mm at hatching) (USFWS 2005).

The Plan Area includes 18 individual gravity outfall structures in the San Lorenzo River. Tidewater goby are likely to be present only downstream of Water Street. There are 15 structures in the area likely to support tidewater goby. The area to be affected by coffer dam construction and dewatering is expected to be approximately 20 feet by 20 feet at each of the structures. Each structure will require approximately one day for sediment removal. It is anticipated that sediment will be removed at each structure once in every 1 to 5 years. A total of approximately 6,000-square feet (0.14 acre) of channel bed will be affected by the Covered Activities if all outlets are cleaned in any given year.

Habitat in the Plan Area includes tidally influenced, open-water estuarine habitat. Adjacent banks may support native tules and willow species. Scour features occur at the outfalls located on the active channel, and the apron structures themselves may provide fish cover when submerged. Periphyton established on top of the apron structures provides habitat for tidewater goby. Typically, the bed in the concrete outfall areas is sandy with both organic and urban detritus present.

Density of tidewater gobies can be highly variable. The Recovery Plan (USFWS 2005) presents the following data:

Worchester (1992) documented a patchy distribution within habitats using meter-square drop traps for fine scale sampling. The results indicated density at Little Pico Creek, San Luis Obispo County ranged from 0 to 67 tidewater gobies per square meter in May 1990, 0 to 138 tidewater gobies per square meter in November 1990, and 0 to 27 tidewater gobies per square meter in February 1991. Density ranges for the following locations at the Camp Pendleton Marine Corps Base, San Diego County in October 1996 included 2 to 11 tidewater gobies per square meter in San Mateo Creek, 1 to 102 tidewater gobies per square meter in the creek at San Onofre Lagoon (October 1996), 0 to 4 tidewater gobies per square meter in Los Flores Creek (November 1996), 0 to 6 tidewater gobies per square meter in

Hidden Creek (November 1996), and 1 to 51 tidewater gobies per square meter in French Creek Lagoon (October 1996)(Swift and Holland 1998).

Based on these estimates, there may be from 0 to 5000 goby in each 37 square meter sediment removal area. Population density of tidewater goby in the San Lorenzo River is considered rare and presence is considered intermittent (USFWS 2006). TWG were captured during steelhead population surveys in 2008 (1 individual) and 2009 (noted as present), but were not captured in 2010 or 2011 (HES 2009, HES 2010, HES 2011, HES in draft). Observed densities of tidewater goby in the San Lorenzo River Lagoon are quite a bit lower than the highest densities cited. Swift collected 15 tidewater gobies in seven seine hauls on May 11, 2004. Swift and Kittleson sampled a number of locations around the lagoon and in lower Branciforte Creek later in May and found tidewater gobies at most locations (Swift and Kittleson, personal observation, 2004). During these observations, gobies were present in the vicinity of gravity outlets (Kittleson, personal observation, 2004).

The majority of tidewater gobies would be moved outside the work area prior to construction, although there could be the loss of some males and eggs remaining in burrows. The area subject to temporary impacts of the proposed project (6,000-square feet or 0-.14 acre) constitutes a small percentage of the habitat available to the species in the San Lorenzo River.

#### **5.7.3.3 Indirect Effects**

Operation of the City water diversions results in lower levels of freshwater inflow to the lagoons at the mouths of Laguna Creek, Majors Creek, and the San Lorenzo River, particularly during the dry season. Reduced freshwater inflow potentially influences goby habitat through alteration of the timing and duration of lagoon closure, water depth, development of aquatic vegetation, and water quality parameters including salinity, dissolved oxygen, temperature, and pH. Tidewater goby are found exclusively in estuaries. Estuaries are dynamic environments that experience wide fluctuations in the habitat conditions just listed (USFWS 2005).

The status of tidewater goby in Laguna Creek Lagoon suggests that the City water diversion has had little influence on population abundance or viability. The City diversion at Tait Street influences inflows to the San Lorenzo River Lagoon and may have a small effect on summer lagoon breaching. Summer lagoon breaching is most likely during years with high runoff and resulting high lagoon stage relative to the sandbar elevation at the mouth. Diversions may result in earlier closure of the lagoon with more stable water levels and a slight reduction in the potential for summer breaching. Breaching can be damaging to goby populations by dewatering burrows and reducing extent of habitat. Mortality of tidewater goby was observed in the San Lorenzo Lagoon in October 2008 when a breach resulted in rapid draw-down of the lagoon and stranding of gobies, and likely dewatering of burrows, along the lagoon margin (Hagar, personal communication, 2010). On the negative side, diversions may result in lower lagoon stage during the summer with reduced shallow water habitat at lagoon margins and backwater areas and reduced water depth. It is not clear whether the diversions have any significant effect on lagoon water quality, but tidewater goby are adapted to a wide range of environmental conditions including low dissolved oxygen and high salinity (USFWS 2005). Since 2007, the City Water Department has been implementing experimental diversion bypass in Laguna Creek during the

summer months that has resulted in maintenance of a full lagoon throughout the summer (Berry, personal communication, 2007). Instream flow provisions set forth in SSM-52 will minimize the potential for effects of the Laguna Creek and Tait Street diversions on tidewater goby habitat.

Operation of Newell Reservoir has a potential indirect effect on tidewater goby habitat related to treatment of the reservoir with algaecide containing copper, flow releases from testing of the outlet valves, and removal of large woody debris. These activities are expected to have minimal impact on tidewater goby. Monitoring of copper levels below the reservoir has shown that copper levels are in compliance with applicable limits of the State Water Resources Control Board Basin Plan. Reservoir releases are further diluted in the San Lorenzo River and by additional downstream tributaries, including the Zayante Creek and Branciforte Creek watersheds. Testing of the outlet valves involves release of up to 100,000 gallons (about 0.3 acre-feet) of water during several hours, usually in late summer. The total amount of water would be insignificant in terms of the lagoon volume which ranges from 50 to 250 acre-feet during the summer. Removal of large woody debris from the reservoir results in some diminishment in recruitment to downstream areas and ultimately the lagoon, however, the area above the dam is a small fraction of the total area of the San Lorenzo watershed and tidewater goby habitat is not known to be particularly enhanced by large woody debris. Tidewater goby tend to be most abundant on open sand substrate and dense aquatic vegetation is usually more important to gobies for cover and food production than large woody debris (USFWS 2005).

Sediment management at the Laguna Creek and Majors Creek diversions may somewhat influence sediment transport timing, but not overall magnitude. Any effects on sediment transport timing are likely to be greatly muted in the stream reach between the diversion and the lagoon. Tidewater goby prefer sand substrate for breeding, but they can be found on rocky, mud, and silt substrates as well. Lagoon dynamics result in primarily sand substrate in the main part of the Laguna Creek Lagoon with some mud and gravel in the upper part of the lagoon and silt and mud in the overwash pond to the south of the main lagoon. In Majors Creek, the only potential lagoon habitat forms in a small area along the back side of the beach and is primarily sand substrate. In the San Lorenzo Lagoon, the substrate is primarily sand with thin accumulations of silt in some areas. Substrate conditions in the lagoons are expected to be unaffected by O&M of the diversions.

Pipeline O&M activities include conveyance pipeline system inspections and repairs, finished water pipeline system flushing and repairs, pumping well return to the San Lorenzo River, and North Coast valve blow-off to the San Lorenzo River (Activities Report). These activities have minimal potential to affect tidewater goby habitat. Discharges from leaks may cause erosion and turbid runoff to surface waters when located adjacent to waterways. Except for the San Lorenzo River Lagoon, tidewater goby habitat is geographically removed from these activities and impacts to tidewater goby are not expected. Finished water pipeline system flushing and repairs are managed by Standard Operating Procedures (SOPs 7102-01 and 7102-02) to ensure dechlorination and flushing procedures to minimize effects to aquatic habitat as well as follow up water quality testing for turbidity and chlorine residual. Pumping well return to the San Lorenzo River and North Coast valve blow-off to the San Lorenzo River are managed to avoid erosion and turbid runoff. The quantity of water involved is very small relative to the lagoon volume. The City also maintains a leachate line from the City landfill to the treatment plant. The line



runs along the Highway 1 corridor and does not directly traverse any habitat supporting tidewater goby. However, any leak in the leachate line could result in water quality issues, however, if the discharge reaches habitat containing tidewater goby.

Flood control maintenance involves debris/obstruction removal, sediment management/removal, and vegetation management. Debris/obstruction removal occurs on an as needed basis to comply with flood conveyance requirements as determined by hydraulic modeling. Debris and/or obstructions are generally removed during the high flow season when tidewater goby abundance is low. Debris removal is generally focused at bridges, road culverts, diversions, pipelines, and other structures where property or safety is threatened. This activity does not occur in Laguna Creek or Majors Creek lagoons. Debris removal has little to no potential to affect tidewater goby within the San Lorenzo lagoon.

Riparian shrubs and trees are removed from the San Lorenzo Flood Control Channel and Branciforte Creek Flood Control Channel per maintenance requirements of the Corps. This activity may occur in conjunction with sediment removal. Removal of riparian vegetation per se is unlikely to affect tidewater goby in the San Lorenzo Lagoon.

The City will annually remove accumulated sediment and vegetation throughout portions of an approximately 3,100-foot reach of Branciforte Creek between the Ocean Street and Hubbard Street Bridges. The size of the maintenance area may require that the removal of sediment from the fish passage channel be conducted in sections. For example, depending on the amount of work needed, sediment removal activities would proceed in increments of approximately 50- to 1,000-foot sections. Therefore, work areas would be limited at any given time to a maximum of a 1,000-foot by 35-foot (35,000 square feet, 0.8 acre) section of channel. Previous surveys have indicated that tidewater goby are not expected to frequently occur upstream of Ocean Street and that potential reproductive habitat for tidewater goby is likely restricted to the reach downstream of Ocean Street (USFWS 2005b). Fish relocation activities completed prior to construction are expected to remove the majority of tidewater gobies in the unlikely event that they are present.

#### **5.7.3.4 Conclusion**

Covered Activities with greatest potential to impact tidewater goby are limited to sediment removal in the San Lorenzo River Lagoon and lower Branciforte Creek flood control channel; and the diversion of water from Laguna Creek, Majors Creek, and the San Lorenzo River. Sediment removal in areas where tidewater goby are present will result in harm, harassment, and potential killing of goby through capture and removal of individuals from the work areas and destruction of burrows with any eggs and males present. The proposed activities will not cause complete disruption of breeding activities in the San Lorenzo River lagoon or Laguna Creek Lagoon and will not result in long-term changes in substrate or water quality that would prevent tidewater gobies from using the area after the cessation of the disturbance. Disturbance will be relatively infrequent and only a small area will be involved. TWG have a short lifespan and can become abundant under favorable conditions. Population effects will be negligible and TWG are expected to rapidly recolonize disturbed areas.

The effect of the diversions is unclear and there are potentially both negative and positive effects. Diversions may result in earlier closure of the lagoons with conversion to a more stable habitat condition for goby and lower potential for summer breaching. Diversions may also result in lowering lagoon stage and dewatering valuable habitat in backwater areas such as the overwash pond at Laguna Creek. This condition can be exacerbated in dry years. Diversion bypasses at Laguna Creek demonstrate that good habitat conditions for tidewater goby can be maintained in the lagoon with relatively small bypass of flow (about 0.25 cfs). The minimum flow requirements established under this Plan will minimize the potential effect of water diversions on tidewater goby. In addition, instream flow increases that the City is proposing under a separate HCP for Anadromous Salmonids would result in lagoon inflows that are closer to levels that would occur in the absence of City diversions in both Laguna Creek and the San Lorenzo River downstream of Tait Street.

#### **5.7.4 Pacific Lamprey (*Entosphenus tridentata*)**

##### **5.7.4.1 Introduction**

Covered Activities with the greatest potential for impacts to Pacific lamprey or its habitat are related to water supply operations and flood control maintenance. Other Covered Activities are conducted in areas where lamprey do not occur or have negligible potential for effects due to limited scope or potential for downstream effects. The Pacific Lamprey is not known to occur in any of the North Coast streams influenced by the Covered Activities. Migration, spawning, and rearing habitat occur in the HCP Plan Area in Newell Creek, Zayante Creek, and the San Lorenzo River. Pacific lamprey are not well studied and there is relatively little information regarding abundance, status, distribution, or specific life-history characteristics in the HCP Plan Area.

##### **5.7.4.2 Direct Effects**

Sediment removal in the San Lorenzo River and Branciforte Creek flood control channels has the potential for direct effects on Pacific lamprey larvae. Pacific lamprey ammocoetes (larvae) colonize the channel when sediment accumulates there. Ammocoetes have been observed in the channel between Water St. and May Avenue. A total of 18 ammocoetes were captured during electrofishing surveys in August 2003 in a 116-foot section of the channel (HES 2003). Lamprey are unlikely to occur downstream of Water Street in the San Lorenzo FCC or downstream of May Avenue in the Branciforte Creek FCC due to higher salinity that occurs during high lagoon stages. There is the potential for direct mortality and disturbance to lamprey ammocoetes during sediment removal activities. Lamprey ammocoetes are not likely to be captured during fish removal and translocation since they are found within the substrate. While some ammocoetes may emerge from burrows and be susceptible to capture during electrofishing surveys, this is not expected to be an effective method for capture and removal of the majority of the population in any area as not all ammocoetes within the burrows could be expected to be within range of the electrofisher.

The City will annually remove accumulated sediment and vegetation throughout portions of an approximately 3,100-foot reach of Branciforte Creek between the Ocean Street and Hubbard Street Bridges. The size of the maintenance area may require that the removal of sediment from the channel be conducted in sections. For example, depending on the amount of work needed, sediment removal activities would proceed in increments of approximately 50- to 1,000-foot sections. Therefore, work areas would be limited at any given time to a maximum of a 1,000-foot by 35-foot (35,000 square feet, 0.8 acre) section of channel. The entire section will be treated on an as needed basis depending on sediment deposition and is expected to recur every 3-5 years. Therefore, a worst case estimate of the total acreage disturbed would be 2.5 acres to be disturbed 10 times during a 30 year permit period.

Provided the flood control channel is maintained free of sediment, there is no habitat for lamprey. If sediment accumulates in the channel, lamprey may take up residence there. Assuming that the 3 to 5-year maintenance rotation allows some accumulation of sediment and colonization by lamprey, there will be an ongoing disturbance that would best be regarded as a permanent effect for the 3,100 foot reach or the equivalent loss of 2.5 acres of potential lamprey habitat.

#### **5.7.4.3 Indirect Effects**

Operation of the City water diversions results in altered streamflows in stream sections potentially supporting lamprey including Newell Creek and the San Lorenzo River downstream of Felton.

Standard facility operations for Newell Creek include a year round minimum release requirement of 1 cfs below Newell Dam (see Appendix A: Facility Operations – Water Diversion Bypasses). During the fully appropriated season, there is a requirement that the greater of 1 cfs or the natural flow of Newell Creek must be released. Hydrologic modeling indicates that the operation of the reservoir results in a slight reduction in median flows through the anadromous reach (compared to reservoir inflows) during the early part of the anadromous salmonid rearing period in wet, normal and dry years, and in an augmentation of median flows during the latter part of the rearing period due to the 1 cfs minimum release (ENTRIX 2004b Appendix A, Physical Resources Report Table A-21).

The Felton Diversion operates according to two Memoranda of Agreement (MOA) signed with the California Department of Fish and Game (Agreement Between City of Santa Cruz and State of California Department of Fish and Game for Streamflow Maintenance and Operation of Fishway at Felton Diversion Project on San Lorenzo River for the Protection and Preservation of the Fish and Wildlife Resources, 1971 (CDFG 1971); and, Memorandum of Agreement between California Department of Fish and Game and the City of Santa Cruz Regarding Operation of the Felton Water Diversion, 1998 (Hunter 1998). These agreements set the maximum rate of withdrawal for October 1 to May 31 as 20 cfs with a minimum bypass flow of 25 cfs for October and 20 cfs for the period November 1 through May 31. In September, the diversion rate is 3500 gpm with a 10 cfs bypass requirement – though diversion in September is often not possible or necessary. Additionally, the City's Anadromous Salmonid Habitat Conservation Plan requires a

minimum 40 cfs bypass flow at the Felton Diversion. The Felton Diversion does not operate in the summer months of June through August.

Reduced flows during winter occur in Newell Creek in years when Loch Lomond Reservoir does not spill or when reservoir filling delays winter storm flows. This may affect the ability of lamprey to migrate in Newell Creek and may influence the quality of spawning habitat at times when the reservoir is not spilling. Migration passage may be inhibited by project-related low flows, though, due to their unique ability to use their rasping mouths to effectively climb barriers, Pacific lamprey are potentially able to pass difficult stream reaches that may be inaccessible to salmonids. Movement and migration rates of sea lamprey (*Petromyzon marinus*), a related species, has been shown to be influenced by flow changes (Almeida et al. 2002), however, sufficient detailed information for prediction of behavior of Pacific lamprey in Newell Creek is lacking in the scientific literature. Flows are less altered in the summer when the 1 cfs minimum streamflow is required in Newell Creek and there are no diversions at Felton (June through August). Larval lamprey (ammocoetes) occupy benthic habitat composed of fine sediments, generally in quieter water. The effect of flow on the larval stage of this species is likely to be less than on juvenile salmonids which feed in a current.

Operation of Newell Reservoir has the potential to indirectly affect lamprey habitat related to treatment of the reservoir with algacide containing copper, flow releases from testing of the outlet valves, and removal of large woody debris. These activities are expected to have minimal impact on lamprey. Monitoring of copper levels below the reservoir has shown that copper levels are in compliance with applicable limits of the State Water Resources Control Board Basin Plan. Reservoir releases are further diluted in the San Lorenzo River and by additional downstream tributaries including the Zayante Creek and Branciforte Creek watersheds. Testing of the outlet valves involves release of up to 100,000 gallons (about 0.3 acre-feet) of water during several hours, usually in late summer. The rate of discharge is approximately 5-10 cfs during the testing period. This change in flow during the rearing period is not expected to result in movement of sediments or disturbance to burrows in the areas potentially occupied by lamprey ammocoetes. Removal of large woody debris from the reservoir results in some diminishment in recruitment to downstream areas. Lamprey ammocoetes occupy burrows in the substrate and would not be expected to be influenced by the presence or lack of large woody debris. Lamprey adults are also not known to be particularly dependent on large woody debris as a component of migration or spawning habitat.

Operation of Loch Lomond reservoir also interrupts sediment transport from the Upper Newell Creek watershed to the stream reach downstream of the dam by trapping sediments upstream of the dam and by altering the "sediment hydrograph" (flow-dependent sediment transport). Retention of fine sediments behind the dam has the potential to reduce burrowing habitat for lamprey ammocoetes. On the other hand, reduction in the magnitude or frequency of high flows in years when the reservoir does not spill may alter sediment transport dynamics and result in the accumulation of fine sediments downstream of the dam. Retention of larger particle sizes such as gravel and cobble may reduce the amount and quality of lamprey spawning habitat.

Instream substrate downstream of Newell Creek Reservoir has been reported to have lower sedimentation rates and subsequent embeddedness than many other stream reaches in the San



Lorenzo Basin, possibly due to retention of fine sediments in the reservoir (Swanson 2001- Zayante Area Sediment Source Study - Final Figure 5.2, Final - Appendix p. 11).

Sediment management at the Laguna Creek and Majors Creek diversions would not influence Pacific lamprey since lamprey are not known to occupy these streams.

Pipeline O&M activities include conveyance pipeline system inspections and repairs, finished water pipeline system flushing and repairs, pumping well return to the San Lorenzo River, and North Coast valve blow-off to the San Lorenzo River (Chapter 3, *Covered Activities*). These activities have minimal potential to affect Pacific lamprey. Conveyance pipeline corridors and most of the distribution network are located either on the North Coast where lamprey do not occur or in the City urban center, downstream of most of the lamprey habitat in the San Lorenzo River system. Discharges from pipeline leaks near the San Lorenzo mainstem or Newell Creek may cause erosion and turbid runoff to surface waters when located adjacent to waterways. This would not likely have much influence on lamprey ammocoetes, which burrow in the sediments. Potential effects on spawning habitat are largely minimized and avoided by sediment control BMPs and SOPs for pipeline repair and maintenance.

Finished water pipeline system flushing and repairs are also managed by Standard Operating Procedures (SOPs 7102-01 and 7102-02) to ensure dechlorination and flushing procedures to minimize effects to aquatic habitat as well as follow up water quality testing for turbidity and chlorine residual. Most of the finished water pipeline system is located downstream of lamprey habitat in the San Lorenzo River. Pumping well return to the San Lorenzo River and North Coast valve blow-off to the San Lorenzo River are managed to avoid erosion and turbid runoff. No lamprey spawning habitat is located downstream of the area of these releases and any lamprey rearing habitat is not expected to be impacted by sediments or turbidity. The City leachate line from the City landfill to the treatment plant runs along the Highway 1 corridor and does not directly traverse, and is not upstream of any habitat supporting lamprey.

Flood control maintenance involves debris/obstruction removal, sediment management/removal, and vegetation management. Debris removal is generally focused at bridges, road culverts, diversions, pipelines, and other structures where property or safety is threatened. Debris removal has little to no potential to affect lamprey or lamprey habitat since the activity occurs primarily downstream of lamprey habitat and lamprey are not particularly dependent on this material as a component of habitat.

Riparian shrubs and trees are removed from the San Lorenzo Flood Control Channel and Branciforte Creek Flood Control Channel per maintenance requirements of the Corps. This activity may occur in conjunction with sediment removal. Removal of riparian vegetation per se is unlikely to affect lamprey that may either migrate through the area as adults or rear as ammocoetes.

#### **5.7.4.4 Conclusion**

Pacific lamprey are most likely to be directly influenced by sediment removal in the San Lorenzo River and Branciforte Creek flood control channels. Indirect effects may be related to operation

of Loch Lomond and diversion of stream flows. Although lamprey ammocoetes in the flood control channels may be injured or killed during sediment removal activities the numbers are expected to be small due to the relatively small area of the effect and small numbers of lamprey ammocoetes likely to use the area. Lamprey rearing in the flood control channels likely represents a minor component of the population in the San Lorenzo River system.

Reduced flows in Newell Creek during the winter in years when Loch Lomond reservoir does not spill may impair the ability of adult lamprey to migrate into Newell Creek and spawn, though, due to their unique ability to use their rasping mouths to effectively climb barriers, Pacific lamprey are potentially able to pass difficult stream reaches that may be inaccessible to salmonids. Reduced flows during winter are not expected to affect lamprey ammocoetes. Summer flows are maintained by a 1 cfs minimum release from Loch Lomond. Lamprey ammocoetes generally inhabit quiescent habitats and are not expected to be significantly affected by flow alterations in the range experienced under operation of the reservoir and diversion.

The effects of sediment retention in the reservoir and alteration of sediment transport downstream of the reservoir may have an effect on habitat for rearing ammocoetes and spawning adults, particularly closer to the dam. The magnitude of these effects is expected to be relatively small based on existing habitat conditions.

### **5.7.5 California Red-Legged Frog (*Rana draytonii*)**

#### **5.7.5.1 Introduction**

CRLF occur only within the North Coast Unit of the Plan Area. The primary effects on the CRLF in the past have been due to relocating individuals for emergency repairs. A review of the last five years of repairs to the existing pipeline found that 0.14 to 0.23 acre of impact per year occurs within riparian habitat. The need for emergency repairs will decline over time with implementation of the new North Coast Pipeline. CRLF do occur and breed at the ponds on the Dimeo Lane Landfill; however, sediment removal from these ponds has only occurred twice over the past decade, and the frequency at most is expected to be once every three years.

#### **5.7.5.2 Direct Effects**

Emergency repairs to pipelines within creeks and riparian habitats in the North Coast Unit and sediment removal from diversion dams and the ponds at the Dimeo Lane Landfill may cause injury or mortality to CRLF adults or juveniles from vehicles entering those areas and heavy equipment used for the work. CRLF are known to breed at the Dimeo Lane Landfill ponds, and dewatering, sediment and vegetation removal have the potential to cause injury or mortality to CRLF eggs and tadpoles.

Capturing and relocating CRLF prior to emergency repairs and sediment removal has the potential to directly affect eggs, tadpoles, juveniles, and adults if they are handled improperly. Use of a trained biologist to implement relocation (SSM-12 and SSM-14) will minimize this potential effect.

Based on experience with similar projects in this vicinity in the past and the footprint of the proposed work, no more than 100 adult and juvenile CRLF will be directly affected by these activities annually. No more than 30 CRLF egg masses and 100 tadpoles will be directly affected by activities at the Dimeo Lane Landfill over the term of the permit.

It is unlikely that mowing along the North Coast Unit will affect CRLF adults and juveniles, as this species makes movements across open habitats at night, whereas mowing is conducted during the day when the species is unlikely to be present.

#### **5.7.5.3 Indirect Effects**

Vegetation removal in riparian habitats occurs only as access is needed to repair facilities. The infrequency and small area of riparian vegetation trimming (currently 0.14 to 0.23 acre annually) may cause minor indirect effects to CRLF. Implementation of revegetation (GM-8) will minimize this potential effect. Indirect effects to CRLF adults and juveniles may include potential for increased exposure to predation of relocated individuals. Selection of a suitable relocation site by trained biologists (SSM-12) will minimize this potential effect. Sediment removal at the Dimeo Lane Landfill ponds may also remove vegetation that provides attachment substrate for CRLF egg masses, thus temporarily reducing suitable egg deposition habitat. Vegetation removal in these ponds may also temporarily affect cover habitat for CRLF tadpoles. Limiting the work area to the minimum necessary (GM-5) will minimize this potential effect.

O&M activities at the Loch Lomond Reservoir may include the use of algaecides in the dry season, as described in Section 3.2.2. Application of algaecide in the reservoir is not expected to result in harm or harassment to CRLF. CRLF do not currently occur at the reservoir and known breeding populations of the species occur more than 8 miles away. In addition, reservoir operations, human recreation, and existing populations of several non-native predators (e.g., bass, bullfrog, and crayfish) make it unlikely that a breeding population of CRLF would become established in the reservoir. It is possible, however, that individual CRLF could appear in the vicinity of the reservoir. As such, only adult stages of CRLF are likely to be potentially exposed to algaecide, and only when in the aquatic environment. It is possible, but unlikely, that adult CRLF could be harmed or harassed through the use of algaecides at the reservoir. Application and monitoring of algaecides by the City is conducted in compliance with applicable limits of the State Water Resources Control Board Basin Plan and the City's SWRCB NPDES permit for aquatic algaecide application. These permits establish application levels that have been determined through section 7 consultation that the Service conducted for the EPA approval of State Water Quality Standards to not be likely to jeopardize the continued existence of the CRLF (See Biological Opinion 1-1-98-F-21, McGinnis and Spear 2000).

#### **5.7.5.4 Conclusion**

The effects to CRLF by O&M within the North Coast Unit are expected to decline over time once the facilities are upgraded. The new facilities will require less maintenance than the existing aging facilities, and the overall area of pipeline ROW with riparian habitat will be

reduced from the current 7 acres to 6.2 acres. Annual effects until the new facilities have been fully implemented are minimal on the overall north coast population of CRLF. Currently 0.14 to 0.23 acre of riparian habitat is disturbed annually for necessary repairs, and as the new facilities are built, this amount will gradually be reduced. Implementation of minimal bypass flows at the diversions as provided under the Plan is expected to benefit the CRLF that occur downstream (e.g., the lagoons).

### **5.7.6 Western Pond Turtle (*Actinemys marmorata*)**

#### **5.7.6.1 Introduction**

WPT are not known to occur at any of the City's diversion dams or at the Dimeo Lane Landfill ponds, thus no effects to WPT are expected to occur as a result of the O&M of those facilities. WPT may occasionally be encountered during repair of the North Coast Unit pipeline, and measures are included to avoid and minimize any construction related impacts, including SSM-21 and SSM-23.

A small population of WPT exists at the City's Neary Lagoon facility and measures described in Section 4.3.3.7 will be implemented to avoid and minimize direct effects to those individuals during routine maintenance (tule removal as described in Section 3.5.4. Loch Lomond Reservoir also supports a small population of WPT, and the City will implement the measures in Section 4.3.3.7 to reduce effects to individuals during operations, and is planning new measures to improve habitat conditions to benefit juvenile survival.

#### **5.7.6.2 Direct Effects**

Although the chance of encountering a WPT during emergency repairs along the North Coast Unit is small, a few individuals may be injured or killed by equipment during repairs. Relocation of individuals during repair work has the potential to affect them if they are handled improperly. No more than 10 WPT may be directly affected by repairs annually. Implementation of SSM-21 and SSM-23 for preconstruction surveys, monitoring and relocation will minimize these potential effects.

The effect on WPT of copper containing algaecide use at the Loch Lomond Reservoir was analyzed by Blankenship and Associates (2010). The authors found that application rates of up to 0.47 mg/L have no effect on WPT. The usual application rate the City uses is 0.2 mg/L; therefore, the use of copper containing algaecide is not expected to affect WPT.

The biannual vegetation removal at Neary Lagoon has the potential to injure or kill WPT from the blades of the machines that are used. Trapping and transporting WPT prior to vegetation removal has the potential to injure or kill adults if they are handled improperly. Currently there are only three adult WPT at Neary Lagoon. Use of a trained biologist for trapping and relocation (SSM-21) will minimize this potential effect.



Weed removal on the dam at Loch Lomond Reservoir is conducted by weed whippers or goat grazing, neither of which are expected to affect WPT.

WPT are known to occasionally nest in the dirt access roads at Loch Lomond Reservoir. Use of heavy equipment for road maintenance has the potential to injure or kill WPT eggs or hatchlings. Because road maintenance is conducted during the daytime, and WPT adults nest at night, road maintenance is not expected to affect adult WPT. No more than five WPT eggs or hatchlings may be affected annually by road maintenance. Implementation of SSM-21 and SSM-23 will minimize this potential effect.

#### **5.7.6.3 Indirect Effects**

The temporary relocation of WPT during vegetation removal at Neary Lagoon has the potential to cause indirect effects to the individuals by stress and disruption of normal breeding behavior. Use of a veterinary clinic with experience in handling WPT will minimize this potential effect.

The annual drawdown of the Loch Lomond Reservoir reduces the shallow shoreline cover habitat necessary for protection of juveniles from predators (e.g., bass, raccoons, etc.).

#### **5.7.6.4 Conclusion**

As noted above, the upgrading of the North Coast Pipeline and diversions will decrease the need for emergency repairs over time, and thus the potential effects that repairs may have on WPT. The area of pipeline ROW within riparian habitat will be reduced from 7 acres to 6.2 acres when the new pipeline is completed, and the new facilities will require less maintenance and repairs than the aging facilities. The implementation of minimal bypass flows at the diversions as provided under the Plan is expected to benefit the WPT that occur downstream (e.g., the lagoons). The infrequency of repairs and small area involved (currently 0.14 to 0.23 acre annually) is not expected to affect the overall WPT population in the North Coast Unit. Recent studies of the Loch Lomond Reservoir population have recommended measures to improve survival of juveniles, and the City will implement those measures as described in Section 4.3.3.7.

### **5.8 Impacts to Critical Habitat**

#### **5.8.1 Ben Lomond Spineflower (*Chorizanthe pungens* var. *hartwegiana*)**

Critical habitat has not been designated for the BLS, thus none will be affected by the Covered Activities.

### **5.8.2 Robust Spineflower (*Chorizanthe robusta* var. *robusta*)**

Critical Habitat occurs in the Plan Area (City Urban Center Unit), however Critical Habitat does not occur in proximity to City facilities. As a result, Critical Habitat will not be affected by the Covered Activities.

### **5.8.3 Santa Cruz Tarplant (*Holocarpha macradenia*)**

The Service designated 2,902 acres of critical habitat for the Santa Cruz tarplant on October 16, 2002 (USFWS 2002a). Included in the designation was 65-acres at Arana Gulch (Unit D), 5 acres at DeLaveaga (Unit C), and 30 acres at Graham Hill (Unit B). These units total 100 acres of Santa Cruz tarplant critical habitat within the City Urban Center Unit of the Plan Area; however, only Arana Gulch (Unit D) is City-owned property. The 5-acre DeLaveaga area (Unit C) is on land owned by the California Army National Guard yet is immediately adjacent to the City's DeLaveaga Golf Course. The 30-acre Graham Hill area (Unit B) is privately owned; however, a City water pipeline is located within this area. Mowing would be the predominate activity occurring within critical habitat, and it is generally thought to be beneficial for this species' habitat. The final critical habitat designation states that the ability to maintain disturbance factors such as mowing maintains the openness of vegetation that the species requires for successful germination and is critical to the long-term persistence of the species (USFWS 2002a). Available information also suggests that habitat manipulation such as burning, mowing, grazing, and scraping can increase standing numbers of plants and may be necessary to enhance and maintain populations of Santa Cruz tarplant (USFWS 2002a). In addition to mowing, the only other Covered Activities occurring in critical habitat would be necessary repairs to City water supply infrastructure within the Graham Hill area (Unit B). Critical Habitat will be flagged and avoided to the extent practicable. Such repairs could potentially still cause temporary impacts to critical habitat. These impacts would be temporary in nature and would be lessened through avoidance and minimization measures required by the Plan.

Covered Activities have the potential to temporarily impact up to two acres of the total of 2,902 acres of critical habitat designated for Santa Cruz tarplant. This impact would represent less than 1% of the total critical habitat for the species. The small amount of temporary impact to critical habitat that could result from implementation of the Covered Activities will not appreciably reduce the value of the critical habitat to the recovery of the Santa Cruz tarplant.

### **5.8.4 San Francisco Popcornflower (*Plagiobothrys diffusus*)**

Critical habitat has not been designated for the San Francisco popcornflower. As a result, Critical Habitat will not be affected by the Covered Activities.

#### **5.8.5 Ohlone Tiger Beetle (*Cicindela ohlone*)**

Critical habitat has not been designated for the OTB, thus none will be affected by the Covered Activities.

#### **5.8.6 Mount Hermon June Beetle (*Polyphylla barbata*)**

Critical habitat has not been designated for the MHJB, thus none will be affected by the Covered Activities.

#### **5.8.7 Tidewater Goby (*Eucyclogobius newberryi*)**

Critical habitat for tidewater goby occurs in lagoons in the HCP plan area in Laguna Creek lagoon, Baldwin Creek lagoon, Moore Creek lagoon, and Corcoran lagoon. Construction of the North Coast Pipeline could result in temporary minor degradation of tidewater goby habitat due to discharge of sediment or contaminants to streams tributary to lagoons where tidewater goby may occur. Construction practices and BMPs to minimize and avoid sediment discharge to water courses, and contain sediment and spills are expected to result in no indirect effects of pipeline construction on tidewater goby Critical Habitat.

City diversions may result in minor alteration of tidewater goby Critical Habitat in Laguna Creek lagoon. The diversion may have a positive effect, resulting in earlier closure of the lagoons with conversion to a more stable habitat condition for goby and lower potential for summer breaching. The diversion may also result in lowering lagoon stage and dewatering valuable habitat in backwater areas such as the overwash pond at Laguna Creek, particularly in dry years. This potential effect can be minimized by diversion bypasses in SSM-52 at the Laguna/Reggiardo diversions.

#### **5.8.8 Pacific Lamprey (*Entosphenus tridentata*)**

The Pacific lamprey is not currently listed as threatened or endangered under the Endangered Species Act and Critical Habitat has not been designated for the species. As a result, Covered Activities will not affect Critical Habitat.

#### **5.8.9 California Red-Legged Frog (*Rana draytonii*)**

The North Coast Unit of the City's water system is located within unit SCZ-1 of designated Critical Habitat for the CRLF (USFWS 2010b). Implementation of the North Coast Pipeline project is expected to result in the temporary disturbance of 5.7 acres (all of which is Critical Habitat), but will have long-term beneficial effects to CRLF by reducing the need for emergency repairs and for sediment removal at diversion dams. In addition, some portions of the pipeline will be moved outside of riparian areas, reducing the acreage of ROW from 7 acres to 6.2 acres. O&M activities are expected to result in the permanent loss of 0.50 acres and temporary

disturbance to 8.4 acres, all of which is Critical Habitat. Maintaining minimum stream flows year round and over time reducing the amount of water diverted will likely also benefit CRLF foraging habitat within the pipeline area as well as breeding habitat downstream (e.g., in lagoons). With these beneficial effects, the project is not expected to adversely modify Critical Habitat for CRLF.

#### **5.8.10 Western Pond Turtle (*Actinemys marmorata*)**

The WPT is not currently listed as threatened or endangered under the Endangered Species Act and Critical Habitat has not been designated for the species. As a result, Covered Activities will not affect Critical Habitat.

### **5.9 Conclusion**

Based on the implementation of the GM and the SSM during the completion of Covered Activities under the Plan, effects to Covered Species will be minimal and will be mitigated to the maximum extent practicable.



**Table 1: Impacts to Covered Wildlife Species Summary<sup>10</sup>**

| Covered Species                          | Potential Construction Impacts Prior to AMMs (acres) |           | Potential O&M Impacts Prior to AMM (acres) |           | Mitigation for Permanent Impacts   |
|--|--|-----------|--|-----------|--|
|  | Temporary  | Permanent | Temporary                                  | Permanent |  |
| Ohlone tiger beetle                      | 1.34   | 0.0       | 0.21                                       | 0.0       | Relocate OTB to the Moore Creek Preserve and prepare and fund supplemental management plan for portions of Moore Creek Preserve.   |
| Mt. Hermon June beetle                   | 0.0  | 0.0       | 0.42                                       | 0.0       | Deduct mitigation credits from Bonny Doon Mitigation Site as necessary. <sup>11</sup>  |
| Tidewater goby                           | 0.0  | 0.0       | 0.14                                       | 0.0       | Provide minimum bypass of at least 2.0 cfs downstream of the Laguna/Reggiardo diversion in all years. Provide at least 8.0 cfs downstream of the Tait Street diversion at all times. <sup>12</sup> |
| Pacific lamprey                          | 0.0  | 0.0       | 0.80                                       | 0.0       | Provide at least 8.0 cfs downstream of the Tait Street diversion at all times. <sup>13</sup>   |
| California red-legged frog <sup>14</sup> | 5.70   | 0.0       | 8.40                                       | 0.50      | Fund habitat restoration by providing \$5,000 <sup>15</sup> to Santa Cruz County Resource Conservation District In-Lieu Fee  |

<sup>10</sup> This table reflects the impacts to covered wildlife species only. The impacts to covered plant species are addressed in narrative form.

<sup>11</sup> The City has established a mitigation site for MHJB on City-owned habitat in Bonny Doon. The City has used 5.7 acres of the 17 acres to offset impacts to MHJB resulting from activities at the Graham Hill Water Treatment Plant and has 11.3 acres remaining for future impacts to MHJB.

<sup>12</sup> These are the base commitments provided by the HCP for this species. Additional flow requirements are being developed for anadromous species in the City of Santa Cruz Anadromous Salmonid HCP.

<sup>13</sup> Again, these are the base commitments provided by the HCP for this species. Additional flow requirements are being developed for anadromous species in the City of Santa Cruz Anadromous Salmonid HCP.

<sup>14</sup> In addition to the impact acreages listed above for CRLF, the Plan anticipates that relocation to minimize harm could affect up to 150 adults/juveniles, 30 egg masses and 100 tadpoles over the term of the permit. The mitigation includes the restoration of 0.5 ac of habitat through the Santa Cruz County Resource Conservation District In-Lieu Fee Program or State Parks that is intended to fully offset these potential impacts and effects associated with impacts to scattered CRLF habitat. Any additional off-site CRLF mitigation options that the City pursues will be coordinated with and approved by the Service. See Section 4.3.3.6.

<sup>15</sup> The \$5,000 figure is an estimate of current costs for the mitigation, but this amount could change once the fee schedule is determined for the In-Lieu Fee Program. The City agrees to fund the required mitigation at the final rate when it is determined by the RCD at a future time.

|                                   |      |     |      |      |  |
|-----------------------------------|------|-----|------|------|--|
|                                   |      |     |      |      | Program or State Parks for CRLF habitat restoration (concurrent with mitigation for WPT).                                      |
| Western pond turtle <sup>16</sup> | 5.70 | 0.0 | 8.90 | 0.50 | If mitigation takes the form of habitat restoration for CRLF, that habitat restoration will also serve as mitigation for WPT). |

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<sup>16</sup> In addition to the impact acreages listed above for WPT, the Plan anticipates impacts to 33 adults/juveniles and 5 eggs/hatchlings as a result of harm/harassment from relocation. The mitigation includes the restoration of 0.5 ac through the Santa Cruz County Resource Conservation District In-Lieu Fee Program or State Parks that is intended to fully offset these potential impacts and effects associated with impacts to scattered WPT habitat.

## **6.0 PLAN IMPLEMENTATION, COSTS, AND FUNDING**

### **6.1 Introduction**

This chapter identifies the issues that are related to Plan implementation and the approaches that will be used to address those issues over the term of the Plan. The chapter describes requirements for short-term and long-range planning, annual workplans and budgets, monitoring, and compliance reporting. The chapter further describes the regulatory assurances under the ESA that are expected to be provided to the City. It also describes the commitment of the City to respond to foreseeable changes in circumstances that may adversely affect listed species and habitats, and identifies a process by which changes that are not foreseeable can be addressed. The chapter identifies the circumstances under which regulatory authorizations may be suspended or revoked. The Plan is intended to be incorporated into the incidental take permit issued by the Service. The City acknowledges that the Plan was drafted by the City. Characterizations, analyses and representations in the Plan, and in particular, characterizations, analyses and representations of federal laws, regulations, and policies, represent the views of the City and will not control the administration of the Permit by the Service in accordance with federal laws, regulations, and policies. Further, in the event of any inconsistency between the Plan and the Permit, the Permit controls.

### **6.2 Role of the Permittee**

#### **6.2.1 City of Santa Cruz Water Department**

The City of Santa Cruz Water Department will provide for coordinated and effective implementation of the Plan on behalf of the City. The Water Department will have the following obligations:

##### **Financial Planning and Management**

Financial planning and management of revenues and expenditures for habitat protection and biological and compliance monitoring.

##### **Report Preparation**

Reporting on Plan implementation, including annual accounting of activities.

##### **Database Maintenance**

Maintenance and updates of the regional geographic information system (GIS) database on habitat, species, and other relevant information.

##### **Implementation and Coordination**

HCP program implementation and coordination, including coordination between the City and the Service.

### **Support Personnel and Facilities**

General administrative support for the above activities, including support personnel, accounting, facilities, and equipment.

## **6.3 Monitoring and Reporting**

### **6.3.1 Compliance and Progress Reporting**

The City will prepare, a report annually by March 1 of each year to demonstrate compliance with the Plan and to facilitate interagency coordination and public outreach. Under the ESA, habitat conservation plans are required to establish monitoring programs to assess the effects of Plan implementation on Covered Species.<sup>17</sup> The report will include:

- The amount of take of each Covered Species during the prior calendar year and the take avoidance, minimization measures and mitigation implemented during the past calendar year.
- Covered Activities anticipated to occur during the calendar year and take avoidance, minimization and mitigation to be implemented during the calendar year.
- Documentation of assured funding to carry out all required Plan measures anticipated to occur during the calendar year.

Throughout the course of Plan implementation, the City will also prepare and submit to the Service a five-year workplan and budget. The work plan will describe the City's one-time and recurring activities, including all take avoidance, minimization and mitigation measures that are expected to be implemented during the upcoming period. The work plan will document the mitigation provided for impacts and demonstrate how mitigation for future impacts will occur in advance of such impacts. The workplan will describe schedules and costs related to the implementation of actions over five-year timeframes and set out projected expenditures and the funding the City has committed for those expenditures.

### **6.3.2 Additional Reports.**

The City will provide, within thirty (30) days of being requested by the Service, any additional information in its possession or control related to implementation of the Plan requested by the Service for the purpose of assessing whether the terms and conditions of the Permit, including the Plan, are being fully implemented.

### **6.3.3 Certification of Reports**

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<sup>17</sup> 50 C.F.R. § 17.22(b)(3) and 50 C.F.R. § 222.307(b)(5).



All reports will include the following certification from a responsible official of the City who supervised or directed preparation of the report:

I certify under penalty of law, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete

## **6.4 Regulatory Assurances, Changed Circumstances and Unforeseen Circumstances**

### **6.4.1 Regulatory Assurances under the ESA – the No Surprises Rule**

ESA regulations provide for regulatory and economic assurances to parties covered by approved HCPs concerning their financial obligations under a plan. Specifically, these assurances are intended to provide a degree of certainty regarding the overall costs associated with species mitigation and other conservation measures, and add durability and reliability to agreements reached between permittees and the Service. Upon issuance of the Permit, the City will receive regulatory assurances pursuant to the No Surprises Rule at 50 CFR sections 17.22(b)(5) and 17.32(b)(5). Pursuant to the No Surprises Rule, as long as the City has fully complied with its obligations under the Plan, and the Permit with regard to the Covered Species and Covered Activities, the Service may require the City to provide additional conservation and mitigation measures to respond to Unforeseen Circumstances only in accordance with and as limited by the No Surprises rule. The rule generally prohibits the Service from requiring the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the Plan and Permit without the consent of the City.

### **6.4.2 Changed Circumstances**

Generally, a “changed circumstance” as defined by Service regulations at 50 C.F.R. 17.3 is a change in the circumstances affecting a species or the geographical area covered by a plan that can be reasonably anticipated, which allows a plan to be developed in advance to respond to the change. Changed circumstances typically include reasonably foreseeable events such as fires, flooding, and other natural occurrences like an invasion of pests or non-native plants. Changed circumstances can also include occurrences such as an illegal dumping or accidental spill of toxic materials. Additionally, changed circumstances includes the listing of new species not covered by the Plan and designation of critical habitat for non-covered species within the Plan area. An HCP must identify potential changed circumstances and prescribe the required response to such circumstances. Changed circumstances are addressed in Section 6.4.2.2.

“Unforeseen circumstances,” on the other hand, are events that could not be reasonably anticipated during the development of the HCP. Because of the unpredictable nature of “unforeseen” circumstances, response measures to such events are not included in the HCP.

Unforeseen circumstances are addressed in Section 6.4.3. The difference between a “changed” and an “unforeseen” circumstance might depend upon the severity of the event. For example, a small fire that affects only limited acreage could be a “changed circumstance,” but a large fire that destroys hundreds or thousands of acres could be considered unforeseen.

#### **6.4.2.1 Changed Circumstances Defined**

Changed Circumstances are defined under the Federal “No Surprises” rule as changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the Service and that can be planned for (e.g., the listing of a new species, or a fire or other natural catastrophic event in areas prone to such events).

#### **6.4.2.2 Changed Circumstances Provided for in this HCP**

The Changed Circumstances defined by this section of the Plan represent all Changed Circumstances to be addressed by the City. New listings of species not covered by the Plan and the designation of critical habitat for a listed species not covered by the Plan within the Plan area will be treated as Changed Circumstance throughout the Plan Area. The remaining Changed Circumstances provisions reflect changes in circumstances that can reasonably be anticipated to occur at mitigation sites. Other than the listings of species not covered by the Plan or designation of critical habitat for a species not covered by the Plan, these Changed Circumstances provisions are not intended to cover the same or similar circumstances outside of City-established mitigation sites, and the City will only be responsible for the additional Changed Circumstances on the Moore Creek Preserve or other mitigation sites established by the City.

Each of the defined Changed Circumstances includes a description of the Changed Circumstance and a summary of planned responses (measures to be undertaken in the case of Changed Circumstances). Planned responses are the specific responses that will be undertaken in the event of a Changed Circumstance. Planned responses will not include any actions beyond those expressly identified in this section, nor for any event not identified as a Changed Circumstance. Management of mitigation sites will be funded through an endowment. Five percent of the total endowment established for a mitigation site will be allocated to funding remedial responses to changed circumstances at the mitigation site.

The following Changed Circumstances can reasonably be anticipated by the Plan at mitigation sites:

- Fire
- Invasive Species
- Drought
- Climate Change

The following Changed Circumstances can reasonably be anticipated by the Plan throughout the Plan Area:

- New Listings of Species not Covered by the Plan and the designation of critical habitat for Species not Covered by the Plan

### Fire

Large, catastrophic fires could adversely impact the Covered Species, but any such impacts would likely be short-term. Such events can reasonably be anticipated and, therefore, are addressed by the Plan as a Changed Circumstance. Fire poses a risk to Covered Species through direct mortality as well as through the loss of habitat from conversion to non-native grasslands. While there may be a long-term benefit to Covered Species from fire events, repetitive fires or high-intensity fire events are likely to prove detrimental to Covered Species.

### **Planned Response to Fire**

In the event fire occurs at a mitigation site, the Service will be notified and provided with relevant information concerning the intensity and extent of the fire. The City will conduct an assessment of the damage, if any, to sensitive Covered Species resources.

A fire in a City-established mitigation site would likely require an intensified monitoring effort in the affected area to ensure that post-fire conditions are fully understood and that appropriate responsive actions, if warranted, could be promptly undertaken. As part of the increased monitoring effort, changes in conditions related to invasive species, and availability of food would be assessed. Depending on the data obtained from post-fire evaluations, a range of responses would be identified, from no required action to the possible use of changed circumstances funding for re-seeding or restoration of affected areas and control of runoff. The City will prepare a report identifying the impacts of the fire and proposed remedial measures to the Service for review and approval.

### Invasive Species

Habitat within a mitigation site may be subjected to significant increases in the levels of non-native invasive plant and/or animal species that may affect the quality of the habitat. A significant infestation of a fast growing weedy species could reduce habitat quality if species diversity and richness is compromised as a result. Similarly, invertebrate pests or non-native animal species may invade a mitigation site, impacting food sources, preying directly on Covered Species, degrading habitat quality, or outcompeting the species for resources. As determined by a Service – approved biologist in consultation with the Service, an increase in an invasive plant or animal species that results in a significant decline in baseline habitat quality over 30% of a City-established mitigation site will be considered a Changed Circumstance.

### **Planned Response to Invasive Species**

If annual monitoring detects an increase in invasive species over 20 % compared to the established baseline habitat quality over 30% of a City-established mitigation site, specific measures will be implemented using changed circumstances funding following consultation with and approval of such measures by the Service, including measures to control the invasive species within the context of the City's IPM policies, and intensified monitoring to determine if

control efforts have been successful. Heightened levels of invasive species monitoring would remain in place until two consecutive surveys demonstrated that invasive species had been reduced back to baseline levels. In addition, detection of significant levels of invasive species would trigger a reevaluation of existing preventive measures in order to assess their effectiveness.

#### Drought

Drought, defined as a “D4”<sup>18</sup> drought extending more than three years, constitutes a Changed Circumstance. Prolonged drought has the potential to affect Covered Species by reducing the quality and availability of food sources within the mitigation sites.

#### **Planned Response to Drought**

The Plan provides initially for a passive response to drought. Drought conditions will be considered, and management measures potentially modified to respond to these conditions should it be determined that a response is necessary. Responses to drought may include the use of changed circumstances funding for augmented watering or vegetation planting at mitigation sites.

#### Climate change

The signs of global climate change continue to mount and include melting glaciers, heat waves, rising seas, flowers blooming earlier, lakes freezing later, and migratory birds delaying their flights south. The World Meteorological Organization stated “[t]he decade 2001–2010 was also the warmest on record. Temperatures over the decade averaged 0.46°C above the 1961–1990 mean, 0.21°C warmer than the previous record decade 1991–2000. In turn, 1991–2000 was warmer than previous decades, consistent with a long-term warming trend.” (WMO 2010). The California Energy Commission’s Public Interest Energy Research Program reports that climate change will have significant societal impacts including effects on the water supply, flood risk, levee vulnerability, air quality, agriculture, and human health (Bonfils et al. 2007). In addition to societal impacts, California’s vulnerability to climate change and its associated changes in temperature and precipitation will affect water resources, the health of citizens, and natural ecosystems (Mastrandrea et al. 2009). While the direct effects of climate change on ecosystems and species within the Plan Area are difficult to quantify at this time, it is clear that climate change has the potential to increase the frequency and severity of the other Changed Circumstances outlined in the Plan (fire, invasive species, and drought). In addition to monitoring the mitigation site for the effects of climate change, climate change will be monitored and addressed as it relates to each of the Changed Circumstances.

#### **Planned Response to Climate Change**

Under the Plan, effects of climate change will be considered, and management measures at mitigation sites potentially modified to respond to these conditions should it be determined that a response is necessary. The effects of climate change primarily will be addressed through the closely related remedial responses to fire, invasive species, and drought.

#### New Listings of Species not Covered by the Plan or Designation of Critical Habitat

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<sup>18</sup> As determined by the National Weather Service.  
<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA>



The future listings of non-Covered Species and designation of or revisions to critical habitat for listed species are reasonably foreseeable during the term of the Permit and are a Changed Circumstance. The new listing of a species by the Service that is not a Covered Species under the Plan and associated take permit or the designation or revision of critical habitat within the Plan Area for a non-Covered Species will be considered Changed Circumstances.

### **Planned Response to New Species Listing**

In the event a non-Covered Species is newly listed or if critical habitat is designated for a non-Covered Species within the Plan Area, the City will coordinate with the Service to identify actions that may cause take, jeopardy or adverse modification of critical habitat and will initiate those responsive measures, if any, identified by the Service as necessary to avoid such take, jeopardy or adverse modification. Those measures will be followed until and unless the City's permit is amended to include coverage for the newly listed species or the Service notifies the City that such measures are no longer required to avoid take, jeopardy, or adverse modification.

The procedures for Plan modifications and amendments are described in Section 6.6 *Permit Duration and Renewal, Plan Amendments, Permit Suspension and Revocation*.

### **6.4.3 Unforeseen Circumstances**

At 50 C.F.R. 17.3, the Service defines unforeseen circumstances as those changes in circumstances that affect a species or geographic area covered by an HCP that could not reasonably have been anticipated by the Plan participants during the development of the conservation Plan, and that result in a substantial and adverse change in the status of a Covered Species.<sup>19</sup> Under ESA regulations at 50 C.F.R. 17.22(b)(5) and 17.32(b)(5), if unforeseen circumstances arise during the life of the Plan, the Service may not require the commitment of additional land or financial compensation, or additional restrictions on the use of land, water, or other natural resources other than those agreed to in the Plan, unless the Permittees consent.

Pursuant to the No Surprises Rule, the Service bears the burden of demonstrating that unforeseen circumstances exist using the best scientific and commercial data available. A finding of unforeseen circumstances must be clearly documented, based upon the best available scientific and commercial information and made considering certain specific factors.<sup>20</sup> The Service may require additional measures of permittee where the HCP is being properly implemented but only if) such measures are limited to modifications within the HCP's conserved habitat areas, if any or to the Plan's operating conservation program for the affected species and maintain the original terms of the plan to the maximum extent possible. Additional measures may not require the

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<sup>19</sup> 50 C.F.R. §17.3; 50 C.F.R. §222.102

<sup>20</sup> These factors include the following: (1) Size of the current range of the affected species; (2) Percentage of range adversely affected by the conservation plan; (3) Percentage of range conserved by the conservation plan; (4) Ecological significance of that portion of the range affected by the conservation plan; (5) Level of knowledge about the affected species and the degree of specificity of the species' conservation program under the conservation plan; and (6) Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild. 50 C.F.R. §17.22(b)(5)(iii)(C); 50 C.F.R. §222.307(g)(3)(iii).

commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the Plan and Permit without the consent of the City. If such a finding is made and additional measures are required, the City will work with the Service to appropriately redirect resources to address the unforeseen circumstances. The Service may revoke the incidental take permit as a last resort in the unexpected and unlikely situation in which continuation of the permitted activities would likely jeopardize the continued existence of the species covered by the permit and the Service is not able to remedy the situation through other means in a timely fashion.

#### **6.4.4 Future Section 7 Consultations**

Unless otherwise required by law or regulation, in any consultation on any Covered Activity with respect to a Covered Species involving the City under section 7 of the ESA and regulations issued thereunder, the Service shall ensure that the biological opinion issued in connection with the proposed action is consistent with the biological opinion issued for issuance of the section 10 permit for the Plan, provided that the Covered Activity as proposed in the consultation is consistent, and will be implemented in accordance with the Plan and the permit. Any reasonable and prudent measures and terms and conditions in the biological opinion on the proposed action shall, to the maximum extent appropriate, be consistent with and not be in excess of those measures required of the City under the Plan and the permit.

### **6.5 Permit Duration and Renewal, Plan Amendments, Permit Suspension and Revocation**

#### **6.5.1 Permit Duration**

The City is seeking take authorization from the Service with a term of 30 years. The term of the take authorization issued under the Plan would begin from the date of their issuance. A permit term of 30 years provides a practicable timeframe in which to carry out the activities that will be authorized under the Plan.

#### **6.5.2 Administrative Actions that do not Require Modification or Amendment**

The administration and implementation of the Plan will require frequent and ongoing interpretation of the provisions of the Plan. Actions taken on the basis of these interpretations that do not substantively change the purpose of the Plan or the City's substantive commitments under the Plan will not require modification or amendment of the Plan or its associated permit. Such actions related to the ordinary administration and implementation of the Plan may include, but are not limited to, the following:

- Clerical corrections to typographical, grammatical, and similar editing errors that do not change the intended meaning or to maps or other exhibits to address insignificant errors;
- Adjustments to monitoring protocols to incorporate new protocols approved by the Service

### **6.5.3 Minor Modifications to the Plan**

As part of the process of Plan implementation, the City may need to make minor changes (“Minor Modifications”) to the Plan from time to time to respond appropriately to new information, scientific understanding, technological advances, and other such circumstances. Minor Modifications may not involve changes that would negatively affect a Covered Species, the level or form of take, result in effects on the environment that are new or different from those analyzed in the NEPA document on the original permit application, or modify the City’s substantive obligations under the Plan.

The City may propose Minor Modifications by providing written notice to the Service. Such notice will include a description of the proposed Minor Modifications, an explanation of the reason for the proposed Minor Modifications, an analysis of its environmental effects including any impacts to Covered Species, and an explanation of why the City believes the effects of the proposed Minor Modifications would not:

- Significantly differ from, and would be biologically equivalent to, the effects described in the Plan, as originally adopted;
- Conflict with the terms and conditions of the Plan, as originally adopted;
- Impair implementation of the Plan Conservation Strategy
- Result in new or different effects on the environment.

The Service will use its reasonable efforts to submit comments on the proposed Minor Modification in writing within 60 days of receipt of notice. If the Service does not concur that the proposed Minor Modification meets the requirements for a Minor Modification or Revision, the proposal must be approved according to the Amendment process. If the County and Service concur that the requirements for a Minor Modification have been met and the modification or revision should be incorporated in the Plan, the Plan will be modified accordingly.

### **6.5.4 Amendment**

Under some circumstances, it may be necessary to amend the Plan. Any proposed changes to the Plan proposed by the City that do not qualify as minor modifications under Section 6.5.3 will constitute an amendment. Amendments require corresponding amendment to the Permit, in accordance with applicable laws and regulations regarding Permit amendments. The City will be responsible for submitting any proposed amendment to the Service.

Amendments to the Plan will likely occur infrequently. Amendments include, but are not limited to, the following:

- Substantive changes to the boundary of the Plan Area;
- Additions of species to the Covered Species list; and
- Changes in Covered Activities that would result in effects on the Covered Species, or an increase in the level of take, beyond that authorized in the permit.

#### **6.5.4 Process for Amendment of the Plan**

Amendments to the Plan will require an amendment to the Permit. The Permit may be amended in accordance with all applicable legal requirements, including but not limited to the ESA, NEPA, and the Service's permit regulations. The City shall also provide a statement of the reasons for the amendment and an analysis of its environmental effects, including its effects on operations under the Plan and on Covered Species to the Service.

#### **6.5.5 Suspension of the Permit**

The Service may suspend or revoke the permit for cause in accordance with governing regulations which are currently codified at 50 C.F.R. 13.27-29, 17.22(b)(8) and 17.32(b)(8). The Service will provide the City with written notice by certified or registered mail of its proposed suspension of the permit. The Service's correspondence shall include the nature and extent of the violation and of any corrective measures that may be available and appropriate to preserve the proper functioning of the Plan and maintain the take authorization in full force and effect. It will also note the City's right to object to the proposed suspension. The City will have 45 days from the date of the notice of proposed suspension to file written objections, setting forth its response to such notice of suspension and/or to any of the required corrective measures. Such response will set forth any factual or legal basis the County may have for requesting that the Service rescind all or any part of such notice of violation or to delete or modify any of the required corrective measures. A decision on the suspension will be made by the Service within 45 days following the end of the City's objection period.

In the event the Service suspends the permit, the Service will, to the extent reasonably possible, confer with the City concerning how the violation that led to the suspension can be remedied, within 15 days after such suspension. At the conclusion of any such conference, the Service will determine the specific actions necessary, if any such actions are available and appropriate given the nature of the permit violation, to effectively redress the violation. In making this determination the Service will consider the requirements of the ESA or regulations issued thereunder, the conservation needs of the Covered Species, the terms of the permit and any comments or recommendations received during the meet and confer process.

Assuming the Service has determined that there are available and appropriate actions the County may take to address the permit violation, then, upon full performance of such necessary actions, or if the actions cannot be immediately completed, upon receiving adequate assurances from the



City that the City will fully implement the actions, the Service will promptly reinstate the permit. It is the intent of the Service and the City in the event of any suspension of the permit the City will take prompt action to redress the violation that triggered suspension of the permit, and the Service will act expeditiously to reinstate the same.

#### **6.5.6 Revocation of the Permit**

The Service may revoke the permit for cause in accordance with 50 C.F.R. 13.27 – 29, 17.32(b)(8) and 17.32(b)(8). Unless immediate revocation is necessary to avoid the likelihood of jeopardy to a listed species, the Service will not revoke the Permit unless the City fails to fulfill its obligations under the Plan, and only after (1) completing the informal dispute resolution process described in Section 6.5.8, and (2) identifying the actions/inactions that may warrant the revocation and giving the City a reasonable opportunity to implement appropriate responsive actions, if any such actions are available.

#### **6.5.7 Surrender or Revocation of the Permit**

The City may withdraw from the permit by surrendering the permit to the Service in accordance with the regulations of the Service in force on the date of such surrender. (These regulations are currently codified at 50 CFR §§ 17.22(b)(7) and 17.32(b)(7) and by their express terms apply in place of 50 CFR § 13.26 to the extent of any conflict). In addition, the Service may revoke the permit for cause. (These regulations are currently codified at 50 CFR §§ 13.28 – 13.29, 17.22(b)(8) and 17.32(b)(8)). Upon surrender or revocation of the permit, no further take is authorized under the Permit. Notwithstanding surrender of the Permit by the City or revocation of the Permit by the Service, the City will remain obligated to fulfill any existing and outstanding minimization and mitigation measures required under the Plan and the permit for any take that occurred prior to surrender or revocation. A surrendered permit shall be deemed cancelled only upon a determination by the Service that such minimization and mitigation measures have been

#### **6.5.8 Dispute Resolution**

The City and the Service (Party or collectively Parties) recognize that disputes concerning implementation of the Plan and the Permit may arise from time to time. The Parties agree to work together in good faith and in a timely manner to resolve such disputes

### **6.6 Costs Associated with Plan Implementation**

Costs associated with the implementation of the HCP include costs for Plan implementation and administration, minimization measures, mitigation measures, and monitoring. The costs for these four categories have been broken down in Table 2 below. Ensuring adequate funding to cover these costs is discussed in Section 6.7.

#### Plan Implementation and Administration

The implementation and administration of the plan will include a variety of tasks by City employees. These tasks include the compilation of data from preconstruction surveys by qualified biologists; coordination of training, surveying, and monitoring personnel; coordination and implementation of mitigation measures; and preparation of annual reports.

#### Minimization Measures

The conservation strategy of the Plan includes general and species-specific conservation measures that are designed to reduce impacts to Covered Species. The City will incur costs as a result of these measures. Table 2 provides a breakdown of the anticipated costs associated with these measures.

#### Mitigation Measures

Table 1 provides a summary of the effects on Covered Species and the associated mitigation measures. Table 2 provides the anticipated costs associated these measures.

#### Monitoring

The Plan calls for the monitoring of the success of restoration activities over the life of the Plan. The Plan also calls for effects monitoring and compliance monitoring. The anticipated costs associated with these tasks are outlined in Table 2.

**Table 2: Estimated Costs to Implement the Plan**

| Category                                    | Item or Activity   | One-Time Cost | Periodic Cost | Annual Cost | 30-Year Cost (2017 dollars) | 30-Year Cost (2047 dollars) |
|---|--|---------------|---------------|-------------|-----------------------------|-----------------------------|
| <b>Minimization and Mitigation Measures</b> |  |               |               |             |                             |                             |
|   | Preconstruction surveys and tailgate training – CRLF, WPT  | \$500         |               | \$2,500     | \$75,000                    |                             |
|   | Covered species relocation – CRLF, WPT   | \$5,000       |               | \$10,000    | \$150,000                   |                             |
|   | Covered species relocation – OTB   | \$2,500       |               |             | \$2,500                     |                             |
|   | Sediment maintenance, flood control channel maintenance, and relocation for goby and lamprey                   | \$80,000      |               |             | \$80,000                    |                             |
|   | Santa Cruz County Resource Conservation District In-Lieu Fee Program or State Parks - CRLF habitat restoration | \$5,000       |               |             | \$5,000 <sup>21</sup>       |                             |
|   | Purchase of conservation credits   | \$5,000       |               |             | \$5,000                     |                             |
|   | Revegetation and erosion control   | \$2,000       |               |             | \$2,000                     |                             |
|   | Moore Creek Preserve OTB management plan preparation   | \$12,000      |               |             | \$12,000                    |                             |
|   | Removal and control of invasive, non-native plant species along pipelines and other infrastructure areas       |               |               | \$10,000    | \$300,000                   |                             |

<sup>21</sup> The \$5,000 figure is an estimate of current costs for the mitigation, but this amount could change once the fee schedule is determined for the In-Lieu Fee Program. The City agrees to fund the required mitigation at the final rate when it is determined by the RCD at a future time.

|   |  |                  |                  |                 |   |                                    |
|---|--|------------------|------------------|-----------------|---|------------------------------------|
|   |  |                  |                  |                 |   |                                    |
| <b>Monitoring</b>                             |  |                  |                  |                 |   |                                    |
| General                                       |  |                  |                  |                 |   |                                    |
|   | Compliance monitoring                                    |                  |                  | \$2,000         | \$60,000                                |                                    |
|   | Effects monitoring                                       |                  |                  | \$2,000         | \$60,000                                |                                    |
|   |  |                  |                  |                 |   |                                    |
| Moore Creek Preserve                          |  |                  |                  |                 |   |                                    |
|   | Restoration Site Start-Up Costs                          | \$20,000         |                  |                 | \$20,000                                |                                    |
|   | Restoration/ covered species/invasive species monitoring |                  | \$140,000        |                 | \$420,000 <sup>22</sup>                 |                                    |
|   |  |                  |                  |                 |   |                                    |
| <b>Reporting</b>                              |  |                  |                  |                 |   |                                    |
| Annual Report                                 |  |                  |                  |                 | Included with salary and office expense |                                    |
|   |  |                  |                  |                 |   |                                    |
| <b>Changed Circumstances</b>                  |  |                  |                  |                 |   |                                    |
| Response to Fire                              |  |                  | \$5,000          |                 | \$10,000                                |                                    |
| Response to Invasive Species                  |  |                  | \$5,000          |                 | \$10,000                                |                                    |
| Response to Drought                           |  |                  | \$5,000          |                 | \$10,000                                |                                    |
| Response to Climate Change                    |  |                  | \$5,000          |                 | \$10,000                                |                                    |
|   |  |                  |                  |                 |   |                                    |
| <b>Plan Implementation and Administration</b> |  |                  |                  |                 |   |                                    |
|   | Staff salary and office expense                          |                  |                  | \$50,000        | \$1,500,000                             |                                    |
|   |  |                  |                  |                 |   |                                    |
| <b>Total</b>                                  |  | <b>\$138,000</b> | <b>\$160,000</b> | <b>\$54,000</b> | <b>\$2,726,500</b>                      | <b>\$7,652,723.04<sup>23</sup></b> |

<sup>22</sup> Depends on whether incidental take of OTB can be avoided or not during construction.

<sup>23</sup> Assuming 2017 dollar value total program cost of \$2,500,000 and 3.5 percent rate of inflation.



## **6.7 Funding**

### **6.7.1 Regulatory Context**

The ESA requires that a conservation plan approved pursuant to the federal law must assure availability of adequate funding to implement the plan's conservation actions. ESA Section 10 (16 U.S.C. Sec. 1539) states that, prior to approving a habitat conservation plan and issuing an incidental take permit, the Secretary of the Interior must find, among other conditions, that "the applicant will ensure that adequate funding for the plan will be provided." The Service and National Marine Fisheries Service have issued a handbook to assist in the preparation and review of a habitat conservation plan ("HCP Handbook"), which states that the HCP must include "[m]easures the applicant will undertake to monitor, minimize, and mitigate . . . impacts [of incidental take] . . . [and] the funding that will be made available to undertake such measures" (HCP Handbook, Chap. 3, Sec. B.1).

### **6.7.2 Financial Capacity of the City to Fund the Plan**

The City commits to fully fund implementation of the Plan through its Capital Improvement Program budget. Table 2 contains an estimate of implementation costs. The City will fully fund the actual costs of implementing the plan notwithstanding the estimates contained in Table 2. The City may access various sources of funding, but primarily intends to rely on water rate payer fees to cover costs. The City's financial condition continues to be sound, with a stable revenue base and water rates comparable to other water agencies in the region. The City has established a dedicated account for HCP implementation which currently contains \$278,088.04 in funding. Additional funding will be provided on multi-year cycles in accordance with work plans. The City's financial condition provides adequate assurance that the City has the financial capability to fund implementation of the conservation measures. In addition, the City will ensure that mitigation for impacts to Covered Species occurs ahead of, or at the same time as the impacts.

On a five-year basis, as described in Section 6.3.1, the City will prepare a work plan and budget for the upcoming implementation period and submit them to the Service for review. The work plan will describe the City's one-time and recurring activities, including all take avoidance, minimization and mitigation measures which are expected to be implemented during the upcoming year. The work plan will document the mitigation provided for impacts and demonstrate how mitigation for future impacts will occur in advance of such impacts. The budget will set out projected expenditures and the funding the City has committed for those expenditures. The information in the work plan will contain sufficient information to demonstrate the City's ability to meet its financial obligations under the Plan. In addition to annual reporting and the five-year workplan and budget, in the event of any material change in the City's ability to meet its financial obligations under the Plan, the City will immediately notify the Service. The City understands that the permit would be at risk and federal enforcement measures could be possible if adequate budgets are not approved and measures are not implemented as required under the Plan.

## **7.0 ALTERNATIVES**

### **7.1 No Action**

Under the No Action Alternative, a section 10(a)(1)(B) permit would not be issued. City activities with the potential to cause incidental take of listed species would require measures to avoid incidental take or individual incidental take authorizations on a project-by-project basis, as is currently the case. Incidental take authorizations for activities with the potential to incidentally take listed species would be obtained either through the section 7 consultation process or through the development of individual HCPs.

Under this approach, few of the conservation and economic benefits associated with the Plan would be realized. In the absence of the Plan, take avoidance measures would be focused on listed wildlife species and the conservation objectives for plant species would be less likely to be consistently met as a result of the case-by-case approach to ESA compliance. The Plan, on the other hand, establishes uniform conservation measures to ensure that biological goals and objectives for the Covered Species will be met and that opportunities to ensure the long-term survival of Covered Species are maximized.

Under the No Action alternative, many of the regulatory efficiencies provided by the Plan would not be available to the City. Rather, the City would continue to engage in the time-consuming process of reaching agreement with the Service on the conditions under which activities that may affect listed species may proceed. Through this process, project mitigation requirements may vary from project to project, adding uncertainty and confusion over regulatory obligations. In contrast, the Plan would provide the City with long-term predictability concerning the nature of its operations and activities for which incidental take is permitted, avoiding cumbersome procedures and potential delays that would compromise the operation and maintenance of City facilities.

### **7.2 Plan Coverage Limited to O&M Activities**

The City considered the preparation of an HCP that would limit coverage to operations and maintenance of existing facilities, and would not provide coverage for construction of a North Coast pipeline. Under this alternative, incidental take authorization for construction of the North Coast pipeline would need to be obtained either through the section 7 consultation process or through an additional section 10 HCP permit application.

Although this alternative would provide conservation benefits to species potentially impacted through O&M activities, it would not result in a comprehensive suite of minimization measures to be applied to construction of a new pipeline, nor would it result in pre-determined mitigation for permanent impacts. Because the construction of a North Coast pipeline is reasonably certain to occur during the duration of the Plan and there is sufficient information to cover the activity now, the City rejected an O&M HCP only alternative.

Like the No Action alternative, many of the regulatory efficiencies provided by the Plan would not be available to the City. By combining both construction and O&M related activities under the Plan, the Plan would provide the City with long-term predictability concerning the nature of its operations and activities for which incidental take is permitted, avoiding cumbersome procedures and potential delays with construction approval that could compromise the City's facilities.

### **7.3 Plan Coverage Limited to Wildlife Species**

The City considered an alternative of covering only wildlife species under the HCP. Under this alternative, four plant species being proposed for coverage under the HCP, the federally endangered BLS, the federally endangered Robust spineflower, the federally threatened Santa Cruz tarplant, and the State endangered San Francisco popcornflower, would not be covered. Take of plants is not prohibited under section 9 of the ESA and the City is therefore not required to obtain a permit to impact plant species. Listed plant species may be included on an incidental take permit, however, in recognition of the conservation benefits provided to such species by the HCP. In return for providing for the conservation of plant species under an HCP, the permittee receives regulatory assurances under the No Surprises Rule for the plant species. In addition, covering plant species under an HCP assists the Service in making findings required before issuance of an HCP permit, including that issuance of the permit is not likely to jeopardize any federally listed species, including listed plant species.

Under a wildlife species only alternative, the City would not implement a set of plant conservation measures for all covered activities under the Plan, including flagging, seasonal avoidance, seed collection, soil segregation, and site revegetation. Instead, plant conservation measures would only be instituted on a case-by-case basis in response to requirements imposed by the California Environmental Quality Act or the California Endangered Species Act. Under this alternative, the four plant species would not receive the conservation benefits that would be provided through a comprehensive strategy across the Plan Area. In addition, to the extent future activities would involve separate federal authorizations that would require a Section 7 consultation with the Service, the City would be required to negotiate plant measures on a case-by-case basis, which would lead to project delays and undermine the long-term predictability provided by the HCP.

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## **Appendix A – Example Inadvertent Drilling Fluid Return Contingency Plan**

### **DRAFT INADVERTENT DRILLING FLUID RETURN CONTINGENCY PLAN**

#### **Introduction**

The City proposes to replace an existing 22-inch pipeline underneath Lombardi Creek in Santa Cruz County, CA with a new Horizontally Directionally Drilled (HDD) 22-inch pipeline to provide system reliability and reduce maintenance impacts associated with the existing above ground stream crossing. HDD pipeline installation methods minimize environmental impacts normally associated with open trench installation methods. However, with the use of the HDD installation method to traverse waterways, inadvertent returns (IR) of drilling mud could occur and measures of protection must be implemented.

These protection measures primarily focus on prevention of inadvertent returns of drilling mud into sensitive areas. These measures include monitoring the pressure of drilling fluids, maintaining drilled hole diameter and monitoring drilling fluid viscosity and gel strength.

#### **Drilling Process and Equipment**

The HDD method will be used to install a 22-inch diameter pipeline beneath Lombardi Creek. The following is an overview of the proposed HDD method.

##### ***Drilling Equipment***

The essential equipment required for the directional bore operation includes the drill rig, solids control system, mud pump, pipe trailers, bentonite trailers, tool van, water truck, and accessory equipment trailer. The accessory equipment trailer contains the anchor, optional downhole tool, and additional solids control equipment.

The employees required to run the drilling operation typically include the drilling superintendent, surveyor, driller, assistant driller, solids control operator, crane operator, mechanic/welder, and rig hands.

##### ***Other Equipment***

The site supervisor shall ensure that:

- All equipment and vehicles are checked and maintained daily to prevent leaks of hazardous materials;
- Spill kits and spill containment materials are available on-site at all times and that the equipment is in good working order;
- Equipment required to contain and clean up a frac-out release will either be available at the work site or readily available at an offsite location within 15-minutes of the bore site; and
- If equipment is required to be operated near a riverbed, absorbent pads and plastic sheeting for placement beneath motorized equipment shall be used to protect riverbed from engine fluids.
- Sufficient staffing to implement IR contingency plan;

- Vacuum Truck with sufficient capacity is available for an immediate response;
- Arrangements have been made for additional trucks as needed prior to commencing bores;
- Erosion control and frac-out containment materials such as the following are provided on site at all times;
  - Certified Weed Free Straw or rice straw bales;
  - Stakes to secure bales;
  - Silt fencing is available on site;
  - Sandbags are on site;
  - Leak-free hose(s) and pump(s)
  - Straw logs (wattles, or fiber rolls)
  - Heavy-duty push brooms
  - Turbidity curtains for surface water spill containment
  - Light tower(s) (if necessary, deliver to site as soon as practicable)

### ***Training***

- All workers involved in HDD or IR response will be trained on this plan, equipment maintenance, site-specific permit and monitoring requirements prior to initiation of work involving HDD.
- Inspection procedures for release prevention and containment equipment and materials.
- Contractor/crew responsibility to immediately stop work in the event of a frac-out and notify relevant project management and regulatory contacts prior to initiating any further work.
- Contractor/crew responsibility in the event of an accidental release.
- Operation and location of release prevention and control equipment and materials, and
- Protocols for communication with regulatory agency contacts who may be on site responding to a release.

### ***Workspace***

Two staging areas are required; the entry site where the drilling rig and auxiliary equipment are positioned, and the exit site-pipeline laydown area.

### ***Drill Rig Setup***

After the alignment and entry point are set and the precise location for the drill rig is determined, an anchor is installed to prevent any movement of the drill rig and allow for the several-ton push and pull pressures on the drill pipe.

Once the drill rig is positioned and anchored, the sump pit is excavated. The sump pit is required to hold the drilling fluid and cuttings that have returned to the surface from the borehole. From the sump pit drilling fluid is pumped to the solids control system for processing and recycling. Straw wattles, silt fences, straw bales and related containment materials shall be set up around entry and exit pits.

### ***Drilling Fluid and Drilling Fluid System***

Drilling fluids typically used to cool and lubricate the drill motor and reamers consist of a non-toxic mixture of water, bentonite clay, and polymers or other non-toxic additives to improve fluid performance. The drilling fluids further serve to transport rock and soil cuttings away from the drill cutters to reduce friction between the pipe and the bore hole wall and to stabilize the hole. Bentonite is a naturally occurring, non-hazardous clay product.

Drilling fluid is prepared in mixing tanks using both new and recycled drilling fluid. The fluid is pumped through the drill pipe to the cutters. Flow rates, pressure, density, viscosity, gel strength, and lubricity are monitored throughout the drilling and reaming operation to maintain fluid performance and detect drill fluid losses.

Returning fluid flows through the annulus created between the wall of the bore and drill pipe to the sump pit. Once in the sump pit, larger particles are pumped through the shaker screens, desanders, and desilters to progressively remove the different size fractions of cuttings from the drilling fluid. The cleaned and recycled fluid is returned to the mixing tank for reuse in the borehole. All excess drilling mud will be hauled off site with vacuum trucks and taken to an appropriate dump site.

## **Environmental Concerns**

### ***Drilling Fluid Losses and Measures to Control Spills***

While directional drilling is an effective and increasingly popular method of pipeline installation for crossing rivers and waterways, it does present some risk of waterway disturbance due to lost circulation or inadvertent returns. The potential for an inadvertent return is greatly reduced by providing adequate depth of cover (as determined by a geotechnical or soils engineer), adequate distance of pits from stream crossing and by selecting an experienced and knowledgeable contractor.

### ***Lost Circulation***

Lost circulation refers to the loss of drilling mud into the soil or rock through open fissures, coarse gravel, and highly-jointed or easily fractured formations. Measures that will be taken to control lost circulation include:

- Controlling fluid pressures in the annulus by minimizing viscosity required to satisfy hole cleaning and stabilization requirements.
- Minimizing gel strength.
- Sizing the hole frequently to ensure an adequate clear annulus.
- Controlling “plunger effects” caused by rapid penetration or spoil buildup on bits or pipe.

### ***Inadvertent Returns***

“Frac-out”, or inadvertent return of drilling fluid, is a potential concern when an HDD method is used for installing pipelines under sensitive habitats and waterways. An inadvertent return is the abrupt escape of drilling fluid from the pipe annulus to the ground or streambed surface along alternate flow paths through soil and rock. Hydraulic fracturing of rock, open fissures, and insufficient rock cover can all lead to inadvertent returns. Measures that will be taken to reduce chances of inadvertent return during installation include:

- Adequate cover - a minimum depth of 30 feet beneath the streambed surface will be maintained at all points of the alignment.
- Maintaining drilled annulus - cutters and reamers will be pulled back into previously drilled sections after each new joint of pipe is added to remove blockages.
- Monitoring - drilling pressures will be monitored so they do not exceed pressures that may penetrate the formation.

If an inadvertent return occurs on land, standard containment procedures are implemented. The mud pumps are stopped while a shallow pit or sandbags and hay bales are used to contain and collect the returning flow. Once isolated, the fluid can be pumped back to the mud return pits and re-used. After drilling fluid seepage has been contained, the subcontractor will attempt to determine the cause of the seepage.

If inadvertent returns occur through the sediments under the waterway, the seeping mud may produce a visible plume in the water. If not visible in the water, signs of mud loss will be evident through monitoring mud return flow rates and pressures. Corrective measures that will be taken to control the seepage and minimize chances of recurrence include:

- Stopping all work and waiting several hours to see if the fracture occludes.
- Stopping all work and diffusing lost circulation materials such as a “Nut Plur, Flow Check”, or shredded paper.
- Stopping all work and pumping cement or grout.

If circulation cannot be restored using sealing materials and adjustments to the fluid properties and drilling practices, the hole will be abandoned (as described below) and redrilled along a deeper alignment.

## **Protection Measures**

### ***Loss of Circulation***

Measures that will be taken to control lost circulation include: controlling fluid pressures in the annulus by minimizing viscosity required to satisfy hole cleaning and stabilization requirements, minimizing gel strength, sizing the hole frequently to ensure an adequate clear annulus, and controlling “plunger effects” caused by rapid penetration or spoil buildup on bits or pipe.

### ***Frac Out***

Fish and wildlife present in and adjacent to the waterways make these areas environmentally sensitive habitats. Because of the sensitivity of these areas, implementation of the HDD method for crossing these waterways is necessary to reduce the potential for adverse impacts to these species and their habitat.

A Service-approved biological monitor will be on site at all times while drilling under sensitive areas to identify any possible “frac-out” conditions or lowered pressure readings on the drilling equipment. The monitor shall be a biologist experienced with HDD operations and “frac-outs”.



If a leak were observed or detected by the pressure readings, all work would stop immediately and remedial actions would be implemented. The monitor will be on site during all aspects of drilling activities within the sensitive areas. Hay bales, sandbags, or silt fencing will be kept on site and used to surround and contain the drilling mud. A mobile vacuum truck will be used to pump the drilling mud from the contained area and recycled to the return pit. The vacuum truck will remain within a temporary workspace and extend a hose to the containment area.

If a “frac-out” is determined to be within the waterway, a spill response team will be called in to contain and clean up excessive amounts of drilling mud within the waterway. Regulatory agency staff will also be notified immediately in the event of a “frac-out”. Phone numbers of spill response teams and relevant regulatory agency staff in the area will be on site.

### ***Evacuation Plan***

In the event of a “frac-out”, the City and the contract drilling engineer will evaluate the feasibility of continuing the boring procedure or implementing the Abandonment Contingency Plan after evaluating the following:

- The exact location of the drilling head assembly will be verified with portable locating equipment. If it is determined that the drilling profile does not match the planned profile, and exceeds design limits, the Abandonment Contingency Plan will be implemented.
- If the location and profile are within design limits, the specific weight of the drilling mud will be verified to ensure a slightly overbalanced condition to the surrounding formation. The specified weight will be adjusted, if necessary.
- If location, profile and drilling mud weight are determined to be within design limits, and seepage of Bentonite slurry is controlled, the contract drilling engineer may proceed.
- Should it be determined that the stability of the bored crossing is in serious question, even if location, profile and drilling mud weight are deemed satisfactory, the Abandonment Contingency Plan will be implemented.

### **Abandonment Contingency Plan**

Abandonment of the bore is a last resort measure that will be followed only when all efforts to restore circulation have failed. Steps that will be taken in the unlikely event that an incomplete bore must be abandoned are the following:

- The as-built hole alignment will be determined to the extent practicable and documented.
- The pilot hole pipe string will be removed.
- A thick, bentonite-cement grout will be pumped through the casing as it is extracted, resulting in complete filling of the bore.

### **Monitoring, Avoidance and Minimization and Mitigation Measures for Environmental Impacts Related to Frac-Out**

## ***Monitoring***

Monitoring of frac-out response shall be the responsibility of the site supervisor and include:

- Daily log of all activities including implementation of environmental impact avoidance and minimization and mitigation measures;
- Daily photo monitoring from designated photo points of impacted area;
- Service-authorized biologist relocation and related survey data for affected special-status species.
- Resource agency consultation log.

All monitoring data shall be provided to applicable resource agencies as requested.

## ***Avoidance and Minimization and Mitigation Measures***

Frac-out mitigation shall begin immediately or as practicable following IR events subsequent to consultation with applicable resource agencies.

- Qualified wetlands scientists and Service-authorized biologists will be on-site to evaluate conditions, and to assist with minimization of further impacts resulting from cleanup activities (e.g. equipment entering sensitive wetland areas) and evaluation of appropriate mitigation alternatives.
- Frac material will need to be sifted through the fingers (not wood or metal tools) to ensure that no CRLF or other special-status species are present in the frac material. Frac material will be collected and hauled offsite for proper disposal.
- The Service shall be consulted prior to initiating cleanup of downstream estuarine areas where TWG may be affected;
- One path to the cleanup area should be flagged and cleared and should be located such that it will avoid all water on site including tire ruts, pools and puddles, and small marsh areas.
- All personnel will restrict foot travel to that path and all personnel should be escorted by the Service – authorized biological monitor.
- Service-authorized biologist shall remove impacted special-status biota for relocation to adjacent non-impacted habitat;
- Service-authorized biologist shall oversee installation of barriers to prevent non-affected special-status species from entering the project site;
- All pits and berms will be removed and contours will be restored;

- Install coffer dam to isolate any affected stream reaches;
- Erosion/containment materials will be installed as necessary and removed from the site when cleanup is complete;
- Remove drilling muds from wetland/waterbody;
- Restore native vegetation;
- Restore stream banks;
- Restore stream bed substrate;
- Develop and implement additional compensatory mitigation as needed in consultation with applicable resource agencies.

## **Reporting**

### ***Procedures***

In the event of a frac-out that reaches a water source, the site supervisor will notify the project manager so they can notify the appropriate resource agencies. All agency notifications will occur within 24 hours and proper documentation will be accomplished in a timely and complete manner. The following information will be provided:

1. Name and telephone number of reporting party;
2. Location of release;
3. Date and time of release;
4. Type and quantity, estimated size of release;
5. How the release occurred;
6. The type of activity that was occurring around the area of the frac-out;
7. Description of any sensitive areas, and their location in relation to the frac-out
8. Description of methods used to clean or otherwise secure the site; and
9. Listing of the current permits obtained for the project.

### ***Contacts<sup>24</sup>***

| <i><b>Agency</b></i> | <i><b>Name</b></i> | <i><b>Position</b></i> | <i><b>Phone</b></i> | <i><b>Email</b></i> |
|----------------------|--------------------|------------------------|---------------------|---------------------|
|----------------------|--------------------|------------------------|---------------------|---------------------|

---

<sup>24</sup> Project-specific permits should be reviewed for relevant contacts. Those provided here are for illustration purposes only.

|                    |             |                              |                |  |
|--------------------|-------------|------------------------------|----------------|--|
|                    |             |                              |                |  |
| City of Santa Cruz | Chris Berry | Watershed Compliance Manager | (831) 420-5483 | <a href="mailto:cberry@cityofsantacruz.com">cberry@cityofsantacruz.com</a>         |
| DFW                | Monica Oey  | Environmental Scientist      | (707) 944-5575 | <a href="mailto:Monica.Oey@wildlife.ca.gov">Monica.Oey@wildlife.ca.gov</a>         |
| ACOE               | Greg Brown  | Regulatory Project Manager   | (415) 503-6791 | <a href="mailto:Gregory.G.Brown@usace.army.mil">Gregory.G.Brown@usace.army.mil</a> |
| RWQCB              | Kim Sanders | Environmental Scientist      | (831) 542-4771 | <a href="mailto:kim.sanders@waterboards.ca.gov">kim.sanders@waterboards.ca.gov</a> |





# City of Santa Cruz Operations and Maintenance Habitat Conservation Planning

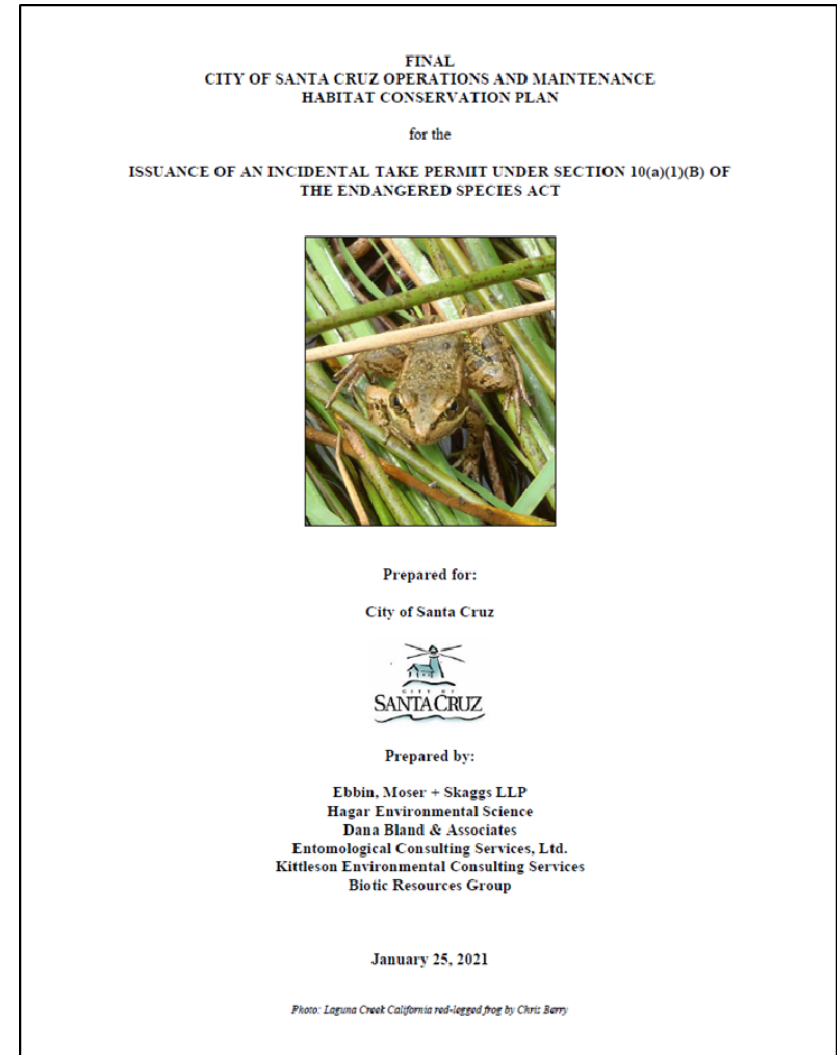
Chris Berry - Watershed Compliance Manager

## Our Water, Our Future



# Overview

- Federal Endangered Species Act compliance for City of Santa Cruz Water and Public Works Departments
- Long term permit(s) – 30 years which includes a *Habitat Conservation Plan*
- Multiple USFWS – jurisdiction species covered (listed and unlisted)
- Opportunities to leverage other environmental protection goals



OMHCP cover page

# Outreach

- External
  - Public review
  - Local, state, federal and international outreach events
- Internal



**55856**      **Federal Register** / Vol. 85, No. 176 / Thursday, September 10, 2020 / Notices

In your request for documents, please reference the Oklahoma City draft EA/HCP.

**DEA and HCP:** A limited number of CD-ROM and printed copies of the dEA and HCP are available, by request, from Ms. Jonna Polk, Field Supervisor, Oklahoma Ecological Services Field Office, U.S. Fish and Wildlife Service, 9014 E. 21st St., Tulsa, OK 74129; telephone 918-581-7458; facsimile 918-581-7467.

**ITP application:** The ITP application is available by mail from the Regional Director, U.S. Fish and Wildlife Service, P. O. Box 1306, Room 6034, Albuquerque, NM 87103.

**Submitting Comments:** Regarding any of the documents available for review, you may submit written comments by one of the following methods. In your comments, please reference the Oklahoma City draft EA/HCP.

**Email:** [OKES\\_NEPA@fws.gov](mailto:OKES_NEPA@fws.gov).  
**Facsimile:** 918-581-7467, Attn: Oklahoma City HCP EA.  
**U.S. Mail:** Field Supervisor, Oklahoma Ecological Services Field Office, U.S. Fish and Wildlife Service, 9014 E. 21st St., Tulsa, OK 74129.

**FOR FURTHER INFORMATION CONTACT:** Jonna Polk, Field Supervisor, by U.S. mail at the Oklahoma Ecological Services Field Office (address above), or by phone at 918-581-7458. If you use a telecommunications device for the deaf (TDD), please call the Federal Relay Service at 800-877-8339.

**SUPPLEMENTARY INFORMATION:** The City of Oklahoma City and the Oklahoma City Water Utilities Trust (applicants) have applied to the U.S. Fish and Wildlife Service (Service) for an incidental take permit (ITP) under section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*). The requested ITP, which would be in effect for a period of 8 years, if granted, would authorize incidental take of the federally endangered American burying beetle (ABB; *Nicrophorus americanus*) during otherwise lawful activities associated with construction of a public water supply pipeline, the Second Atoka Pipeline Project. The project extends in a largely straight course from Atoka Lake to Lake Stanley Draper and passes through Atoka, Cleveland, Coal, Pontotoc, Pottawatomie, and Seminole Counties, Oklahoma. The entire project is approximately 100 miles in length, of which 78.4 miles would occur within the known range of the ABB. Activities potentially causing take include site preparation; construction of the pipeline, pump stations, and other ancillary facilities; use of temporary

work areas; construction of pipe stockpile sites and contractor yards; construction and maintenance of access roads; removal of surge facilities; post-construction restoration activities; and hydrostatic testing of the installed pipeline. The applicants have proposed a habitat conservation plan (HCP) that would be implemented to address project impacts to the ABB.

We are notifying the public of the applicant's proposal of an HCP and request to the Service for an ITP to cover incidental take of the ABB associated with construction of the Second Atoka Pipeline Project. In addition, we are notifying the public of the Service's preparation of a draft environmental assessment (EA) regarding impacts of the requested action or feasible alternatives, of an opportunity for public comment on our action, and of our intention to finalize the EA after consideration of public comment.

**Public Availability of Comments**

Written comments we receive become part of the public record associated with this action. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that the entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation used in preparing the EA, will be available for public inspection, by appointment, during normal business hours at the Service's Oklahoma Ecological Services Field Office in Tulsa, Oklahoma (see **ADDRESSES** section).

**Authority**

We publish this notice in compliance with the National Environmental Policy Act of 1969, as amended (NEPA; 42 U.S.C. 4321 *et seq.*), and its implementing regulations (40 CFR parts 1500–1508), and section 10(c) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*) and its implementing regulations (50 CFR 17.22 and 17.32).

**Amy Lueders,**  
*Regional Director, Southwest Region,*  
*Albuquerque, New Mexico.*  
[FR Doc. 2020-19934 Filed 9-9-20; 8:45 am]  
**BILLING CODE 4333-15-P**

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**[FWS-R8-ES-2020-N021;**  
**FXES1114080000-201-FF08EVEN00]**

**Categorical Exclusion and Draft City of Santa Cruz Operations and Maintenance Habitat Conservation Plan; Santa Cruz County, California**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of availability; request for comments.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, have received an application for a permit to conduct activities with the potential for take of endangered species that is incidental to, and not the purpose of, carrying out an otherwise lawful activities. With some exceptions, the Endangered Species Act prohibits certain activities that may impact endangered species unless a Federal permit allows such activity. We invite comments on this application which we will take into consideration before issuing a permit.

**DATES:** We will receive public comments on the draft habitat conservation plan and draft categorical exclusion screening form until October 13, 2020.

**ADDRESSES:** **Obtaining Documents:** You may download a copy of the draft habitat conservation plan and draft categorical exclusion screening form at <http://www.fws.gov/ventura/> or you may request copies of the documents by U.S. mail (below) or by phone (see **FOR FURTHER INFORMATION CONTACT**).

**Submitting Written Comments:** Please send your written comments using one of the following methods:

- **U.S. mail:** Stephen P. Henry, Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2493 Portola Road, Suite B, Ventura, CA 93003.
- **Email:** [chad\\_mitcham@fws.gov](mailto:chad_mitcham@fws.gov).

**FOR FURTHER INFORMATION CONTACT:** Chad Mitcham, Biologist, by phone at 805-677-3328, via the Federal Relay Service at 1-800-877-8339 for TTY assistance, or at the Ventura address (see **ADDRESSES**).

**SUPPLEMENTARY INFORMATION:** The City of Santa Cruz (applicant) has applied to the U.S. Fish and Wildlife Service (Service) for an incidental take permit (ITP) under section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*). The applicant is requesting an ITP with a 30-year term, for incidental take of six wildlife species likely to result from

Federal Register request for public comments



# Covered Activities

- Flood control
- Pipeline maintenance and rehabilitation
- Water diversion and maintenance
- Other related operations that result in “take”



*North Coast pipeline repair with California red-legged frog issues*




# Covered Species

- San Francisco popcorn flower
- Mount Hermon June beetle
- California red-legged frog
- Ben Lomond spineflower
- Western pond turtle
- Robust spineflower
- Santa Cruz tarplant
- Ohlone tiger beetle
- Tidewater goby
- Pacific lamprey



# Permit Status

- Permit issued on January 25, 2021...after 20+ years of work with USFWS!

|  |  |
|--|--|
|   | Page 1 of 2<br>NATIVE ENDANGERED & THREATENED SP. HABITAT CONSERVATION PLAN<br>ENDANGERED & THREATENED WILDLIFE<br><b>Permit Number: TE89655D-0</b><br>Effective: 1/25/2021 Expires: 1/24/2051                 |
|  | <b>Issuing Office:</b><br>Department of the Interior<br>U.S. FISH & WILDLIFE SERVICE<br>Endangered Species Permit Office<br>2800 Cottage Way, Suite W-2606<br>Sacramento, CA 95825-1846<br>permitsR8ES@fws.gov |
| <div style="border: 1px solid black; padding: 5px;"><b>STEPHEN HENRY</b> Digitally signed by STEPHEN HENRY<br/>HENRY<br/>Date: 2021.01.25 12:41:28 -08'00'</div>   |  |
| <b>Permittee:</b><br>CITY OF SANTA CRUZ<br>809 CENTER ST<br>SANTA CRUZ, CA 95060<br>U.S.A.   |  |
| <b>Name and Title of Principal Officer:</b><br>MARTIN BERNAL - CITY MANAGER  |  |
| <b>Authority:</b> Statutes and Regulations: 16 USC 1539(a), 16 USC 1533(d), 16 USC 703-712; 50 CFR 17.22, 50 CFR 17.32, 50 CFR 21.23 & 21.27, 50 CFR 13.   |  |
| <b>Location where authorized activity may be conducted:</b><br>Lands that are owned or managed by the City of Santa Cruz, areas where the City holds access easements (as described in the HCP) in Santa Cruz County.  |  |
| <b>Reporting requirements:</b><br>See Below:   |  |
| <b>Authorizations and Conditions:</b><br>A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accordance with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.<br>B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, State, local tribal, or other Federal law.<br>C. Valid for use by permittee named above.<br>D. The authorization granted by this permit is subject to compliance with, and implementation of the <i>City of Santa Cruz Operations and Maintenance Habitat Conservation Plan</i> (Ebbin, Moser, and Skaggs LLP 2019; HCP). This permit and the HCP are binding upon the permittees and/or any authorized officer, employee, contractor, or agent conducting permitted activities.<br>E. The permittees are authorized under the Federal Endangered Species Act of 1973, as amended, to incidentally take (harm, injure, capture, and kill) the federally endangered Mount Hermon June beetle ( <i>Polyphylla barbata</i> ), Ohlone tiger beetle ( <i>Cicindela ohlone</i> ), tidewater goby ( <i>Eucyclogobius newberryi</i> ), and the federally threatened California red-legged frog ( <i>Rana draytonii</i> ), within the Action Area that is located in Santa Cruz County, as described in the HCP, to the extent that the take of these species would otherwise be prohibited under section 9 of the Act and its implementing regulations or pursuant to a rule promulgated under section 4(d) of the Act. Incidental take authorization is effective for these four wildlife species upon the effective date of the permit. |  |

## Section 10 Permit

# Conservation Strategy

- Avoidance and Minimization
  - Instream flow improvements
  - Construction/maintenance best practices
- Compensation for Remaining Biological Effects
  - Ohlone tiger beetle, California red-legged frog and western pond turtle offsite mitigation

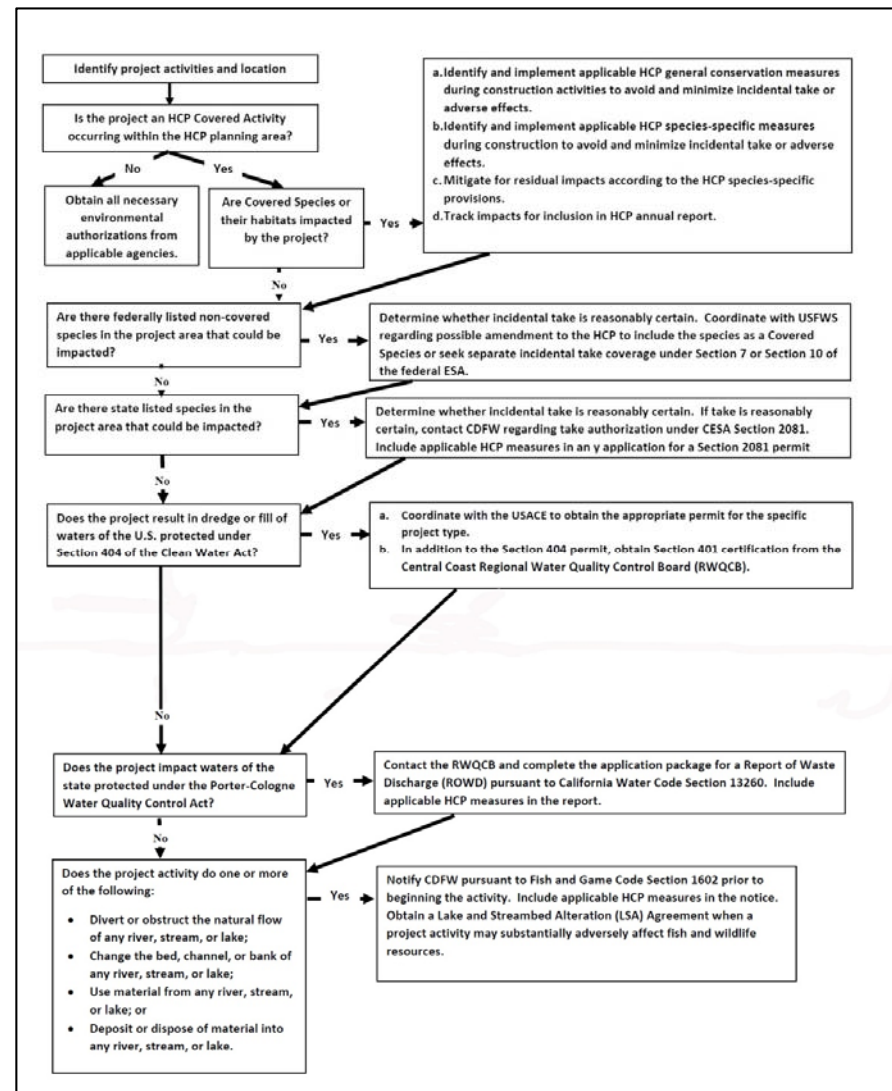


*Top: March 20, 2007 - The first time flow was released to Laguna Creek to reduce effects of City operations on special-status species. Bottom: Moore Creek Preserve Ohlone tiger beetle mitigation site*



# Obligations

- Implement conservation strategy
- Reporting
- Data management
- Staff training
- Funding assurances
- Staffing
- Other environmental regulatory compliance

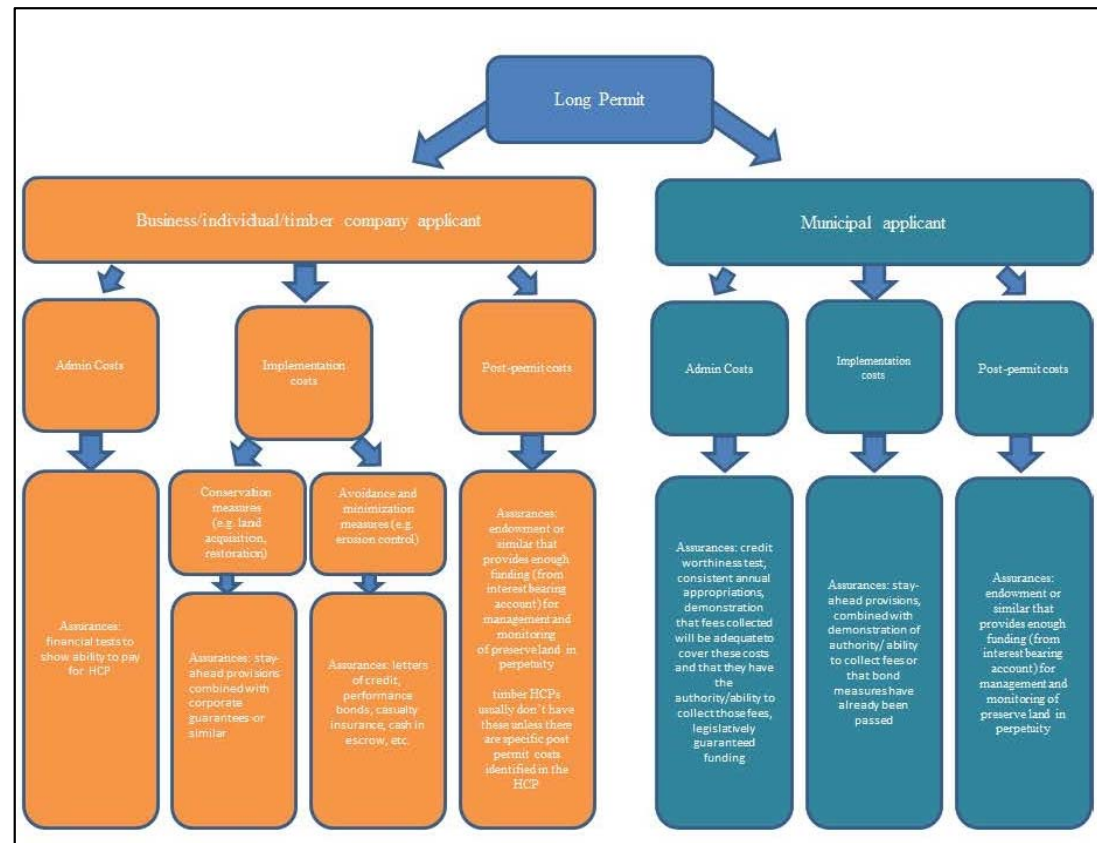


Regulatory compliance flow chart



# Funding Assurances

- Required for permit approval
- \$2.7m for permit term
- Ohlone tiger beetle mitigation and staffing are biggest costs
- Other costs will be incurred regardless
- Savings realized in some cases



Examples of funding assurances requirements for HCPs



THANKS!

Questions?

Our Water, Our Future





## City Council AGENDA REPORT

**DATE:** 04/13/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Manager

**SUBJECT:** West Cliff Drive Adaptation and Management Plan: a Public Works Plan (CM)

---

**RECOMMENDATION:** Motion to adopt the West Cliff Drive Adaptation and Management Plan: a Public Works Plan with minor modifications as authorized by the City Manager.

---

**BACKGROUND:** In response to the City's Local Coastal Program (LCP) Parks and Recreation Policy 1.7.6 adopted in 1992 that calls for completion of a West Cliff Drive Management Plan, the projected impacts of climate change, as well as the need address outstanding coastal development permit (CDP) requirements for shoreline armoring and related projects completed prior to 2017, this is the second effort at developing a West Cliff Drive Management Plan. An earlier effort to prepare the Plan in early the 2000s stalled due to lack of staff capacity. In 2018 the City was awarded a grant from the California Department of Transportation to hire a consultant to assist with the development of the West Cliff Drive Adaptation and Management Plan (Plan). The intention is that the Plan will satisfy the LCP policy requiring completion of the West Cliff Drive Management yet also explicitly considers climate change and climate adaptation. To meet Coastal Commission's requirements and to achieve the goals of the Plan, the format is a "Public Works Plan." Thus, the full title of the document is the West Cliff Drive Adaptation and Management Plan: a Public Works Plan.

Coupled with a California Coastal Commission grant to fund work on the complementary aspects of beach access and protection, the two grant projects were branded as Resilient Coast Santa Cruz. Carried out over 2019 and 2020 and guided by a 17 person technical advisory committee and core internal staff team, the City completed extensive technical work and community engagement including surveys, focus groups, community workshops, and outreach through virtual reality sea level rise mobile phone applications. Project deliverables and a synthesis of how community engagement was integrated into each interim, are available at the project website, [www.cityofsantacruz.com/ResilientCoast](http://www.cityofsantacruz.com/ResilientCoast). This technical and community engagement work informs this final deliverable.

**DISCUSSION:** The purpose of the West Cliff Drive Adaptation and Management Plan: a Public Works Plan was to develop a set of scientifically-informed, community-informed coastal management projects for the near-term 10 to 15 year time horizon and document the community's current vision for the next 80 years of adaptation. This lays the groundwork to prepare the City for adapting to the inevitable future of accelerated coastal erosion and increasing vulnerabilities to the Santa Cruz community. Without intervention, emergency responses can be

more costly, unplanned, and over time are more likely to have expanded impacts on coastal resources accompanied by escalating maintenance costs. One goal of the Plan was for the City to identify preferred adaptation strategies and to develop routine monitoring and maintenance programs to reduce the costly need for emergency responses. The Plan will help the City prioritize public expenditures and develop forward thinking land use policies based on scientifically informed community engagement that consider existing and future coastal hazards and sea level rise.

The Plan contains seven significant elements:

1. The context of West Cliff Drive including an existing baseline conditions and facilities, circulation and parking, public access and recreation, shoreline conditions and armoring, habitat and utilities.
2. Site Planning considerations and constraints across the range of West Cliff Drive's features and resources including the impacts of sea level rise and climate change.
3. Planning goals, objectives, and program overview that describe the near term projects that are the focus of this Plan, physical triggers to be monitored and potential financing mechanisms to fund the program.
4. The Public Works Plan that specifically details the projects that will be phased and implemented upon adoption of the Plan.
5. A specific section illustrating future transportation concept designs possible for the corridor.
6. Development procedures for West Cliff Drive; and
7. A Capital Improvements Program project list that is being integrated into the City's capital planning.

A set of appendices contain the analyses and supplemental information to support the seven core sections of the report including links to prior documents prepared for the West Cliff Drive Adaptation and Management Plan project. The West Cliff Drive Plan follows the organization and parameters set forth in the certified General Plan/Local Coastal Program Policy PR-1.7.6 found on page 345 of the City of Santa Cruz 1990 – 2005 General Plan. Upon adoption by the City and certification by the California Coastal Commission, this WCD PWP/Management Plan will supplement the City of Santa Cruz certified Local Coastal Program, and implement LCP Parks and Recreation Policy 1.7.6, as well as various CDP conditions requiring the preparation of a West Cliff Drive Management Plan.

In terms of Health in All Policies, the Plan process and Plan itself was designed with the three pillars of HiAP foregrounded. The Plan itself was developed in response to climate change and its analyses and recommendations advance the City's technical understanding to make data-driven and community aligned decisions for adapting the coastline. In doing so, the City will improve public safety, access and increase opportunities for recreation, contributing to improved health and well-being. Moreover, this Plan's development was unique in its wide engagement of under-represented and under-served community members, resulting in recommendations that aim to equitably benefit those members of our community.

**FISCAL IMPACT:** Adoption of the Plan will have no fiscal impact on the General Fund. However, implementation of the Plan is primarily unfunded and estimated to be over \$18 million between FY 2022 and FY 2035, the implementation period for the Plan. Successful implementation will depend on the development and execution of a comprehensive funding strategy including grants, additional revenue streams and philanthropy. The City is developing this strategy in the context of the City's Interim Recovery Plan (Re-Envision Santa Cruz).



**Prepared By:**  
Tiffany Wise-West  
Sustainability and Climate  
Action Manager

**Submitted By:**  
Laura Schmidt  
Assistant City Manager

**Approved By:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

1. RESOLUTION.DOCX
2. WEST CLIFF DRIVE ADAPTATION AND MANAGEMENT PLAN.PDF

RESOLUTION NO. NS-29,

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ ADOPTING  
THE WEST CLIFF DRIVE ADAPTATION AND MANAGEMENT PLAN, A PUBLIC  
WORKS PLAN

WHEREAS, West Cliff Drive, an essential transportation, recreation, and tourist attraction in Santa Cruz has experienced coastal erosion and increasing vulnerabilities; and

WHEREAS, the City of Santa Cruz developed a West Cliff Drive Adaptation and Management Plan for the City to identify preferred adaptation strategies and to be able to formulate routine monitoring and maintenance programs to reduce the costly need for emergency responses; and

WHEREAS, the California Coastal Act requires all cities, counties, and special districts to adopt a Local Coastal Plan for future development and protection of coastal resources; and

WHEREAS, the City of Santa Cruz seeks to maintain and enhance both a disaster-resistant and resilient city to reduce potential loss of life, property damage, and environmental degradation from sea level rise and other impacts, while serving vulnerable and historically underrepresented communities; and

WHEREAS, the City of Santa Cruz desires to comply with the requirements of the California Coastal Commission and to augment its resilience planning efforts by formally adopting the West Cliff Drive Adaptation and Management Plan;

WHEREAS, the West Cliff Drive Adaptation and Management Plan has been reviewed by all relevant departments, boards and commissions; and

WHEREAS, the draft West Cliff Drive Adaptation and Management Plan was reviewed by the City Council, and the community in or about November, 2020 and was available for public comment and review between that date and on or about February 16, 2021; and

WHEREAS, the West Cliff Drive Adaptation and Management Plan will contribute to building a more resilient Santa Cruz coastline.

NOW, THEREFORE, BE IT RESOLVED that the City of Santa Cruz does hereby adopt the City of Santa Cruz West Cliff Drive Adaptation and Management Plan as an official plan in accordance with the California Coastal Act; and

PASSED AND ADOPTED THIS 27th day of April, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_  
Donna Meyers, Mayor

ATTEST: \_\_\_\_\_  
Bonnie Bush, City Clerk Administrator



# WEST CLIFF DRIVE ADAPTATION AND MANAGEMENT PLAN:

PUBLIC WORKS PLAN  
APRIL 1, 2021





# WEST CLIFF DRIVE ADAPTATION & MANAGEMENT PLAN: A PUBLIC WORKS PLAN

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**CITY COUNCIL ADOPTION**

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ ADOPTING THE WEST CLIFF DRIVE ADAPTATION AND MANAGEMENT PLAN, A PUBLIC WORKS PLAN**

**WHEREAS**, West Cliff Drive, an essential transportation, recreation, and tourist attraction in Santa Cruz has experienced coastal erosion and increasing vulnerabilities; and

**WHEREAS**, the City of Santa Cruz developed a West Cliff Drive Adaptation and Management Plan for the City to identify preferred adaptation strategies and to be able to formulate routine monitoring and maintenance programs to reduce the costly need for emergency responses; and

**WHEREAS**, the California Coastal Act requires all cities, counties, and special districts to adopt a Local Coastal Plan for future development and protection of coastal resources; and

**WHEREAS**, the City of Santa Cruz seeks to maintain and enhance both a disaster-resistant and resilient city to reduce potential loss of life, property damage, and environmental degradation from sea level rise and other impacts, while serving vulnerable and historically underrepresented communities; and

**WHEREAS**, the City of Santa Cruz desires to comply with the requirements of the California Coastal Commission and to augment its resilience planning efforts by formally adopting the West Cliff Drive Adaptation and Management Plan;

**WHEREAS**, the West Cliff Drive Adaptation and Management Plan has been reviewed by all relevant departments, boards and commissions; and

**WHEREAS**, the draft West Cliff Drive Adaptation and Management Plan was reviewed by the City Council, and the community in or about November, 2020 and was available for public comment and review between that date and on or about February 16, 2021; and

**WHEREAS**, the West Cliff Drive Adaptation and Management Plan will contribute to building a more resilient Santa Cruz coastline.

**NOW, THEREFORE, BE IT RESOLVED** that the City of Santa Cruz does hereby adopt the City of Santa Cruz West Cliff Drive Adaptation and Management Plan as an official plan in accordance with the California Coastal Act; and

**I HEREBY CERTIFY** that the foregoing resolution was introduced, read and adopted at a regular meeting of the City Council on the 27<sup>TH</sup> day of April 2021 by the following vote

Passed and adopted this \_\_th day of \_\_\_\_\_, by the following vote:

AYES:

NOES:

ABSENT:

DISQUALIFIED:

APPROVED: \_\_\_\_\_

Mayor

ATTEST: \_\_\_\_\_

City Clerk



# Acknowledgements

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California Department of Transportation supplemented by California Coastal Commission

### *A few words from our Project Champions*

*This West Cliff Drive Adaptation and Management Plan represents over two years of work between staff, the community, consultants and a 17-person technical advisory community (TAC) to establish goals and priorities for resilient coastal management of critical city infrastructure, parks and beaches. With over 1,500 touchpoints with community members over those two years, this process was the first time the City and community worked together to establish an equitable and long term vision for coastal management in the face of climate change. This acknowledgement of necessary adaptation to sea level rise is an important management framework for the City to adopt now and act on urgently.*

*As TAC members, we know this Plan balances innovation with practicality, defining a 15-year plan for coastal maintenance, transportation corridor enhancements, and the creation of habitat restoration and scenic overlooks for all to enjoy. It also specifies further work required to advance our community's understanding of coastal dynamics and make data-informed decisions on adapting over time.*

*Future versions of this Plan and associated planning efforts will need to revisit and refine the coastal adaptation approaches possible beyond the 15 year lifespan of this Plan. Through development of a sound funding strategy to implement the Plan, ongoing community engagement especially with those historically under-represented and under-served, attention to scientific and regulatory developments, and proactive monitoring of our coastline to understand when to shift adaptation approaches, the City will be well positioned to bolster coastal resilience for decades to come.*



Mayor Donna Meyers  
City Council Member & former Mayor Justin Cummings



# 1. Preface

## 1.1. Introduction

### 1.1.1. Purpose of Plan

The purpose of this West Cliff Drive Adaptation and Management Plan (Plan) is to develop a set of scientifically-informed, community-informed coastal management projects to be implemented in the near-term of 10 to 15 year time horizon to address coastal erosion and adopt them in a Public Works Plan format. This set of projects represents a proactive approach to managing all facets of West Cliff Drive under City jurisdiction and sets forth a process for projects to be proposed and completed. The Plan is presented in the context of various coastal resources – recreation, access, transportation, parking habitat, facilities, open space, protection structures, amenities and utilities – and how these projects can be designed to protect, enhance or adapt those resources.

In addition, the Plan specifies routine monitoring and maintenance programs to reduce the costly need for emergency responses. The Plan will assist the City to prioritize public expenditures and seek other funding as well as develop forward thinking land use policies based on scientifically-informed community engagement that consider existing and future coastal hazards and sea level rise.

To address sea level rise and increased storm surges which both accelerate coastal erosion, the secondary purpose of the Plan is to document the feasible adaptation options and current state of community preferences on different coastal adaptation options in the medium to longer term, i.e., next 80 years of adaptation. Both the Plan itself and the community engagement informing coastal management will require periodic revision to consider coastal conditions, regulatory drivers and public opinion. This first Plan lays the groundwork to prepare the City for adapting to the inevitable future of accelerated coastal erosion and vulnerabilities to the Santa Cruz community. Emergency responses can be more costly, unplanned, and over time are more likely to have expanded impacts on coastal resources accompanied by escalating maintenance costs.

The Plan is based on work conducted during 2019 and 2020 by Integral Consulting, LLC as listed below. While excerpts of these documents relevant to the purpose of this Plan are included, hyperlinks are provided in the list below for each full deliverable. All asset numbering in photos and images (e.g., armoring site #X, or stormwater outfall #Y) in this Plan are consistent with those referenced in these documents, which contain more detailed information about each project site's existing condition and vulnerabilities.

[Existing Conditions and Future Vulnerability Assessment](#) (November 2019), including

- an inventory of the existing conditions along West Cliff Drive;
- an evaluation of the existing and projected future coastal erosion hazards;
- an assessment of future vulnerability of the transportation corridor, coastal protection structures, water utility-related infrastructure, and coastal resources to sea level rise;

[Adaptation Alternatives Analysis](#) (June, 2020), including

- identification of feasible, community-supported adaptation approaches with potential secondary consequences to coastal resources and the fiscal resources of the City;
- discussion of Monitoring and Potential triggers to initiate different phases of an adaptation pathway;
- [Transportation Conceptual Alternatives Analysis](#) (July, 2020) evaluating 3 scenarios;
- a cost benefit analysis; and

[Public Engagement Synthesis](#) (translated also into [Spanish](#)), (November 2020) including

- Description of engagement process to assess community uses and values, preferences on goals and adaptation strategies and pathways;
- Data and graphs to report engagement findings; and
- Project website and document box containing detailed engagement pieces, e.g., [virtual reality sea level rise explorer applications](#), meeting slide decks: [www.cityofsantacruz.com/ResilientCoast](http://www.cityofsantacruz.com/ResilientCoast)

As part of the Plan development process, the City invested substantially in outreach and community engagement, supported by a [complementary beach-focused project](#) funded by the California Coastal Commission. The goal of the engagement was to build trust, educate, and engage with a wide cross section of the community including many more historically under-served and under-represented people, many who are living on the frontline of sea level rise. Moreover, as primary elements of the Plan were completed, they were reviewed by the Technical Advisory Committee (TAC) and key city staff as well as presented more widely in the community for review and feedback using a wide variety of outreach tools.

### 1.1.2. Preparation and Use of the Plan

This Plan contains seven significant elements:

1. The context of West Cliff Drive including the existing baseline facilities, circulation and parking, public access and recreation, shoreline conditions and armoring, habitat and utilities.

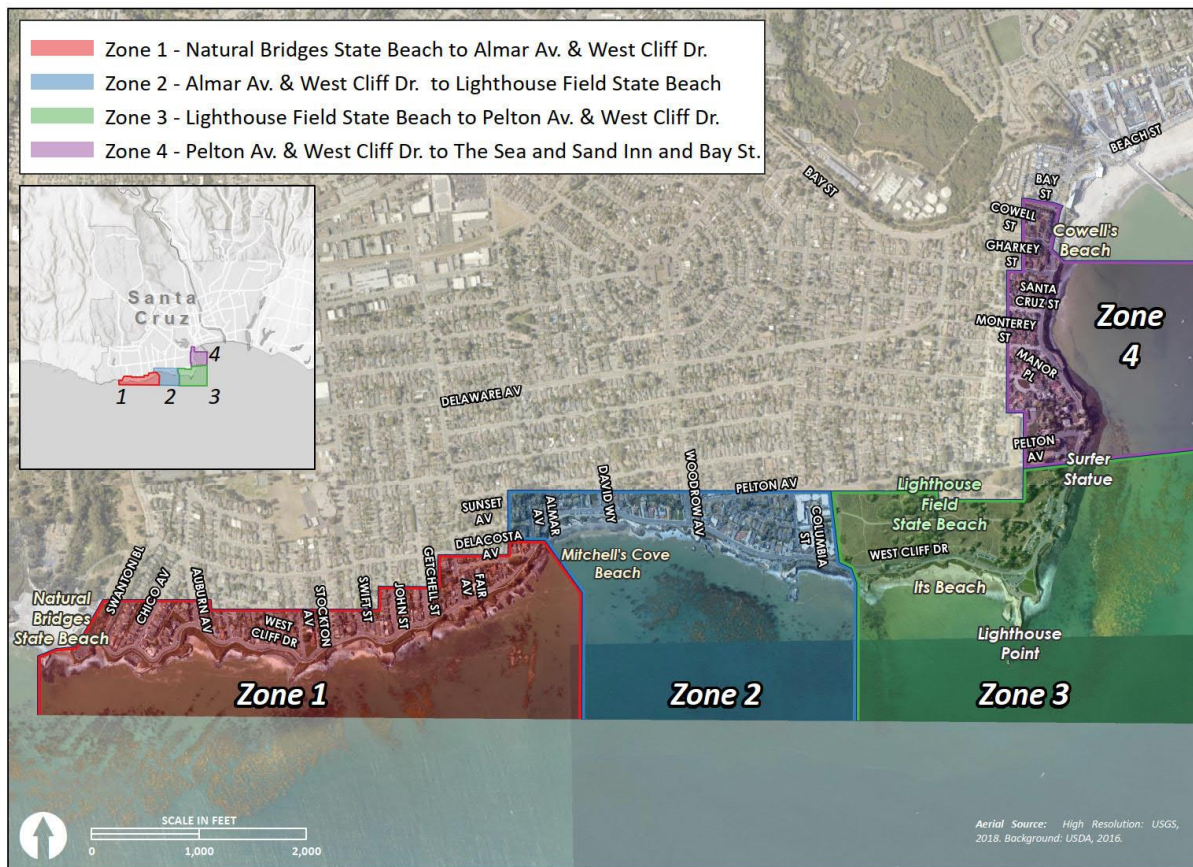


2. Project Planning considerations and constraints across the range of West Cliff Drive's features and resources including the impacts of sea level rise and climate change to be considered in project development.
3. Resource management goals, objectives, and a program overview that describe the near-term projects that are the focus of this Plan, potential physical triggers to be monitored and developed in future plan alignment and community engagement processes.
4. The Public Works Plan that specifically details the projects that will be phased and implemented upon adoption of the Plan.
5. Potential near term and future illustrative transportation concept designs possible for the corridor.
6. Project Approval Procedures for West Cliff Drive; and
7. A Capital Improvements Program (CIP) project list with estimated costs, phased over 4 three-year CIP cycles, that is integrated into the City's FY22 capital planning;

A set of appendices contain the analyses and supplemental information to support the seven core sections of the report including links to prior documents referenced above. The Plan defines the program – projects, policies and practices – that set the near-term course for adaptive management of West Cliff Drive under climate hazard conditions. The Plan may need to be revisited over time to consider the state of best available science, new policy or regulatory requirements, and to gauge community perspectives on tradeoffs and preferences in coastal management.

Because the West Cliff Drive corridor is nearly three miles in length and its features vary substantially across the corridor, the corridor was separated into 4 zones as noted in Figure 1-0 below.

## West Cliff Drive Zones



**Figure 1-0. The 4 Zones of West Cliff Drive**

### 1.2. Relationship to Other Plans and Permits

The purpose of the West Cliff Drive Plan is to present in one document, the various land use, design, recreation, circulation, environmental quality, and coastal erosion policies that have been designed to protect the coastal resources and public access features along West Cliff Drive.

The goals, policies and programs contained within this plan reflect a conscious effort to balance the many demands upon this area. The plan consolidates and presents the results of previous planning efforts back in the late 1990s and early 2000's, that included citizen input by the West Cliff Drive Task Force, the Parks and Recreation Commission, the Public Works Commission, the City and County Transportation Commissions, the Planning Commission, the City Council, the State Coastal Commission, the California Resources Agency and the Monterey Bay National Marine Sanctuary.

The Plan contains new implementation projects and maintenance concerning habitat landscape and access criteria that affect both public and private development adjacent to West Cliff Drive

The West Cliff Drive Plan follows the organization and parameters set forth in the certified General Plan/Local Coastal Program Policy PR-1.7.6 found on page 345 of the City of Santa Cruz 1990 – 2005 General Plan. Upon adoption by the City and certification by the California Coastal Commission, this Plan will supplement the City of Santa Cruz certified Local Coastal Program (LCP), and implement LCP Parks and Recreation Policy 1.7.6, as well as various CDP conditions requiring the preparation of a West Cliff Drive Management Plan.

### 1.2.1. City of Santa Cruz General Plan and Local Coastal Program

In 1972, California voters adopted Proposition 20 creating the California Coastal Act and Coastal Commission. The Coastal Commission was given the mandate of implementing Coastal Act policies by preparing a comprehensive plan for the California coastline and reviewing locally-approved projects within a coastal zone of approximately 1,000 yards along the coastline. In 1976, the Coastal Act was revised with specific provisions that coastal permit processing authority be transferred from the Coastal Commission to local government upon the adoption of a Coastal Land Use and Implementation Plan.

The City's Local Coastal Program (LCP) Land Use Plan was certified by the Coastal Commission 1992. The LCP included Policy Parks and Recreation Element Policy 1.7.6 requiring the City to develop and implement an integrated design, land use, recreation, cliff stabilization, and landscaping plan for West Cliff and East Cliff Drives to enhance public access, safety and recreational enjoyment in these areas. Specifically, it provides:

1.7.6 Develop and implement an integrated design, land use, recreation, cliff stabilization, and landscaping plan for West Cliff and East Cliff Drives to enhance public access, safety and recreational enjoyment in these areas. (See policy CD 3.4.3, S 1.2.3 and the Seabright Area Plan Summary)

Create a continuous pathway along the coast by enhancing physical linkages between West Cliff and East Cliff Drives and the Beach Promenade.

Lay out criteria for maintaining riprap, protection of paleontological resources and bird nests, and trail maintenance. (See policy S 1.2.3 and policies under CR 1)

Monitor the beach profile and recreational use of beaches to obtain baseline information for analyzing riprap proposals and their recreational impacts and establish criteria for a maximum permitted coverage of sandy beaches by seawalls. (See policy EQ 4.1.3 and S 1.2.3)

Analyze facilities and the need for additional or rehabilitation of existing lighting, restroom, drinking fountains, artistic and landscape enhancements, benches, bike

parking, directional and interpretive signs, accessways, stairways, overlooks, and improved safety proposals.

Develop design criteria for shoreline structures (e.g., minimize amount of material and coverage; emphasize use of non-glare, non-reflective, natural or natural-appearing materials, incorporation of access facilities). (See policy EQ 4.1.3 and S 1.2.3)

Ensure continued monitoring of and possible remedial work for wastewater outfall protective rock (pursuant to Moffatt and Nichol's "Santa Cruz Outfall Monitoring Program").

Develop locational and non-point source pollutant criteria for dealing with drainage discharges.

Examine the feasibility of periodic street closure or limiting vehicular access along the length of West Cliff Drive and consider opening up West Cliff Drive between Washington and Beach Streets to bicycles and pedestrians only. (See policy C 3.1.7)

### 1.2.2. Coastal Development Permit 3-90-111-A2

CDP 3-90-111-A2, approved by the Coastal Commission in June 1998, allowed construction of two engineered armor stone revetment structures to protect West Cliff Drive and repair of the damaged recreational pathway and two parking areas and was conditioned to require submission of a West Cliff Drive Integrated Development and Management Plan within two years of approval. Specifically, that condition required:

5. West Cliff Drive Integrated Development and Management Plan. WITHIN TWO YEARS OF THE APPROVAL OF THIS PERMIT, the permittee shall submit to the Commission for review and approval a West Cliff Drive Integrated Development and Management Plan which will provide for integrated design, land use, recreation, cliff stabilization, and landscaping for the West Cliff Drive corridor consistent with Local Coastal Program Parks and Recreation Element Policy 1.7.6. Provided the City has made regular progress towards completion of the Management Plan, this time period may be extended by the Executive Director for good cause (including funding contingencies). The submittal shall include a schedule of implementation and shall identify potential funding sources. Subsequently, the City shall submit annual implementation status reports to the Executive Director by July 1 of each year.

The City was unable to fulfill this condition in the timeframe noted. However, the Plan satisfies the condition and sets forth a project implementation program process going forward.



## 1.3. Regulatory Context

### 1.3.1. California Coastal Act

### 1.3.2. Other Regulations/State of California Adaptation Guidance

The California Coastal Commission (CCC), Ocean Protection Council (OPC), and Natural Resources Agency (NRA) have released sea level rise and adaptation planning guidance documents that are to be used by local jurisdictions to update land use planning documents.

#### **OPC State of California Sea-Level Rise Guidance (2018)**

In March 2018, the California Natural Resources Agency and OPC released an updated *State of California Sea-Level Rise Guidance* including eight preferred sea level rise planning and adaptation approaches:

- Adaptation planning and strategies should prioritize social equity, environmental justice, and the needs of vulnerable communities
- Adaptation strategies should prioritize protection of coastal habitats and public access
- Adaptation strategies should consider the unique characteristics, constraints, and values of existing water-dependent infrastructure, ports, and Public Trust uses
- Consider episodic increases in sea level rise caused by storms and other extreme events
- Coordinate and collaborate with local, state, and federal agencies when selecting sea level rise projections; where feasible, use consistent sea level rise projections across multi-agency planning and regulatory decisions
- Consider local conditions to inform decision making
- Include adaptive capacity in design and planning
- Assessment of risk and adaptation planning should be conducted at community and regional levels, when possible.

#### **CCC Sea Level Rise Policy Guidance (2018)**

In November 2018, the CCC adopted the 2018 Sea Level Rise Policy Guidance – Final Science Update (CCC 2018b). The guidance update recommends use of the State of California Sea-Level Rise Guidance: 2018 Update (OPC 2018) for sea level rise scenarios. Both the CCC 2018 and OPC 2018 guidance documents are complementary and utilized across the state for planning and adaptation strategies.

*Sea Level Rise Policy Guidance* (CCC 2018) outlines 20 guiding principles based on Coastal Act policies that address sea level rise in the coastal zone and fall under four categories:

- Use science to guide decisions (Coastal Act Sections 30006.5; 30335.5);

- Minimize coastal hazards through planning and development standards (Coastal Act Sections 30253, 30235; 30001, 30001.5);
- Maximize protection of public access, recreation, and sensitive coastal resources (Coastal Act Chapter 3 policies); and,
- Maximize agency coordination and public participation (Coastal Act Chapter 5 policies).

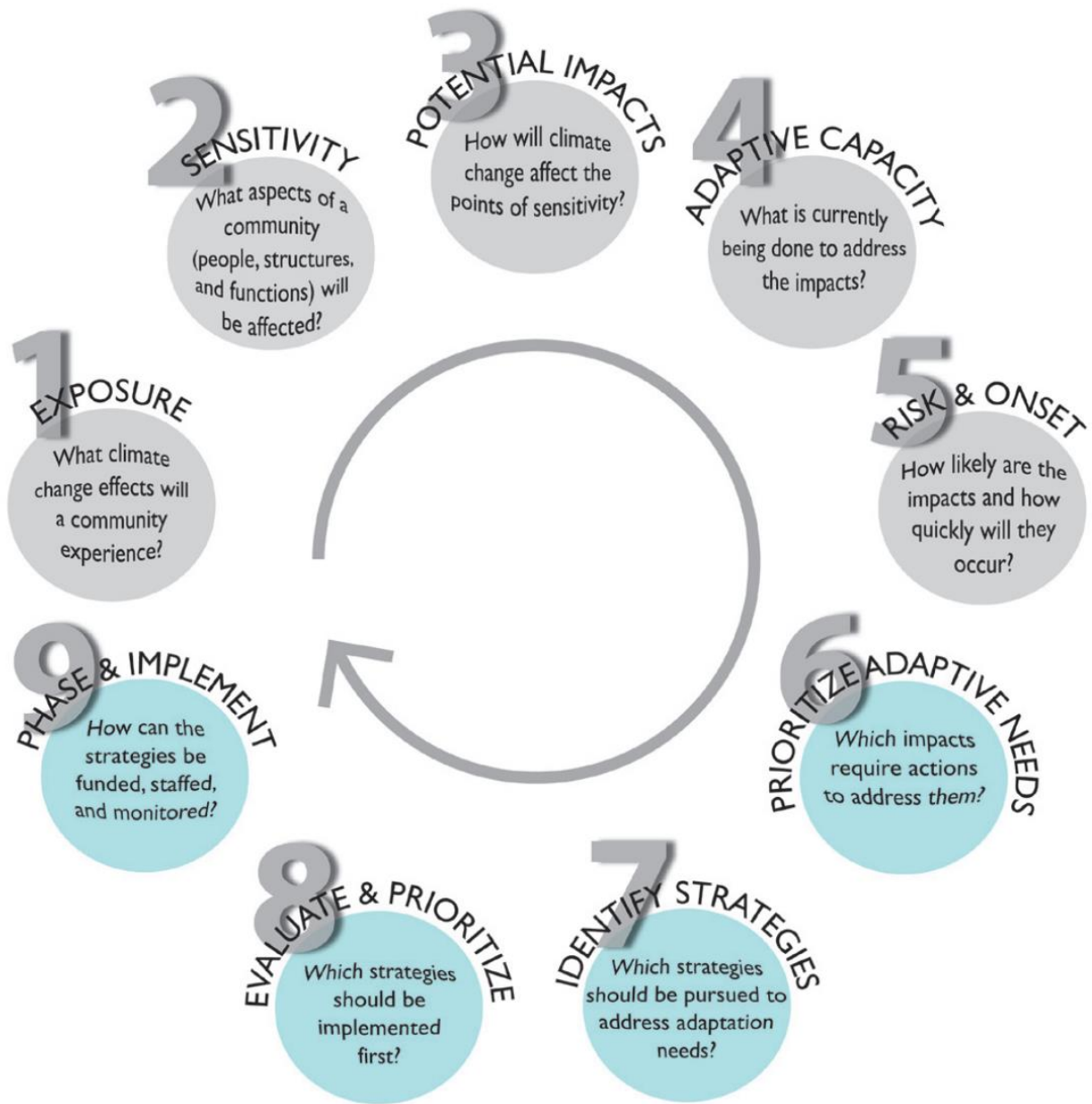
### **Natural Resources Agency Safeguarding California Plan (2018)**

The *Safeguarding California Plan: 2018 Update* (NRA 2018) describes the State's climate change adaptation plan and actions state agencies should take to adapt communities, infrastructure, services, and the natural environment to climate change. This Plan outlined programmatic and policy responses as well as seven overarching principles:

- Consider climate change in all functions of government
- Partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education
- Support continued climate research and data tools
- Identify significant and sustainable funding sources to reduce climate risks, harm to people, and disaster spending
- Prioritize natural infrastructure solutions that build climate preparedness, reduce greenhouse gas emissions, and produce other multiple benefits
- Promote collaborative adaptation processes with federal, local, tribal, and regional governments;
- Increase investment in climate change vulnerability assessments of critical built infrastructure.

### **Transportation/Caltrans Adaptation Guidance**

California adopted an Adaptation Planning Guide in 2012 which identified a nine-step process highlighting flexibility while incorporating local and regional characteristics into adaptation projects. This project has followed the guidance and the first six steps (Figure 1-1). The next three steps are identifying adaptation strategies, evaluating and prioritizing them, and eventually developing a phased implementation plan. Caltrans has produced some high-level guidance on adaptation projects; however, it has been focused primarily on Caltrans-operated facilities and not local roadways.



**Figure 1-1. The nine steps in adaptation planning development. The gray steps are part of vulnerability assessment (steps 1–5) and blue steps are adaptation planning (steps 6–9). Source: California Adaptation Planning Guide 2012.**

Since the funding source of this project is from the Caltrans Adaptation Planning Grant Program, it is relevant to mention Caltrans’ ongoing efforts in climate adaptation and resiliency. Caltrans has completed Vulnerability Assessments for each district and is near completion of the Adaptation Priorities Reports for each district. The Caltrans Vulnerability Assessments provided a high-level review of potential climate impacts to each district’s portion of the State Highway System. The Adaptation Priorities Report will use the information from the Vulnerability

Assessment Report to prioritize the order in which assets found to be exposed to climate hazards will undergo detailed asset-level climate assessments.

In 2016, the Federal Highway Administration (FHWA) released the Adaptation Decision-Making Assessment Process (ADAP) to assist transportation planners and designers to account for climate change in civil transportation projects. The decision tree (Figure 10-3) assists with all types of adaptation projects, including flooding, erosion, sea level rise and in general evaluating the impacts and secondary consequences from climate change. In addition, FHWA published the Vulnerability Assessment and Adaptation Framework in 2017 citing examples of adaptation work from around the country and citing the use of Multi-Criteria Analyses and Risk Matrices to evaluate adaptation alternatives.



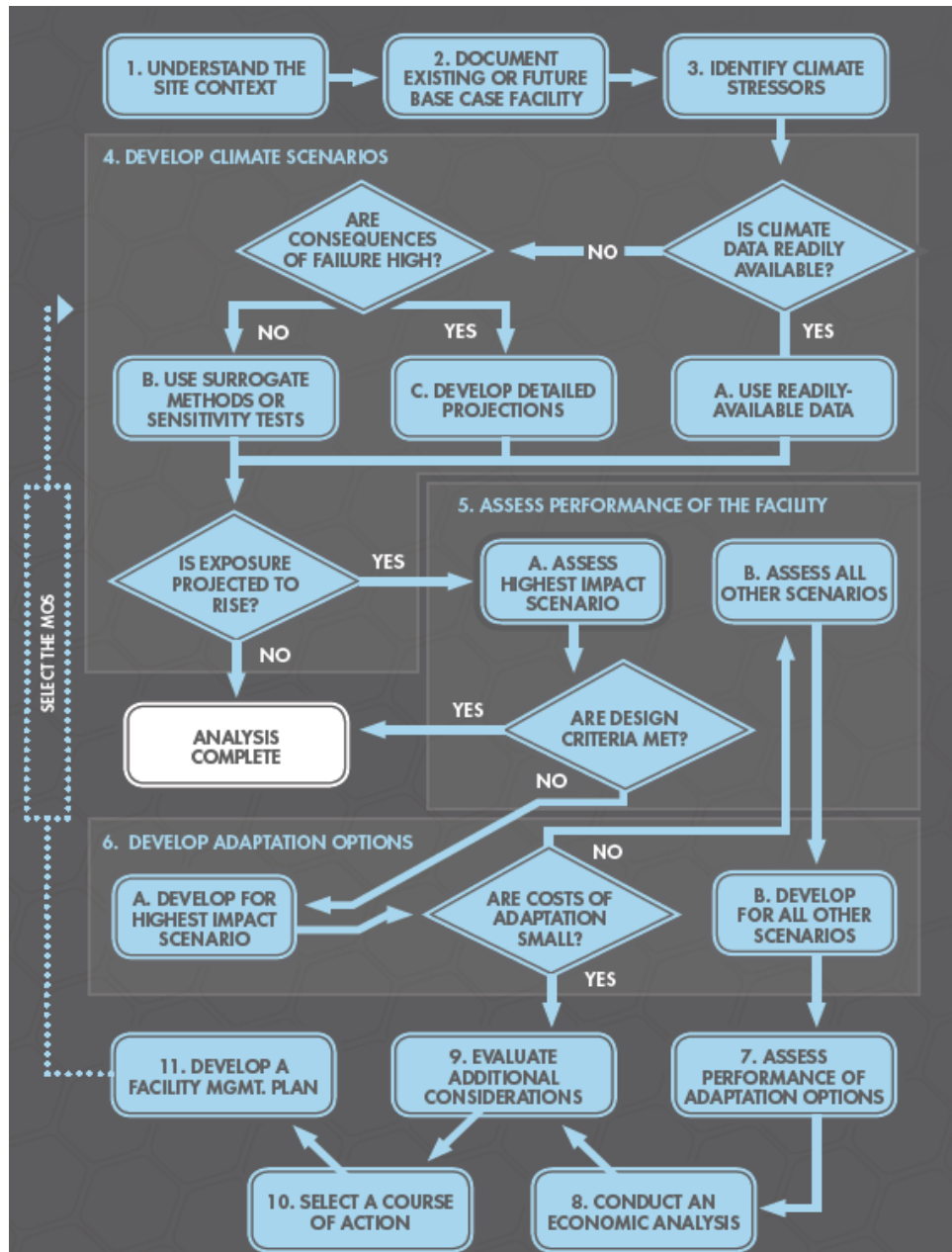


Figure 1-2. FHWA Adaptation Decision-Making Assessment Process

### Local Transportation Planning Initiatives

Given the absence of neighborhood scale adaptation guidance, it is important to align transportation adaptation strategies to existing transportation studies and plans that the City of Santa Cruz has previously developed. This consideration of local transportation studies incorporates near term and long-term direction for the future of West Cliff Drive consistent with the City of Santa Cruz General Plan completed in 2012, the City of Santa Cruz Active Transportation Plan (ATP) completed in 2017, and the City of Santa Cruz Climate Action Plan (CAP) completed in 2012 and updated in 2018. Reviewing the existing conditions assessment and

referencing the aforementioned plans helps to guide selection of adaptation alternatives for conceptual design alternative analysis. The ATP serves as a guide for improving active mobility in and around the City of Santa Cruz. The ATP also identified potential future projects, including enhancements of bicycle infrastructure for connecting streets to West Cliff Drive such as Almar Avenue. In addition, a project to stripe additional crosswalks providing formal pedestrian access from West Cliff neighborhoods to the Recreational Trail is identified as well as increasing the number of available bike racks. The ATP also cites the City of Santa Cruz General Plan Policies including:

- M 1.2, Create livable streets. “Livable streets” support the intent of Section 65302(b) of the California Government Code to create “complete streets” planned, designed, operated, and maintained to provide safe mobility for all users, including “bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.”
- M2.3, Increase the efficiency of the multi-modal transportation system.
- GOAL PR4, An integrated system of citywide and regional trails.
- PR4.1, Provide and maintain an accessible citywide trail system within the city and connect it to regional trails.
- PR4.1.1, Provide trails for a range of uses.
- PR4.1.2, Update and maintain trails in accordance with the City’s Bicycle and Pedestrian Master Plans. Cf. CD5.1, M4.1, M4.2, CC8.4.
- PR4.1.3, Maintain and enhance the recreational value of the San Lorenzo River walkway and East and the West Cliff Drive pathways.
- PR4.1.4, Create a continuous pathway along the coast by enhancing the physical links between West Cliff and East Cliff Drives and the Beach Promenade.
- PR4.1.6, For special events, examine the feasibility of periodically closing the street or limiting vehicular access along West Cliff Drive.
- M4.3.2, Develop bike commute routes along railroad rights-of-way (while ensuring the ability to develop rail transit) and along West Cliff Drive, Broadway, King, and other streets.



Figure 1-3. West Cliff Drive Open Streets, Fall 2019

## 2. Context

### 2.1. Regional and Local Setting

#### 2.1.1. Central Coast Region

#### 2.1.2. Project Vicinity

West Cliff Drive represents an ocean front road and recreational transportation corridor that provides visitor and resident access along a 2.7 mile stretch of low cliff backed coast (20 to 45 feet in elevation) from Natural Bridges State Beach in the west to Cowell's Beach in the east. This corridor currently contains two lanes of traffic, one in each direction and the West Cliff Drive Recreational Trail (Recreational Trail), a multi-use biking and walking trail with scenic and coastal accesses. Cliff erosion occurs frequently and there is a long history of coastal erosion along this corridor. Erosion responses have been to either relocate or to armor the eroded areas. Currently, almost 50% of West Cliff is protected by seawalls and rip-rap, of varying age and in varying condition, which currently mitigates some of the existing erosion hazards but may not be sufficient to mitigate future sea level rise hazards.

The coastal armoring along West Cliff Drive is managed and regulated by a number of state and federal regulatory agencies. Private and public property boundary in California is determined by the location of the mean high water (MHW) tide line, a 19-year average of tide elevations. The California Coastal Commission (CCC), the primary coastal management regulatory agency regulates land above MHW within the Coastal Zone and evaluates projects based on their

consistency with 1976 California Coastal Act. The City of Santa Cruz has an LCP, which was certified by the Coastal Commission in 1994 consistent with the 1976 California Coastal Act, and which includes land use policies and an implementation plan granting the City primary permit authority over land use decisions, and an update to the existing LCP is under way. Recent state guidance has encouraged local jurisdictions to update their LCPs to more thoroughly consider the future threats posed by sea level rise and has provided grant funding to facilitate this request. The City is pursuing a complementary project focused on beaches and the land uses adjacent to them with CCC grant funding. Below MHW, subtidal and intertidal lands are also regulated by the California State Lands Commission (CSLC), which manages these areas for public trust uses. In some areas, CSLC grants public trust authority to other entities, such as the City-granted land from the west harbor jetty to Lighthouse Point and the land upon which the City-owned Municipal Wharf sits. In these areas below MHW, the CCC retains coastal development permit authority. As sea levels rise and MHW moves inland, many of the existing coastal armoring structures may come under CSLC jurisdiction.

Federally, the U.S. Army Corps of Engineers (USACE) has the lead federal jurisdiction for biological impacts with its jurisdiction below the ordinary high tide line, which has been legally interpreted to be the highest high tide of the year (aka King Tide). The USACE jurisdiction triggers biological consultations with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service for biological resource concerns. In addition, offshore of West Cliff Drive is the Monterey Bay National Marine Sanctuary, which was established in the 1980s to protect against offshore oil and gas development, but also has responsibility for the protection of marine species and ocean water quality. Depending on where along West Cliff Drive and at what elevation, permits may be required by all aforementioned agencies. As sea level rises, MHW and ordinary high tide and the regulations will shift.

The weather in Santa Cruz is considered Mediterranean with cool, wet winters, and warm, dry summers. Winds generally blow out of the northwest except during storm conditions when winds come from the south. Waves also change seasonally with large west and northwest swells in the fall and winter, wind waves in the spring, and smaller southerly swell waves in the summer. The wave direction largely drives sand transport from the west to the east. Ocean water temperatures are typically cool to cold with the northwest winds driving ocean upwelling and keeping temperatures cold year-round.

West Cliff Drive is oriented primarily east and west so that the dominant wind direction blows offshore from the land to the sea. This creates a unique set of conditions favorable to surfing. Surfing has a long history in Santa Cruz, one of the reasons Santa Cruz proclaims itself Surf City, USA. It was the first location where surfing came from its birthplace in Hawaii to the U.S. Mainland in the late 1800s. The surfer statue of Duke Kahanamoku at West Cliff Drive and Pelton Avenue commemorates this heritage. Santa Cruz is also the location where Jack O'Neill invented the first wetsuit designed to keep surfers warm in cold water. The Lighthouse Surf Museum on West Cliff Drive documents many of the historical changes in surfing and surf culture. As a result of this unique coastal setting, history of surfing, consistent wave exposure



and world class surf spots, Santa Cruz is a mecca for surfers from all over the world and on any given day there can be a thousand surfers in the water off of West Cliff Drive. It is also the reason the surf breaks within Santa Cruz were designated a World Surfing Reserve in 2012.

Aside from surfing, there is a wide variety of land and water based recreational uses along the Recreational Trail and the various coastal accesses to the beaches and water. West Cliff Drive is an iconic coastal roadway with scenic vistas enjoyed by residents and tourists alike. It provides access to enjoy the Pacific Ocean and its many splendors, surfing, swimming, foraging, tide-pooling, and much more. The multi-use Recreational Trail and the roadway provides space to recreate in many forms, walking, bicycling, skating, driving, exercising, and much more. However, there are reports of frequent user conflicts including but not limited to pedestrians and bicyclists, dogs and automobile. Preservation of coastal access both along the corridor and to the water's edge is critically important to the identity of the community. Biking, walking, wildlife viewing, and fishing along with are highly popular for both visitors and residents alike along with a range of other activities. West Cliff Drive is a popular location for races and events, and these official events close West Cliff Drive sporadically throughout the year.

Land use and development along West Cliff are unique. The City owns most of the land along the seaward side of West Cliff Drive except for a few private parcels, including but not limited to a private residence and two hotels. California State Parks owns and operates Lighthouse Field State Beach, on the landward side of West Cliff Drive lies Lighthouse Field, an open space with various habitat and recreational values, as well as portions of West Cliff Drive near the Lighthouse and Natural Bridges State Beach, with both sites having seabird roosting sites as well as monarch butterfly groves. The zoning along the ocean side of West Cliff Drive is Ocean Front Recreation, which limits most development potential.

Along the shoreline are a variety of beaches, rocky intertidal, and cliff roosting habitat for a variety of sensitive bird and intertidal species. Just offshore are kelp beds and offshore rocks, which provide habitat for sea otters and a host of other marine mammals. During fall and spring, it is common to observe migratory whales moving between Alaska and Mexico.

## 2.2. Existing Facilities

### 2.2.1. Pedestrian Facilities

Pedestrian facilities along West Cliff Drive include sidewalks, crosswalks, informal trails, curb cuts, truncated domes and provide safe passage along the corridor for a wide variety of users. The primary pedestrian facility is the West Cliff Recreational Trail on the ocean side of the roadway. Additionally, significant portions of West Cliff Drive have a sidewalk accommodated by a non-uniform 5-ft easement on the inland side of the roadway. Pedestrian counts were collected during the traffic counts of vehicles and bicycles and previously listed in Table 2-1, which summarizes the pedestrian volumes observed along the West Cliff Recreational Trail on two summer days. The counts show similar volumes along the West Cliff Recreational Trail, with

slightly higher midweek usage in the more residential portion along Swift Street, and slightly higher usage around Lighthouse Point during the weekend. Pedestrian activity near Bay Street along West Cliff is considerably higher than other areas along the corridor.

**Table 2-1. Pedestrian Counts along West Cliff Recreational Trail**

| Mode  | Lighthouse<br>Parking Lot<br>Driveway |                           | Swift Street              |                           | Swanton Blvd              |                           | Bay St                    |                           |
|---|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|   | Midweek<br>Daily<br>Total             | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total |
| Pedestrians   | 1,600                                 | 2,600                     | 1,700                     | 2,500                     | 1,000                     | 1,800                     | 1,800                     | 3,900                     |
| Volumes were collected over a 24-hour period at the intersection. |                                       |                           |                           |                           |                           |                           |                           |                           |

### West Cliff Recreational Trail and Sidewalks

On the ocean side of the West Cliff Drive lies the Recreational Trail, a Class I trail shared collectively by pedestrians, cyclists and all other non-auto users. The trail provides access to stairwells and footpaths to beaches, ocean and intertidal areas. The trail is very well used not only for traveling or accessing the many destinations but also for stopping and gazing at the beautiful vistas off the coast. At times, the Recreational Trail experiences user congestion typically near heavily used beaches and parking areas. Sidewalks exist along West Cliff Drive on the opposite side of the road from the trail, with a few exceptions. These exceptions exist between Stockton Avenue and Merced Avenue, Fair Avenue and De La Costa Avenue, Almar Avenue and Sunset Avenue, portions between Sunset Avenue and David Way, and between Columbia and Pelton alongside Lighthouse Field State Park.

### Crosswalks

There are marked crosswalks at very few intersections along the West Cliff Drive corridor, although the majority of three-way stop-controlled intersections do have marked crosswalks, including at Swanton Blvd, Swift St, Woodrow Avenue, and Bay Street. Other marked crosswalks exist at trail access from State Parks Parking Lots B and C adjacent to their driveways. Two painted crosswalks occur midblock, one between parking lot B and the West Cliff Recreational Trail and another joining a State Park trailhead and the West Cliff Recreational Trail between Parking Lots A and B. Crosswalks exist at Manor Avenue and Monterey Street and access to the Manor Avenue parking lot overlooking Cowell's Beach. There are crosswalks on all approaches to the roundabout at the entrance to the wharf. Additionally, marked crosswalks exist between the Dream Inn and their parking lot. Even though marked crosswalks are not present at all intersections, unmarked crosswalks exist at every intersection. Pedestrians have the right of way in all marked crosswalks and unmarked intersections.

### State Park Trails and Other Informal Trails

Lighthouse Field State Beach includes a large open space habitat area on top of the cliff between Pelton Avenue and West Cliff Drive. State Parking Lots B, C, and D border the open space. There are many circuitous trails located throughout the open space, which allow pedestrians to walk from inland neighborhoods and the parking lots to West Cliff Drive and the West Cliff Recreational Trail. Additionally, some trails connect Pelton Avenue with West Cliff Drive. Throughout the entire corridor many informal trails exist from the West Cliff Recreational Trail across the bluffs that help provide access to tide pools, beaches and the base of the cliffs.

### Accessibility for People with Disabilities

The corridor and West Cliff Recreational Trail are generally accessible to pedestrians with disabilities who require a wheelchair or are visually impaired. Each intersection has curb cuts and a varied level of embedded tactile surfaces within the curb cuts. A few intersections do not provide direct access to the trail, rather a sidewalk to the adjacent local road where trail access exists. Select parking lots do have accessible parking spots available.

## 2.2.2. Existing Bicycling Conditions

### Types of Bicycling Facilities

The core for all cycling along West Cliff Drive is the West Cliff Recreational Trail Class I facility. As mentioned earlier this is a multi-use trail. Cyclists can also use the regular roadway as a Class III facility and often do when the trail is overly congested with other users; however, there is no designated bike lane, cyclists share the lane with vehicles. Cycling along the trail can result in conflicts between some fast-moving cyclists and to other users of the trail. Conflicts amongst users were identified frequently in community focus group meetings particularly with regards to the speed of electric assist bikes.

Table 2-1 summarizes the bike counts along the trail. The following side streets to West Cliff Drive have bike lanes: Swanton Boulevard, Swift Street, Woodrow Avenue, and Bay Street. These streets have dedicated bike lanes as Class II facilities between vehicular traffic lanes and on-street parking. These bike lanes provide connection to West Cliff Drive and Recreational Trail, but also connect with other bike lanes and bike routes such as Delaware Avenue. The local street network surrounding and leading into West Cliff Drive are residential with many low volume and low speed roads that work well for many types of bicyclists.

**Table 2-1. Bicycling Counts along West Cliff Recreational Trail**

| Mode          | Lighthouse<br>Parking Lot<br>Driveway |                           | Swift Street              |                           | Swanton Blvd              |                           | Bay St                    |                           |
|---------------|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|               | Midweek<br>Daily<br>Total             | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total | Midweek<br>Daily<br>Total | Weekend<br>Daily<br>Total |
| Bicycle<br>WB | 90                                    | 170                       | 90                        | 150                       | 100                       | 150                       | 170                       | 220                       |

|   |            |            |            |            |            |            |            |            |
|---|------------|------------|------------|------------|------------|------------|------------|------------|
| Bicycle<br>EB   | 150        | 270        | 190        | 330        | 150        | 280        | 110        | 170        |
| <b>Bicycle<br/>Subtotal</b>                                       | <b>240</b> | <b>440</b> | <b>280</b> | <b>480</b> | <b>250</b> | <b>430</b> | <b>280</b> | <b>390</b> |
| Volumes were collected over a 24-hour period at the intersection. |            |            |            |            |            |            |            |            |

### **Bicycle Access to West Cliff Drive**

There are many designated bikeways around Santa Cruz. Specific roadways have designated bike lanes adjacent to either the sidewalk or on-street parking. Swanton Boulevard, Swift Street, Woodrow Avenue, Bay Street and West Cliff Drive from Downtown Santa Cruz. Delaware Avenue, which connects with all the aforementioned bike lanes, has a mixture of bike lanes and shared roadway depending on the right-of-way width.

### **Bike Racks and Parking**

There are only 12 total bike racks along West Cliff Drive, with six located at the Cowell's Beach Main parking lot. The other six are located at the Surfers Memorial Overlook, Lighthouse Point and State Park Parking Lot C. Bikes are frequently locked in great numbers along the fences of West Cliff Drive, especially adjacent to beach access points and stairwells. Figure 3-4 and Figure 3-5 show the locations of all parking lots, bike racks, crosswalks, stairways, and transit.

In 2018, the City of Santa Cruz had partnered with JUMP by Uber to provide a public bike share system. This system provided electric assist bicycles through both the JUMP and the Uber mobile apps to make bikes available on-demand to the public. As part of this system, there were two JUMP Bike share stations in the West Cliff Drive corridor, one at Lighthouse Point parking lot and another on Swanton Boulevard at West Cliff Drive. Bike Share bikes could be locked at their location if a user is continuing to use it or simply parked and locked out of the path of pedestrians and cyclists. Most users would park their bikes with courtesy; however, JUMP Bikes are sometimes parked by the previous user with no discretion or mindfulness of the other users of the corridor. As reported from JUMP, usage along the corridor is consistent through the summer. Peak month trips using JUMP bikes along the corridor in 2019 include: June: 3,400; July: 3,820; August: 3,100, September: 2,950. Figures 2-1 and 2-2 below illustrate the locations of pre-pandemic bicycle infrastructure.





Figure 2-1. Parking, bike parking, stairways, and transit, Zones 1 & 2.





Figure 2-2. Parking, bike parking, stairways, and transit, Zones 3 & 4.

### 2.2.3. Buildings

There is one building (approx. 6,354 sq ft) on the seaward side of West Cliff Drive.

**Table 2-2. Existing buildings on the landward side of West Cliff Drive, and estimated area**

| <b>Zone</b> | <b>SF + MF<br/>Residential<br/>Buildings</b> | <b>SF &amp; MF<br/>Residential<br/>Buildings<br/>(sq ft)</b> | <b>Commercial<br/>Buildings</b> | <b>Area of<br/>Commercial<br/>Building<br/>(sq ft)</b> | <b>Public<br/>Restrooms</b> | <b>Area of<br/>Public<br/>Restrooms<br/>Restroom<br/>(sq ft)</b> |
|-------------|--|--|---------------------------------|--|-----------------------------|--|
| Zone 1      | 59   | 211,286  | 0                               |  | 0                           | 0  |
| Zone 2      | 37+2 = 39                                    | 186,671  | 0                               | 0  | 0                           | 0  |
| Zone 3      | 0  | 0  | 1                               | 2,015  | 2                           | 500  |
| Zone 4      | 16+2 = 18                                    | 737,74   | 0                               | 0  | 0                           | 0  |

### 2.2.4. State In-Holding

#### **State Lands Commission**

In terms of natural resources, aside from the submerged seabed, there are two natural features that are partially included in the State 1969 Submerged Lands Grant Area: beaches and bluff/cliff topography. The State Lands Commission boundary follows the mean tide line along the beach and thus the majority of the unsubmerged Seabright, Main and Cowell Beaches are excluded from the State Grant Area. Similarly, the State Lands Commission boundary extends to and follows a portion of West Cliff Drive's adjacent cliff line, including some seawalls. These features are exposed and vulnerable to the combined impacts of sea level rise, including: rising tide, coastal storm flooding, and erosion.

### 2.2.5. Outdoor Support Facilities and Amenities

West Cliff Drive includes other support facilities and amenities as noted in figure X including benches, lighting, signage, exercise equipment, restrooms, garbage cans, etc. Figures 2-10 through 2-13 contained in the 2.4 Public Access section of the Context chapter illustrate primary amenities along the corridor.

## 2.3. Existing Circulation and Parking

### 2.3.1. Intersections

There are 26 intersections along the West Cliff Drive study corridor (Table 2-3). These intersections are divided into three categories: local road access with side-street stop sign controlled intersections, three-way stop sign controlled intersections, and a single roundabout

near the wharf. The roundabout facilitates access to and from Pacific Avenue and Downtown Santa Cruz, the Santa Cruz Municipal Wharf, Cowell's Beach, Beach Street, Main Beach, and the Santa Cruz Beach Boardwalk and West Cliff Drive. The roundabout was designed for pedestrians with wide crosswalks and curb cuts with tactile warning strips for safer use by the visually impaired. The roundabout accommodates traffic flow to the main tourist attractions in Santa Cruz, The Wharf and Beach Boardwalk.

There are six three-way stop intersections along West Cliff Drive. Those intersections include Swanton Boulevard, Swift Street, Woodrow Avenue, Columbia Street, Pelton Street, and Bay Street. The other 19 local roads with stop-controlled access primarily provide residential access but do provide some limited on-street parking. Table 2-3 provides detail of the assets available at each intersection along the corridor.

### **Description of Five Cross Sections<sup>1</sup>**

*Location 1* is the intersection of Swanton Boulevard and West Cliff Drive in Zone 1. It is also the entrance to Natural Bridges State Park and the overlook parking lot. Swanton Blvd is a collector street and has an existing Class II bicycle facility with striped bike lanes. In the future, the City of Santa Cruz plans to enhance the Swanton Boulevard bike lanes to connect the planned Rail Trail to West Cliff Drive. Multimodal traffic counts were collected here and are available in the existing conditions report.

*Location 2* is the Pyramid Beach parking lot overlooking Pyramid beach and close to Auburn Avenue in Zone 1. This parking lot currently has 8 parking spots striped perpendicular to the flow of traffic. It is located along a curve and serves as a design example for many of the parking lots along the corridor.

*Location 3* is located at Woodrow Avenue. This location is in the middle of the erosion zone that poses a high risk of projected cliff erosion and likelihood of sea cave failure that could affect the West Cliff Drive corridor. Woodrow Avenue is a collector street and has an existing Class II bike lanes. This site has physical constraints due to the current cliff erosion rates, Recreational Trail width, and observation shows frequent movement conflicts between pedestrians and cyclists on the trail. Additionally, the parking lot directly East of Woodrow Avenue along West Cliff Drive where previous coastal armoring failure occurred requiring emergency repairs in 2017 is included to demonstrate design alternatives for similar parking lots.

*Location 4* is located at the State Parks Parking Lot A. Just west of the parking lot is a significant erosion risk impacting the Recreational Trail. The ROW transect here is constrained at the point where the recreational trail has a small spur to just west of the parking lot. The lot also has heritage Cypress trees which are considered in the designs. This lot along with the other State Park parking lots has consistently high occupancy percentages. Table 2-6 Parking Lot Names and Lot ID shows capacity and average occupancy.

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<sup>1</sup> Also see the figure in Chapter 7 with each cross section mapped.



*Location 5* is at Santa Cruz Street. This location is a typical cross section for many residential streets to West Cliff Drive. It also is physically constrained by the amount of space available within the ROW. Design concepts applicable here are applicable at many other locations throughout the corridor such as nearby Gharkey St and residential street to the west such as Merced or Sacramento Avenues.

**Table 2-3. Intersections Accessibility and Access to West Cliff Recreational Trail**

| Cross Street              | Curb Cuts | Yellow Tactile | Concrete Tactile | Access to Trail | Painted Crosswalk | Stop Sign |
|---------------------------|-----------|----------------|------------------|-----------------|-------------------|-----------|
| Swanton Blvd              | 3         | 3              | 0                | Y               | 3                 | 3         |
| Chico Ave                 | 2         | 2              | 0                | N               | 0                 | 1         |
| Auburn Ave                | 3         | 3              | 0                | Y               | 0                 | 1         |
| Sacramento Ave            | 3         | 2              | 0                | Y               | 0                 | 1         |
| San Jose Ave              | 3         | 2              | 0                | Y               | 0                 | 1         |
| Stockton Ave              | 2         | 1              | 1                | Y               | 0                 | 1         |
| Merced Ave                | 3         | 3              | 0                | Y               | 0                 | 1         |
| Swift St                  | 4         | 1              | 3                | Y               | 3                 | 3         |
| John St                   | 3         | 3              | 0                | Y               | 0                 | 1         |
| Getchell St               | 3         | 1              | 1                | Y               | 0                 | 1         |
| Fair Ave                  | 3         | 1              | 2                | Y               | 0                 | 1         |
| De La Costa               | 0         | 0              | 0                | N               | 0                 | 1         |
| Almar Ave                 | 2         | 2              | 0                | Y               | 0                 | 1         |
| Sunset Ave                | 0         | 0              | 0                | Y               | 0                 | 1         |
| David Way                 | 1         | 1              | 0                | Y               | 0                 | 1         |
| Woodrow Ave               | 4         | 1              | 1                | Y               | 3                 | 3         |
| Columbia                  | 3         | 3              | 0                | Y               | 0                 | 3         |
| Pelton                    | 2         | 1              | 0                | Y               | 0                 | 3         |
| Manor Ave                 | 3         | 1              | 2                | Y               | 2                 | 1         |
| Monterey St               | 2         | 0              | 2                | N               | 1                 | 1         |
| Santa Cruz St             | 3         | 1              | 2                | Y               | 0                 | 1         |
| Gharkey St                | 3         | 1              | 2                | Y               | 0                 | 1         |
| Cowell St                 | 3         | 0              | 2                | Y               | 0                 | 1         |
| Bay St                    | 4         | 1              | 0                | Y               | 3                 | 3         |
| Beach St / West Cliff Dr. | 4         | 3              | 1                | Y               | 2                 | 1         |
| Pacific Avenue            | 14        | 14             | 0                | Y               | 6                 | Yield     |

### 2.3.2. On-Site Circulation / Traffic Counts

To better assess existing conditions, 24-hour multimodal traffic counts were collected for four days ; two days in the middle of summer and two days in the early fall in 2019. Two mid-weekdays and two weekend days were sampled. Standard methodology for traffic data collection is typically one midweek day and one weekend day. The traffic counts were collected at Lighthouse parking lot and Swift Street on Thursday, July 25, and Saturday, July 27, and at Swanton Boulevard and at Bay Street on Saturday, September 29, and Wednesday, October 2. Because the corridor is widely used by pedestrians, recreational users, and cyclists, multimodal traffic counts assist in understanding the uses and patterns of use in the corridor. These traffic counts will be further assessed when evaluating alignment alternatives and conceptual alternatives. The recorded traffic counts are available in the Appendix 4. Turning movement data were used to calculate average daily traffic (ADT). ADT is a measure of traffic volume for a 24-hour period. Table 2,4 includes ADT for both westbound (WB) and eastbound (EB) traffic along West Cliff drive. The traffic count data will be integrated into future transportation modeling phases of the project.

**Table 2-4. West Cliff Drive Traffic Counts from Mid-summer and Early Fall**

| Mode   | WCD West of Lighthouse Parking Lot Driveway |                     | WCD East of Swift Street |                     | WCD East of Swanton Blvd |                     | WCD South of Bay St |                     |
|--|---|---------------------|--------------------------|---------------------|--------------------------|---------------------|---------------------|---------------------|
|  | Midweek Daily Total                         | Weekend Daily Total | Midweek Daily Total      | Weekend Daily Total | Midweek Daily Total      | Weekend Daily Total | Midweek Daily Total | Weekend Daily Total |
| Vehicle WB   | 3,300                                       | 2,700               | 2,200                    | 2,100               | 1,200                    | 1,600               | 4,400               | 5,400               |
| Vehicle EB   | 3,300                                       | 3,400               | 2,300                    | 2,500               | 1,300                    | 1,700               | 4,200               | 5,100               |
| Vehicle Subtotal   | <b>6,600</b>                                | <b>6,100</b>        | <b>4,500</b>             | <b>4,600</b>        | <b>2,500</b>             | <b>3,300</b>        | <b>8,600</b>        | <b>10,500</b>       |
| Bicycle WB   | 90  | 170                 | 90                       | 150                 | 100                      | 150                 | 170                 | 220                 |
| Bicycle EB   | 150   | 270                 | 190                      | 330                 | 150                      | 280                 | 110                 | 170                 |
| Bicycle Subtotal   | <b>240</b>                                  | <b>440</b>          | <b>280</b>               | <b>480</b>          | <b>250</b>               | <b>430</b>          | <b>280</b>          | <b>390</b>          |
| Pedestrians  | 1,600                                       | 2,600               | 1,700                    | 2,500               | 1,000                    | 1,800               | 1,800               | 3,900               |
| Volumes were collected over a 24-hour period at the intersection. Calculations were made for through-put at the Lighthouse Parking Lot, East of Swift Street, East of Swanton Blvd and West (South) of Bay St.<br>WCD = West Cliff Drive |   |                     |                          |                     |                          |                     |                     |                     |

No analysis was conducted to accurately analyze traffic congestion along the corridor. Collected traffic counts reflect a moderate level of daily traffic. Due to the high proportion of recreational users and tourists, slower speeds are often witnessed due to unfamiliarity of the area. These users also can impact the traffic when entering and exiting parking lots, which are often at or near capacity during peak hours, especially sunset and high surf conditions.

No collision analysis was evaluated throughout the corridor. Most often turning movements into and out of parking areas can impact traffic flow and raise the potential for collisions. All three-way stop intersections have painted crosswalks to increase awareness of pedestrians. The West Cliff Recreational Trail experiences a mixture of users at different speeds using a variety of devices, which can create anxiety for several users, especially pedestrians which have been documented by the City during focus group outreach efforts. The width of the Recreational Trail varies throughout the entire length. Some pinch points can cause potential user movement conflicts.

### 2.3.3. Parking Lots and On Street Parking

The West Cliff Drive corridor has a total of 17 small parking lots adjacent to the West Cliff Recreational Trail. Additionally, there are as many as eight on-street parking areas along West Cliff Drive. The City of Santa Cruz collected parking occupancy data at various times and days during the months of May, July and August 2019 for most parking lots and on-street parking along the corridor. The survey consisted of counting the cars parked in designated lots and on-street parking along West Cliff Drive. All cars parked legally and illegally were counted. Occupancy data were collected for 14 parking lots along West Cliff Drive.

A few parking restrictions exist along the corridor. There is a 20-minute restriction at State Parks Lot A and the Natural Bridges Overlook. Other restrictions along the corridor include, no parking in all City parking lots between midnight and 5:00 a.m. except for Cowell's Beach, which is no parking between 2:00 a.m. to 5:00 a.m.<sup>2</sup>. None of the State Parks parking Lots, A, B, C, and D allow parking between sunset and 8:00 a.m. and these lots have a locked gate during non-open hours. The Lighthouse parking lot is closed from 9:00 p.m. to 7:00 a.m. There are additional parking lots at either end of the corridor, one at the Natural Bridges Overlook and one at Cowell's Beach (15 metered spots and 2 accessible spots). No data were collected for those two lots; data were also not collected for the lot across from Fair Avenue. Table 3-5 provides a summary of on-street and off-street capacity. Table 2-5 provides a high-level list of parking lots names, numbers, capacity, average occupancy, average percent full and maximum occupancy. Local focus group feedback includes community concerns about both overnight and extended occupancy of parking spots along West Cliff Drive.

**Table 2-5. Parking Capacity by Type Associated Parking Space Approximation**  
(\* represents approximate capacity)

| Parking       | Number of Areas Collected | Total Parking Capacity by spaces |
|---------------|---------------------------|----------------------------------|
| Lots          | 19                        | 311                              |
| All On-street | 30                        | 535                              |

<sup>2</sup> A residents' safety group installed a Verizon Camera in collaboration with the City at the parking lot in Zone 4 on West Cliff Drive that may provide after hours parking occupancy data in the future for the City to reference in both design and any proposed fee structure.

|                                       |   |     |
|---------------------------------------|---|-----|
| West Cliff On-Street only Counted     | 3 | 35  |
| West Cliff On-Street only identified* | 9 | 134 |

**Table 2-6. Parking Lot Names and Lot ID**

(\* signifies occupancy data not collected, # signifies parking limited to 20 minutes)

| Lot Number | Name                          | Capacity | Average | Avg % Full | Max |
|------------|-------------------------------|----------|---------|------------|-----|
|            | Natural Bridges Vista Point** | 25       |         |            |     |
|            | Cowell's Beach*               | 17       |         |            |     |
|            | Fair Ave*                     | 6        |         |            |     |
| 1          | Chico Ave                     | 8        | 5       | 63%        | 8   |
| 2          | San Jose Ave                  | 4        | 3       | 77%        | 11  |
| 3          | Stockton Ave                  | 14       | 9       | 61%        | 14  |
| 4          | Swift St                      | 8        | 5       | 68%        | 8   |
| 5          | Getchell St                   | 8        | 6       | 78%        | 15  |
| 6          | Mitchell's Cove               | 33       | 19      | 59%        | 33  |
| 7          | Lot 7                         | 16       | 10      | 61%        | 16  |
| 8          | Columbia                      | 11       | 2       | 16%        | 11  |
| 9          | State Parks Lot A#            | 19       | 13      | 68%        | 19  |
| 10         | State Parks Lot B             | 20       | 17      | 85%        | 23  |
| 11         | Lighthouse                    | 32       | 25      | 77%        | 32  |
| 12         | State Parks Lot C             | 33       | 27      | 81%        | 34  |
| 13         | State Parks Lot D             | 35       | 25      | 71%        | 36  |
| 14         | Steamers Lane                 | 16       | 14      | 86%        | 17  |
| 15         | Cypress                       | 13       | 12      | 90%        | 14  |
| 16         | Manor Ave                     | 17       | 16      | 93%        | 18  |

### 2.3.4. Transit Access

Santa Cruz Metro provides transit access along Bay Street and Beach Street. Bus routes 19 and 20 pass along Bay Street and Beach Street, and Route 20 through Delaware Ave. These routes provide service between downtown Santa Cruz and the University of Santa Cruz via Bay Street. No transit exists along the West Cliff Drive corridor itself; however, some lines do have stops that are walking distance from West Cliff Drive. Additionally, during the summer a trolley provides service between downtown Santa Cruz and Monterey Bay National Marine Sanctuary



Exploration Center with access to the Municipal Wharf, Cowell's Beach, and the Beach Boardwalk. Transit trip planning is available through Transit App, Google Maps, Apple Maps, and Cruz 511 (cruz511.org) due to the creation and maintenance of the General Transit Feed Specification transit schedule by Santa Cruz Metro.

## 2.4. Existing Public Access and Recreation

### 2.4.1. General Public Coastal Access and Recreation

Twenty-seven formal access areas were documented during the survey, and the primary access way type was noted. Access types include overlooks (overlook parks, overlook bike trails), informal trails, and stairways. The term trail in this refers to a paved formal trail, often the Recreational Trail. The term informal trail refers to a dirt or rock trail that can be within either a formal or informal designated access area. Some formal access areas support secondary informal access. Photos of various formal access types are shown below in Figure 2-3.



Overlook, Access: 3-7



Overlook Trail, Access: 3-1



Bike Trail Overlook, Access: 3-2



Overlook Trail, Access: 4-10



Trail (Formal), Access: 2-9



Stairway, Access: 4-9

Figure 2-3. Different types of formal coastal access defined along West Cliff Drive.

Each of the 27 formal access areas are described below in Table 2-7. Photos of each site are also available in previous deliverables for this project.

**Table 2-7. Inventory of Formal Coastal Access Areas**

| Access No. | Length (ft) of Access Ways Associated with Area | Primary Access Area Type (s)        | Primary Access Area Material | Access to          | Ease of Access | Secondary Informal Access Present  | Amenities   |
|------------|---|-------------------------------------|------------------------------|--------------------|----------------|--|---|
| 1-1        | Natural Bridges Entrance                        | Informal Trail, Trail, and Overlook | Paved and Dirt               | Beach              | ADA and Walk   | Secondary access to terrace and beach via informal trail (scramble)  | Overlook Parking, Visitors Center, Bathrooms, Trash/Recycling, Picnic Areas |
| 1-4        | Path: 51 ft<br>Trail: 605 ft                    | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to terrace via informal trail (scramble)  | 2 benches, 1 pyramid art, 1 trash/recycling, 1 life ring, 8 parking spaces  |
| 1-6        | Trail: 605 ft                                   | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to terrace via informal trail (scramble)  | 1 bench, overlook   |
| 1-10       | Path: 37 ft<br>Trail: 336 ft                    | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to terrace via informal trail (scramble) fishing access   | 3 benches, 12 parking spots, 1 trash/recycling, life ring, overlook         |
| 1-14       | Path: 53 ft<br>Trail: 684 ft                    | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to terrace and beach via informal trail and rip rap (scramble) tidepool, surf, and fishing access | 4 benches, 1 trash/recycling, 8 parking spots, overlook                     |
| 1-16       | Path: 23 ft<br>Trail: 189 ft                    | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to terrace via informal trail (scramble) surf, and fishing access                                 | 1 bench, 1 trash/recycling  |
| 1-19       | Path: 46 ft<br>Trail: 293 ft                    | Overlook                            | Dirt                         | Blufftop           | Walk           | Secondary access to terrace via informal trail (walk)  | 1 bench, 1 trash/recycling  |
| 1-20       | Trail: 284 ft                                   | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to rip-rap via informal trail (scramble)  | 1 bench   |
| 1-21       | Stair: 25 ft                                    | Overlook & Stairway                 | Dirt and Concrete            | Blufftop and Beach | Walk           | N/A  | 1 bench, tidepool access stair  |
| 1-22       | Trail: 393 ft                                   | Trail                               | Dirt                         | Blufftop           | Walk           | Secondary access to rip-rap and water via informal trail (scramble) and rip rap (climb)                            | 2 benches   |
| 2-1        | Stair: 125 ft                                   | Stairway                            | Concrete                     | Beach              | Walk           | N/A  | Mitchell's Cove Staircase, life ring, beach surf, tidepool                  |



| Access No. | Length (ft) of Access Ways Associated with Area       | Primary Access Area Type (s) | Primary Access Area Material    | Access to                  | Ease of Access | Secondary Informal Access Present   | Amenities  |
|------------|---|------------------------------|---------------------------------|----------------------------|----------------|---|--|
| 2-2        | Trail: 328 ft   | Trail                        | Dirt                            | Blufftop                   | Walk           | N/A   | 1 bench, 2 work out equipment, 1 trash/recycle, overlook                                     |
| 2-3        | Informal Trail: 33 ft<br>Trail: 309 ft                | Overlook                     | Dirt                            | Blufftop                   | Walk           | Secondary access to beach via informal concrete trail (walk) and rip rap (climb)                        | 3 trash/recycle, 2 benches, 31 parking spaces, +1 handicap, no railing                       |
| 2-9        | Trail: 448 ft   | Trail                        | Dirt                            | Blufftop                   | Walk           | Secondary access to terrace and beach/water via informal trail (scramble)                               | 4 benches, 1 trash/recycle   |
| 3-1        | Informal Trail: 165 ft<br>Trail: 170 ft               | Overlook Trail               | Paved                           | Informal Trail on Blufftop | ADA            | N/A   | 2 benches (multiple access)  |
| 3-2        | Trail: 260 ft   | Overlook, Bike Trail         | Paved                           | Path                       | ADA            | Secondary access to terrace, rip-rop and water/beach via informal trails (scramble) and rip rap (climb) | 4 benches, 1 trash/recycle, 16 parking spaces (+2 handicap)                                  |
| 3-3        | Informal Trail: 104ft                                 | Overlook Trail               | Decomposed Granite              | Blufftop                   | ADA            | N/A   | 2 benches  |
| 3-4        | Stair: 69 ft<br>Trail: 220 ft                         | Stairway                     | Concrete                        | Beach                      | Walk           | N/A   | life ring, dog beach access, trash can (4)   |
| 3-6        | Informal Trail: 1,433 ft<br>Trail: 1188 ft            | Overlook Park                | Paved                           | Blufftop                   | ADA            | Secondary access to terrace behind fence (walk) and water (jump) via informal trails – surf access      | 1 handicap space, 28 parking spaces, interpretive signs, life ring                           |
| 3-7        | Informal Trail: 105 ft<br>Trail: 72 ft<br>Stair: 78ft | Overlook and stairway        | Decomposed Granite and Concrete | Blufftop and Beach         | ADA and Walk   | Secondary access to blufftop (scramble) via informal trail  | 2 benches, bike locking station, 1 trash/recycle, railing                                    |
| 3-8        | Trail: 52 ft  | Overlook Bike Trail          | Paved                           | Trail                      | ADA            | Secondary access to blufftop, terrace and water via informal trails and formal stairway                 | bench, 16 parking spaces, 2 trash/recycling, sign: photo of surfers' location, , surf access |
| 4-1        | Informal Trail: 119 ft<br>Trail: 27 ft                | Overlook Park                | Decomposed Granite              | Blufftop                   | ADA            | N/A   | Surfers Statue, 2 benches, trash/recycle, railing  |
| 4-2        | Stair: 88ft   | Stairway                     | Concrete                        | Beach/Water                | Walk           | N/A   | life ring, trash + recycling, surf   |



| Access No. | Length (ft) of Access Ways Associated with Area | Primary Access Area Type (s) | Primary Access Area Material | Access to   | Ease of Access | Secondary Informal Access Present                        | Amenities  |
|------------|---|------------------------------|------------------------------|-------------|----------------|--|--|
|            |   |                              |                              |             |                |  | access, upper portion of stair has railing                                   |
| 4-5        | Informal Trail: 129 ft<br>Trail: 110ft          | Overlook Park                | Decomposed Granite           | Blufftop    | ADA            | Secondary access behind to blufftop, via informal trails | Overlook park, 3 benches, railing  |
| 4-8        | Trail: 150 ft                                   | Overlook                     | Dirt                         | Blufftop    | Walk           | N/A  | Bruce Sharpe Overlook, no railing, grass + dirt, 2 benches, 18 parking spots |
| 4-9        | Stair: 96ft                                     | Stairway                     | Concrete                     | Beach/Water | Walk           | N/A  | surf access  |
| 4-10       | Informal Trail: 172 ft                          | Overlook Park                | Decomposed Granite           | Blufftop    | ADA            | N/A  | 2 benches, water fountain, garbage can, railing, interpretive sign           |

Table 2-8 summarizes the types of formal coastal access along West Cliff Drive by zone.

**Table 2-8. Summary of Formal Access Areas by Primary Access Type and Zone**

| Primary Type of Access                  | Zone 1    | Zone 2   | Zone 3   | Zone 4   | Total     |
|---|-----------|----------|----------|----------|-----------|
| Overlook, Overlook Trail, Overlook Park | 2         | 1        | 4        | 4        | <b>11</b> |
| Paved Trail                             | 8         | 2        | 0        | 0        | <b>10</b> |
| Stairway                                | 1         | 1        | 2        | 2        | <b>6</b>  |
| <b>Total</b>                            | <b>11</b> | <b>4</b> | <b>6</b> | <b>6</b> | <b>27</b> |

Formal access types within Zone 1 consist primarily of trails and informal trails. Zone 2 has the fewest formal access areas. Formal access types within Zones 3 and 4 consist of overlooks and stairways.



### 2.4.2. Beaches

Santa Cruz's west side coastline is studded with a number of small to mid-size beaches distributed along the 2.7 miles of coastline. As depicted in Figure 2-4, West Cliff Drive beaches of note include (from large to small), Its (Lighthouse) Beach (within Zone 3), Mitchell's Cove (within Zone 2), and Pyramid Beach (within Zone 1). Several smaller beaches are found between Fair and Swift streets within Zone 1.

West Cliff Drive's coastline consists primarily of 25 to 40-foot high bluffs that front an uplifted marine terrace. The bluff backed coastline is broken up by small pocket beaches, with Its Beach and Mitchell's Cove being the largest. Many of the smaller pocket beaches are backed by riprap so that as sea level continues to rise, it is likely that these narrow beaches will gradually be lost (Griggs and Haddad, 2011) (Figure 2-5).



**Figure 2-5. Rip rap backs many of the West Cliff pocket beaches.**

Its Beach is a south-facing beach below the bluff on the west side of Lighthouse Field. The City Parks and State Parks share management of the beach. The City manages Lighthouse point and State Parks manages the adjacent open space park across West Cliff Drive from the beach. There is a stairway providing access to the beach, which is frequented by dog owners and boogie boarders.

Mitchell's Cove is located below the bluff between Woodrow Avenue and Almar Avenue. There is a parking lot right above the beach and a stairway that provides access down to the beach. During high tides and during the winter stormy months there is not much dry sand exposed in Mitchell's Cove. Rip rap has been piled up in the pockets of the bluff to minimize erosion from winter storms.

Pyramid Beach (also known as 222 Beach or Nude Beach) is located at Auburn Avenue. This beach has steep walls and is susceptible to erosion. The back of the beach has been filled with rip rap that currently has displaced some of the beach area. In the winter the sand is eroded away. In the summer, once the sand has built back up, a small secluded beach can be found. There is no stairway down to Pyramid Beach, so it is accessed using informal trails.

Restoration opportunities within the pocket beaches along West Cliff are somewhat limited due to intense winter swell. However, small restoration projects have been implemented along the first terrace of the bluff and along the coast recreation trail at several locations along West Cliff.

### **Beach Recreation**

Its Beach is the most intensively used beach along West Cliff during the summer months. During the winter, storm waves lower the beach sand level and attack the bluffs at high tides. Monitoring of Its Beach during the 1997-98 El Niño documented that the 150-foot wide beach present in October was completely eroded by February and the sand had dropped about eight feet in elevation (Griggs and Haddad, 2011), demonstrating the dynamic fluctuations in beach width and elevation. There is limited armor backing the beach so as sea level has risen historically, the bluffs have gradually retreated, maintaining a narrow and heavily used beach. Overall, the low bluffs have changed very little over the past century. Riprap on the west side of Its Beach has reduced recreational use of this portion of the beach and limited lateral access west of the armoring to low tides. Rising seas will progressively narrow the summer beach and lead to more frequent and severe winter wave impacts, which even now overtops the bluff (Griggs and Haddad, 2011).

### **2.4.3. Recreational Use of Coastal Areas**

Coastal recreational activities that can be accessed along West Cliff Drive include surfing, biking, skating, walking, tidepools, beach-going, fishing, sponge and skim boarding, dogs playing on beach, and wildlife viewing (sea otters, seals, whales, dolphins, pelicans, cormorants, and other sea and shorebirds). Primary types of recreational use and access locations, based on observational surveys conducted by the City of Santa Cruz in 2019 and local knowledge of the project team, are described below in Table 2-6.



**Table 2-9. Primary Types of Use and Access Locations**

| <b>Recreation Type</b>                                  | <b>Primary Access Locations (Zone and #)</b>   |
|---|--|
| Surfing   | John Street (1-14), Getchell Street (1-16), Lighthouse Point terrace (3-6), Steamer Lane stairway (3-7), Surfer Statue stairway (4-1), Cowell Beach stairway (4-9) |
| Boogie boarding and skim boarding                       | Its Beach stairway (3-4), Mitchell Cove stairway (2-1)   |
| Beach-going (sun-bathing, swimming, walking, picnic)    | Pyramid Beach (1-5), Mitchell Cove stairway (2-1), Its Beach stairway (3-4), Cowell Beach stairway (4-10)  |
| Fishing   | Pyramid overlook trail (1-4), Stockton Ave (1-10), John Street (1-14), Getchell Street (1-16), Overlook across from St. Joseph's (4-4)                             |
| Dog Walking   | Recreational Trail: Continuous   |
| Off Leash dog   | Mitchell's Cove stairway (restricted by time, before 10am and after 4pm) (2-1), Its Beach stairway (unsanctioned) (3-4)  |
| Coastal Viewing   | Designated overlooks, Lighthouse Point Park (3-6), Continuous  |
| Biking  | Recreational Trail: Continuous   |
| Walking or Running                                      | Recreational Trail: Continuous   |
| Creating Art (painting, photography, writing, etc.)     | Stockton Ave (1-10), Swift Ave (1-14), Getchell Street (1-16), Fair Ave (1-19), Lighthouse Point Park (3-6), above Cowell (4-10), and other Overlooks              |
| Tidepooling   | John Street (1-14), Near De La Costa (1-21), Mitchell's Cove (2-1)   |
| Clubs and Meet ups (e.g. Stroller Strides, drum circle) | Lighthouse Point Park (3-6), Recreational Trail: Continuous  |

### **Amenities and Use**

The lists of amenities and uses below are compiled from the City of Santa Cruz website, observational surveys conducted by the City of Santa Cruz, and local knowledge of the project team. Maps of amenity locations are shown in Figure 2-6 through Figure 2-9.

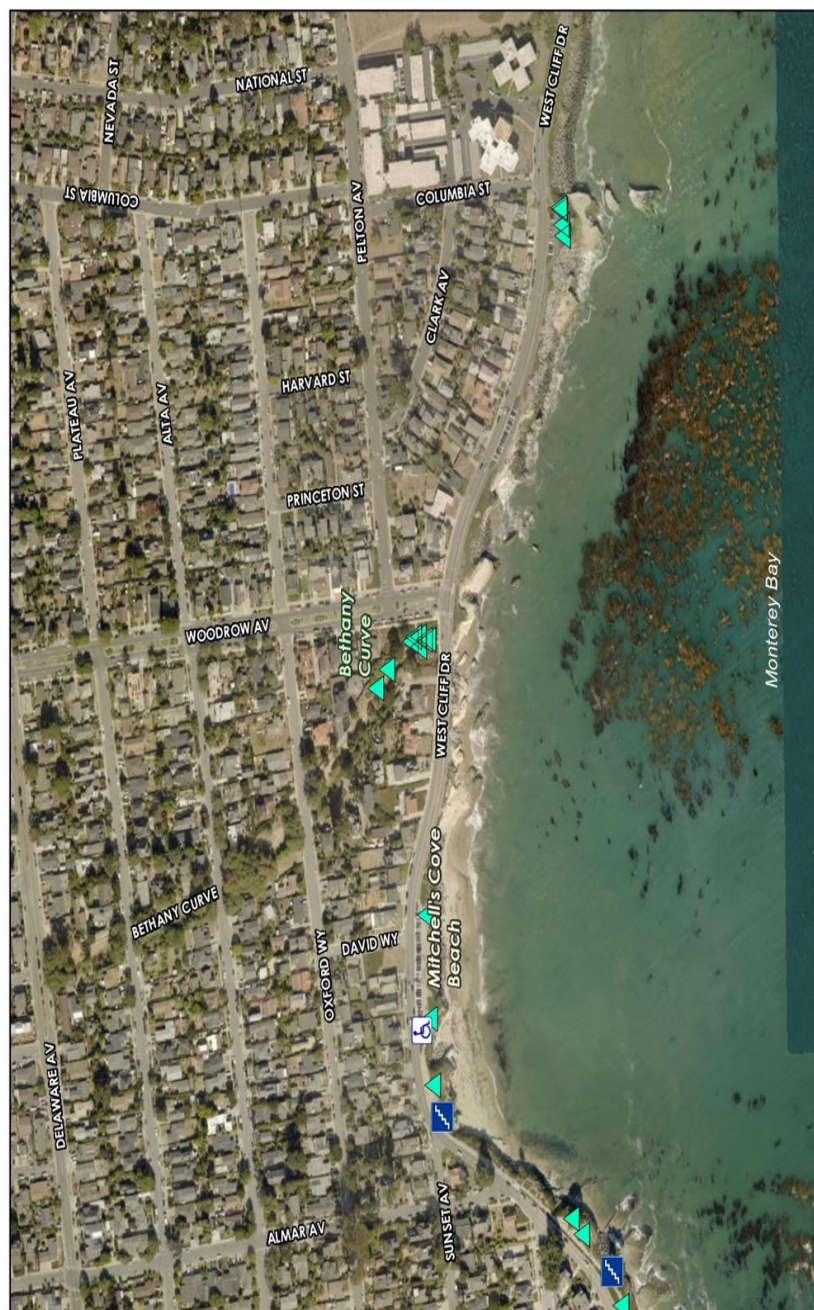


Figure 2-6. Map of West Cliff Drive Zone 2 coastal amenities.



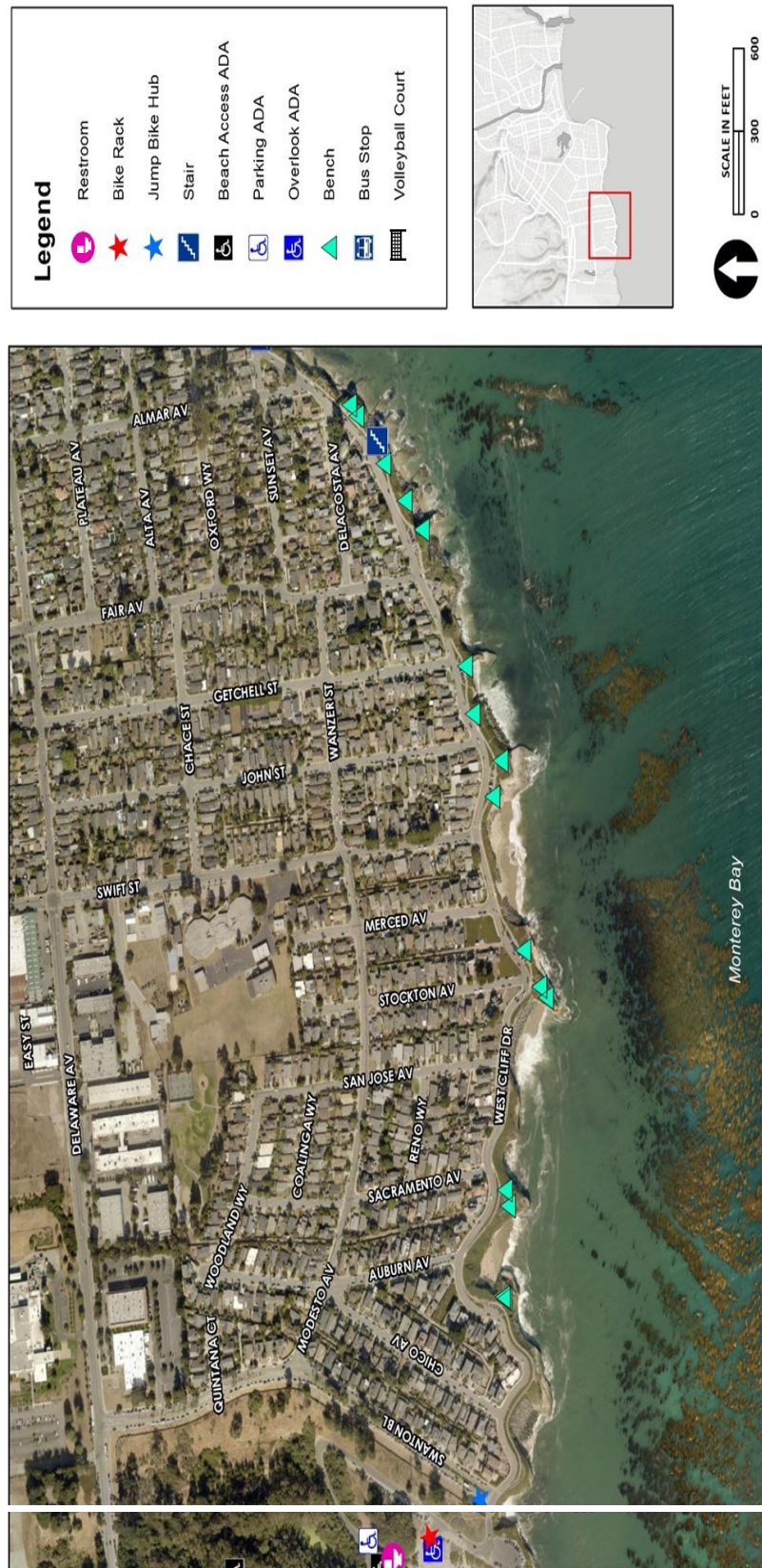


Figure 2-7. Map of West Cliff Drive Zone 1 (Pyramid Beach and adjacent cliff-top access) coastal access amenities.

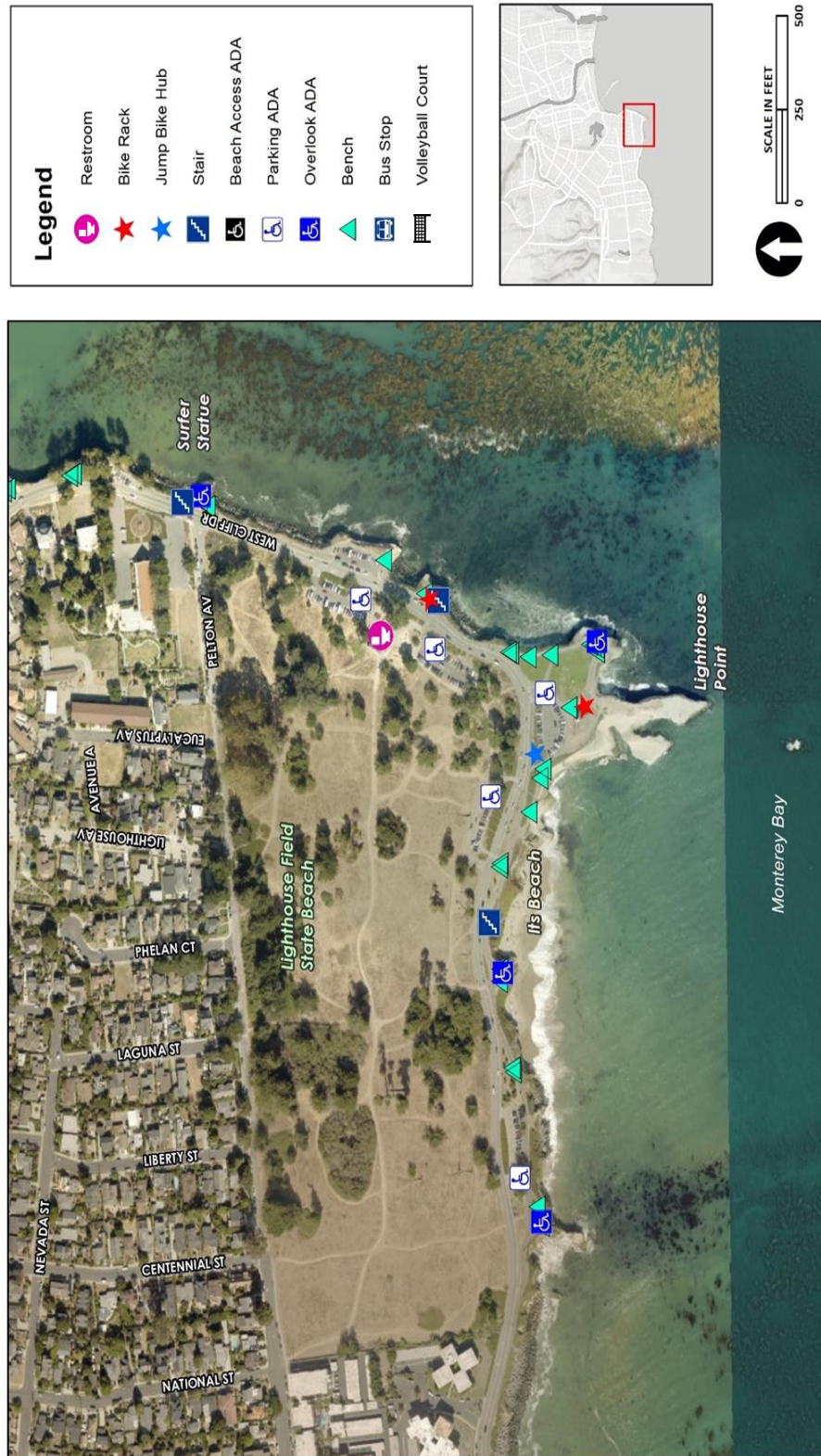


Figure 2-8. Map of West Cliff Drive Zone 3 coastal access amenities.



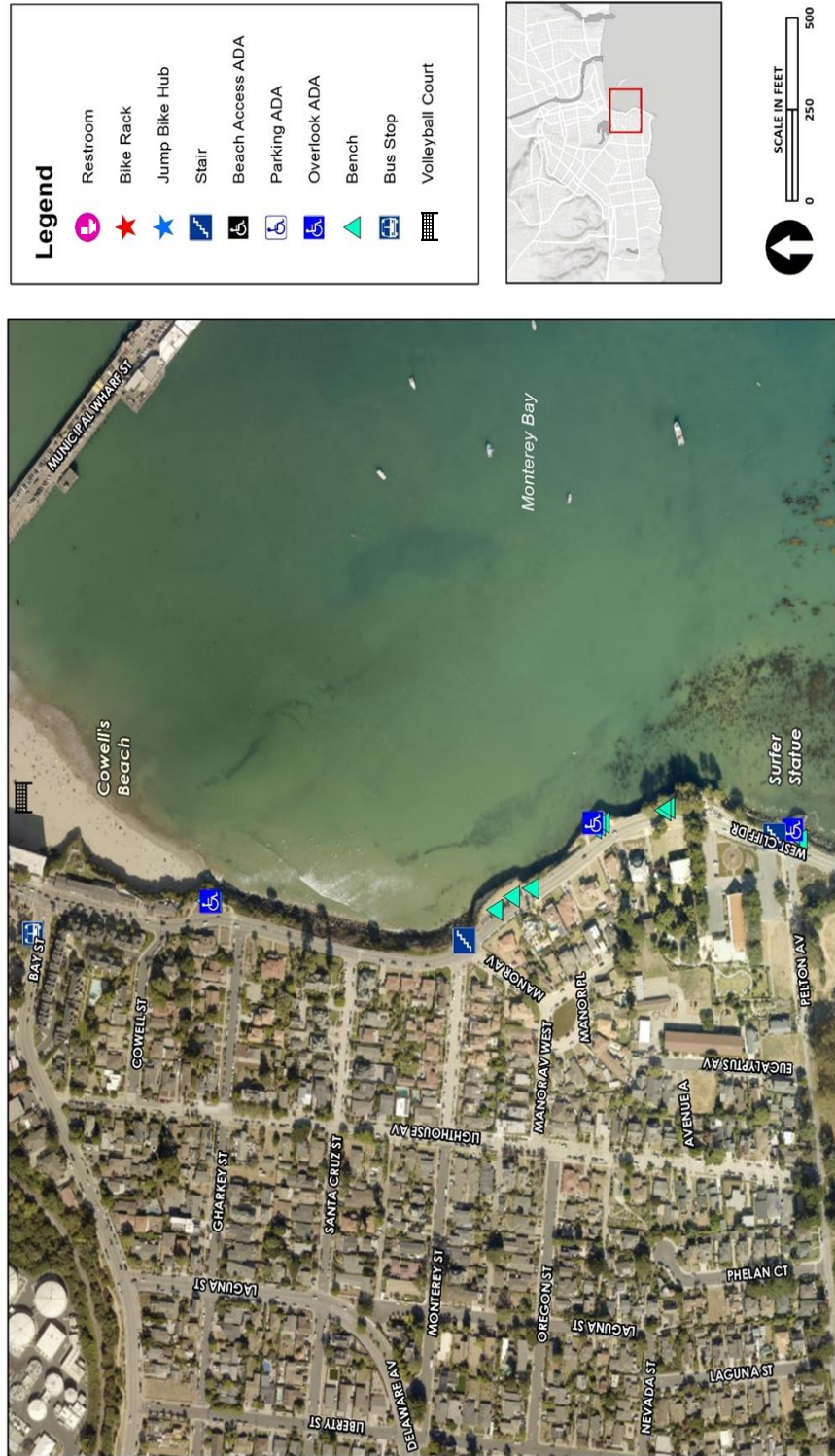


Figure 2-9. Map of West Cliff Drive Zone 4 coastal access amenities.

### Existing Level of Service to Under-represented User Groups

Lighthouse Point is managed by the City, provides views of the Monterey Bay to many locals and visitors. Stairs at Its Beach and Mitchell's Cove provide easy (non-ADA) access to the beach and are frequented by boogie boarders and dog owners among others recreating and exercising.

The coastline extending along West Cliff Drive is bisected by small pocket beaches. Many of the smaller pocket beaches are backed by riprap that limits access to many user groups and restrict use of the beach during high tides. Access to the numerous beaches is provided by a variety of sanctioned infrastructure including stairs (Its and Mitchell's) and overlooks, and informal dirt pathways and trails that the public uses to scramble down the cliff to gain access to the open terrace areas (fishing, picnicking and ocean watching) and to the beach and ocean (sand and surf access).

There are no wheelchair accessible pathways to the beach or ocean along West Cliff Drive. However, Cowell Beach, at the foot of West Cliff Drive, has a wheelchair accessible pathway and beach . Access to many small beaches and water entry locations otherwise requires a scramble down the cliff and over rock revetment that is unsafe for many user groups, restricting general access to these areas. Such informal and unsanctioned access by the public may lead to further erosion of terrace and bluff deposits. Some pocket beaches are only usable at low tide and are flooded during high tide periods. Public restrooms along West Cliff are only available at Lighthouse Field.

The greatest level of access and service for underrepresented groups is provided near Lighthouse Point and Its Beach. Other zones of West Cliff drive provide much fewer sanctioned and planned access to the beach. For most under-represented groups, the greatest access and recreational opportunities provided by West Cliff Drive are the bike and pedestrian pathway and other cliff top viewing amenities (Figures 2-7 through 2-10). Steep natural cliffs and substantial riprap reduce water and beach access along Zones 1 and 2 to most of the surveyed groups. Existing level of service for each zone is shown in Table 2 -7 through Table 10.



**Figure 2-10. West Cliff Drive offers many cliff top viewing amenities.**

Table 2-7 through 2 – 10 Existing level of service for Underrepresented groups by zone

. West Cliff Drive Zone 1 (Pyramid Beach and adjacent cliff top access): Priority amenities and level of access for under-represented user groups. West Cliff Zone 1 offers the lowest level of access and service for these user groups.

| Interviewed Under-Represented Groups | Beach and Coastal Access Ways |                            |           | Cliff Top Access and Coastal Viewing |                   |                     |         | Transportation     |             |            | Recreation                           |              |                  | Coastal Habitats      |                       | Overall Level of Service |
|--------------------------------------|-------------------------------|----------------------------|-----------|--------------------------------------|-------------------|---------------------|---------|--------------------|-------------|------------|--------------------------------------|--------------|------------------|-----------------------|-----------------------|--------------------------|
|                                      | Safe/ADA Beach Access         | Beach Wheelchair Available | Fire Pits | ADA Overlooks                        | ADA Coastal Trail | Available Bathrooms | Benches | Bus Stop Proximity | ADA Parking | Jump Bikes | Camps & Special Events on West Cliff | Water Access | Businesses/ Jobs | Stormwater Protection | Natural Habitat Areas |                          |
| Elderly                              | X                             |                            |           | X                                    | X                 | X                   | X       |                    | X           |            |                                      |              |                  |                       |                       |                          |
| Youth                                | X                             |                            |           |                                      |                   |                     | X       |                    |             | X          | X                                    |              | X                |                       | X                     |                          |
| People with Disabilities             | X                             | X                          |           | X                                    | X                 | X                   |         |                    | X           |            |                                      |              |                  |                       |                       |                          |
| Low Income Residents                 |                               |                            |           |                                      |                   |                     |         |                    |             |            |                                      |              | X                | X                     |                       |                          |
| Tribal                               | X                             |                            |           |                                      |                   |                     |         |                    |             |            |                                      |              |                  |                       | X                     |                          |
| Homeless                             |                               |                            | X         |                                      |                   | X                   |         |                    |             |            |                                      |              |                  |                       | X                     |                          |
| LGBTQ+                               |                               |                            |           |                                      |                   | X                   |         |                    |             |            |                                      |              |                  |                       |                       |                          |
| Fishers                              | X                             |                            |           |                                      |                   |                     | X       |                    |             |            |                                      | X            |                  | X                     | X                     |                          |

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group

### West Cliff Drive Zone 2 (Mitchell's Cove): Priority amenities and level of access for under-represented user groups.

| Interviewed Under-Represented Groups | Beach and Coastal Access Ways |                            |           | Cliff Top Access and Coastal Viewing |                   |                     | Transportation |                    |             | Recreation |                                      |              | Coastal Habitats |                       | Overall Level of Service |
|--------------------------------------|-------------------------------|----------------------------|-----------|--------------------------------------|-------------------|---------------------|----------------|--------------------|-------------|------------|--------------------------------------|--------------|------------------|-----------------------|--------------------------|
|                                      | Safe/ADA Beach Access         | Beach Wheelchair Available | Fire Pits | ADA Overlooks                        | ADA Coastal Trail | Available Bathrooms | Benches        | Bus Stop Proximity | ADA Parking | Jump Bikes | Camps & Special Events on West Cliff | Water Access | Businesses/ Jobs | Stormwater Protection |                          |
| Elderly                              | X                             |                            |           | X                                    | X                 | X                   | X              |                    | X           |            | X                                    | X            | X                |                       |                          |
| Youth                                | X                             |                            |           |                                      | X                 | X                   | X              |                    | X           | X          | X                                    |              | X                |                       |                          |
| People with Disabilities             | X                             | X                          |           | X                                    | X                 | X                   |                |                    | X           |            |                                      |              | X                | X                     |                          |
| Low Income Residents                 |                               |                            |           |                                      |                   |                     |                |                    |             |            |                                      |              | X                |                       |                          |
| Tribal                               | X                             |                            |           |                                      |                   |                     |                |                    |             |            |                                      |              |                  |                       |                          |
| Homeless                             |                               |                            | X         |                                      |                   | X                   |                |                    |             |            |                                      |              |                  |                       |                          |
| LGBTQ+                               |                               |                            |           |                                      |                   | X                   |                |                    |             |            |                                      |              |                  |                       |                          |
| Fishers                              | X                             |                            |           |                                      |                   | X                   | X              |                    |             |            |                                      | X            |                  | X                     |                          |

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group



West Cliff Drive Zone 3 (Lighthouse Point and Its Beach): Priority amenities and level of access for under-represented user groups. West Cliff Zone 3 offers the highest level of access and service for these user groups.

| Interviewed Under-Represented Groups | Beach and Coastal Access Ways |                            |           |               | Cliff Top Access and Coastal Viewing |                     |         |                    | Transportation |            |                                      | Recreation   |                  | Coastal Habitats      |                       | Overall Level of Service |
|--------------------------------------|-------------------------------|----------------------------|-----------|---------------|--------------------------------------|---------------------|---------|--------------------|----------------|------------|--------------------------------------|--------------|------------------|-----------------------|-----------------------|--------------------------|
|                                      | Safe/ADA Beach Access         | Beach Wheelchair Available | Fire Pits | ADA Overlooks | ADA Coastal Trail                    | Available Bathrooms | Benches | Bus Stop Proximity | ADA Parking    | Jump Bikes | Camps & Special Events on West Cliff | Water Access | Businesses/ Jobs | Stormwater Protection | Natural Habitat Areas |                          |
| Elderly                              | X                             |                            |           | X             | X                                    | X                   | X       |                    | X              |            |                                      | X            | X                |                       |                       |                          |
| Youth                                | X                             |                            |           |               |                                      |                     | X       |                    |                | X          | X                                    | X            |                  |                       | X                     |                          |
| People with Disabilities             | X                             | X                          |           | X             | X                                    | X                   |         |                    | X              |            |                                      |              | X                | X                     |                       |                          |
| Low Income Residents                 |                               |                            |           |               |                                      |                     |         |                    |                |            |                                      |              |                  |                       |                       |                          |
| Tribal                               | X                             |                            |           |               |                                      |                     |         |                    |                |            |                                      |              |                  |                       | X                     |                          |
| Homeless                             |                               |                            | X         |               |                                      | X                   |         |                    |                |            |                                      |              |                  |                       | X                     |                          |
| LGBTQ+                               |                               |                            |           |               |                                      | X                   |         |                    |                |            |                                      |              |                  |                       |                       |                          |
| Fishers                              | X                             |                            |           |               |                                      |                     | X       |                    |                |            |                                      | X            |                  | X                     | X                     |                          |

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group

**West Cliff Zone 4 (Bay Street to Pelton Ave): Priority amenities and level of access for under-represented user groups**

| Interviewed Under-Represented Groups | Beach and Coastal Access Ways |                            |           |  | Cliff Top Access and Coastal Viewing |                   |                     | Transportation |                    |             |            | Recreation                           |              |                   | Coastal Habitats      |                       |  | Overall Level of Service |
|--------------------------------------|-------------------------------|----------------------------|-----------|--|--------------------------------------|-------------------|---------------------|----------------|--------------------|-------------|------------|--------------------------------------|--------------|-------------------|-----------------------|-----------------------|--|--------------------------|
|                                      | Safe/ADA Beach Access         | Beach Wheelchair Available | Fire Pits |  | ADA Overlooks                        | ADA Coastal Trail | Available Bathrooms | Benches        | Bus Stop Proximity | ADA Parking | Jump Bikes | Camps & Special Events on West Cliff | Water Access | Businesses / Jobs | Stormwater Protection | Natural Habitat Areas |  |                          |
| Elderly                              | X                             |                            |           |  | X                                    | X                 | X                   | X              |                    | X           |            |                                      |              |                   |                       |                       |  |                          |
| Youth                                | X                             |                            |           |  |                                      |                   |                     | X              |                    |             | X          | X                                    | X            | X                 |                       | X                     |  |                          |
| People with Disabilities             | X                             | X                          |           |  | X                                    | X                 | X                   |                |                    | X           |            |                                      |              |                   |                       |                       |  |                          |
| Low Income Residents                 |                               |                            |           |  |                                      |                   |                     |                |                    |             |            |                                      |              | X                 | X                     |                       |  |                          |
| Tribal                               | X                             |                            |           |  |                                      |                   |                     |                |                    |             |            |                                      |              |                   |                       | X                     |  |                          |
| Homeless                             |                               |                            | X         |  |                                      |                   | X                   |                |                    |             |            |                                      |              |                   |                       | X                     |  |                          |
| LGBTQ+                               |                               |                            |           |  |                                      |                   | X                   |                |                    |             |            |                                      |              |                   |                       |                       |  |                          |
| Fishers                              | X                             |                            |           |  |                                      |                   |                     | X              |                    |             |            |                                      | X            |                   | X                     | X                     |  |                          |

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group

Level of Service Provided to Group

High

Moderate

Low

X Identified during interview as being a coastal resource used by group

## 2.5. Existing Shoreline Armoring Inventory and Conditions

A summary of the existing condition of shoreline armoring are characterized the [Existing Conditions and Future Vulnerability Assessment](#) developed for the project contains photos and detailed descriptions of the condition and character of each of the 53 armoring sites along the corridor including:

- the type of armor (rip-rap revetment or a concrete retaining wall in most cases);
- the linear and alongshore length of the armor;
- the date or approximate date of construction;
- the effect of the armor on coastal access;
- management recommendations for the structure (e.g., restack rocks, remove fugitive rocks from shoreline, etc.); and
- engineering observations of each structure from the coastal engineers at Haro Kasunich and Associates

Figures 2-11 and 2-12 contains all armoring sites along West Cliff Drive.





Figure 2-12. All armor sites along West Cliff Drive (Zone 3 & 4).

The [history of Coastal Armoring](#) on West Cliff Drive includes details on date, type, location and cost. Table 2-7 below contains the basic properties of all armoring currently in place.

Table 2-10. Basic Properties of Existing Armor along West Cliff Drive

| Number | Type    |      | Length (ft.) |           | Original Emplacement date  | Is there a beach (Y/N)* | Is Beach accessible (Y/N)* |
|--------|---------|------|--------------|-----------|----------------------------|-------------------------|----------------------------|
|        | Rip-rap | Wall | Linear       | Coastline |                            |                         |                            |
| 1.     | *       | -    | 30           | 35        | 1957-1961                  | Y                       | N                          |
| 2.     | -       | *    | 135          | 135       | 1998                       | Y                       | N                          |
| 3.     | *       | -    | 164          | 260       | After 1960 and before 1975 | N                       | -                          |
| 4.     | *       | -    | 61           | 61        | After 1982 and before 1987 | N                       | -                          |
| 5.     | -       | *    | 64           | 64        | After 1972 and before 1979 | N                       | -                          |
| 6.     | *       | -    | 87           | 132       | 1956-1961                  | Y                       | Y                          |
| 7.     | *       | -    | 37           | 40        | Before 1990                | N                       | -                          |
| 8.     | *       | -    | 77           | 91        | Before 1990                | N                       | -                          |
| 9.     | -       | *    | 60           | 60        | before 1972                | Y                       | Y                          |
| 10.    | *       | -    | 332          | 386       | After 1965 but before 1975 | Y                       | Y                          |
| 11.    | *       | -    | 136          | 170       | After 1965 but before 1975 | N                       | -                          |
| 12.    | *       | -    | 60           | 73        | After 1965 but before 1975 | N                       | -                          |
| 13.    | *       | -    | 124          | 150       | Some rock present in 1965  | Y                       | N                          |



| Number | Type    |      | Length (ft.) |           | Original Emplacement date        | Is there a beach (Y/N)* | Is Beach accessible (Y/N)* |
|--------|---------|------|--------------|-----------|----------------------------------|-------------------------|----------------------------|
|        | Rip-rap | Wall | Linear       | Coastline |                                  |                         |                            |
| 14.    | *       | -    | 230          | 260       | Rock present in 1975             | Y                       | N                          |
| 15.    | *       | -    | 82           | 100       | After 1975 but before 1990       | Y                       | N                          |
| 16.    | *       | -    | 140          | 155       | In both 1983 & 1994              | Y                       | Y                          |
| 17.    | *       | -    | 85           | 125       | Some rock present in 1975        | Y                       | Y                          |
| 18.    | *       | -    | 80           | 87        | Some rock present in 1975        | Y                       | Y                          |
| 19.    | *       | -    | 82           | 125       | 1990                             | Y                       | Y                          |
| 20.    | *       | -    | 62           | 72        | Some rock present in 1975        | Y                       | Y                          |
| 21.    | *       | -    | 42           | 42        | Some rock present in 1975        | Y                       | Y                          |
| 22.    | *       | -    | 52           | 52        | Some rock present in 1975        | Y                       | Y                          |
| 23.    | *       | -    | 35           | 97        | 1990                             | Y                       | Y                          |
| 24.    | *       | -    | 100          | 110       | 1990                             | Y                       | Y                          |
| 25.    | *       | -    | 121          | 165       | 1990                             | Y                       | Y                          |
| 26.    | *       | -    | 54           | 54        | 1990                             | Y                       | Y                          |
| 27.    | -       | *    | 156          | 156       | 1990                             | Y                       | N                          |
| 28.    | *       | -    | 28           | 28        | 1990                             | Y                       | N                          |
| 29.    | *       | -    | 88           | 160       | 1995 and 1998                    | Y                       | Y                          |
| 30.    | *       | -    | 38           | 38        | 1995 and 1998                    | Y                       | Y                          |
| 31.    | *       | -    | 68           | 68        | 1995 and 1998                    | Y                       | Y                          |
| 32.    | *       | -    | 62           | 62        | 1995 and 1998                    | Y                       | Y                          |
| 33.    | *       | -    | 14+16        | 14+16     | 1990                             | Y                       | N                          |
| 34.    | *       | -    | 30           | 103       | 1990                             | Y                       | N                          |
| 35.    | *       | -    | 130          | 184       | 1990                             | Y                       | N                          |
| 36.    | *       | -    | 142          | 168       | Before 1990; not present in 1975 | Y                       | N                          |
| 37.    | -       | *    | 185          | 185       | 2000                             | Y                       | N                          |
| 38.    | *       | -    | 466          | 510       | Some rock at east end in 1975    | Y                       | N                          |
| 39.    | *       | -    | 517          | 642       | Some rip-rap present in 1972     | Y                       | N                          |
| 40.    | -       | *    | 50           | 50        | After 1987 and before 2002       | Y                       | N                          |
| 41.    | *       | -    | 100          | 105       | After 1979 and before 1987       | Y                       | Y                          |
| 42.    | -       | *    | 10           | 10        | After 1987 and before 2002       | Y                       | N                          |
| 43.    | *       | -    | 72           | 74        | After 1979 and before 1987       | Y                       | N                          |
| 44.    | -       | *    | 26           | 26        | After 1979 and before 1987       | Y                       | N                          |
| 45.    | -       | *    | 388          | 388       | 1984                             | Y                       | Y                          |
| 46.    | *       | -    | 63           | 63        | After 1979 but before 1990       | Y                       | N                          |
| 47.    | *       | -    | 160          | 165       | After 1963 and before 1965       | Y                       | Y                          |
| 48.    | *       | -    | 100          | 162       | After 1963 and before 1965       | N                       | -                          |
| 49.    | *       | -    | 395          | 430       | After 1963 and before 1965       | Y                       | N                          |

| Number | Type    |      | Length (ft.) |           | Original Emplacement date  | Is there a beach (Y/N)* | Is Beach accessible (Y/N)* |
|--------|---------|------|--------------|-----------|----------------------------|-------------------------|----------------------------|
|        | Rip-rap | Wall | Linear       | Coastline |                            |                         |                            |
| 50.    | *       | -    | 237          | 254       | After 1965 and before 1972 | Y                       | Y                          |
| 51.    | -       | *    | 150          | 150       | Present in 1972            | Y                       | N                          |
| 52.    | *       | -    | 850          | 875       | Between 1963 and 1965      | Y                       | Y                          |
| 53.    | -       | *    | 396          | 396       | After 2005 and before 2008 | Y                       | Y                          |

## 2.6. Existing Utilities

### 2.6.1. Water Related Systems

#### Wastewater

The City of Santa Cruz public wastewater system is an underground system of 160 miles of pipe that transport wastewater from pipelines under neighborhood streets to the City of Santa Cruz Wastewater Treatment Facility located near Neary Lagoon (Figure 2-13). In total, approximately 1,590 feet (0.3 mile) of wastewater pipe, 25 manholes, and other wastewater structures (including the pump station at Mitchell's Cove) are located along West Cliff Drive. In addition, the main ocean outfall infrastructure runs across Mitchell's Cove and roughly a mile offshore before taking a westerly bend and discharging offshore of Natural Bridges, right side under concrete vault).



**Figure 2-13.** The wastewater outfall pipeline leaves Mitchell's Cove from the cement structure on the west side (right) of the beach.

## **Stormwater**

The City storm drain system collects stormwater runoff from City streets along gutters and through underground pipes to discharge into local waterways and the Monterey Bay. The system is designed for the control of flooding and does not provide any treatment to the stormwater runoff. However, catch basins are labeled to remind residents that any discharge routes to the ocean. There are 4,498 feet (0.85 mile) of storm drain pipe and 128 storm drain structures (including manholes, drop basins, outfalls, etc.) located along West Cliff Drive. Forty-two of these structures are outfalls located along the cliff of West Cliff Drive (Figure 2-14 and Figure 2-15).

An on-the-ground inventory and condition evaluation of storm drain outfalls was conducted in September of 2019. The evaluation noted material of structure, condition of the structure, and whether the structure is contributing to any cliff erosion. Some of the outfall locations could not be found due to being buried by rip-rap or iceplant or because accessing the location was impractical. Outfall locations were also overlaid with the designated erosion hazard zone as noted in Table 2-11.

Surveyed outfalls from the City are shown as a blue icon on the map (Figure 2-14 and Figure 2-15). In some cases, the outfall found was in a slightly different place than the location provided via the city GIS layer, presumably due to mapping resolution and methods. However, it may also be because the found and surveyed outfall is a defunct structure and the new outfall location has been moved to a different location that we were unable to locate, or vice versa. Results of the inventory are shown in Table 2-11.







Figure 2-15. Locations of water infrastructure along West Cliff Drive, Zones 3 & 4.

Table 2-11. Inventory and Evaluation of Storm Drain Outfalls along West Cliff Drive Cliff

| Outfall # | City ID  | Material          | Contributing to Erosion? | Erosion Area of Concern       | Notes   |
|-----------|----------|-------------------|--------------------------|-------------------------------|---|
| 1-1       | L2-DO304 | Metal and Plastic | No                       | No                            | Metal 12", and 2 small plastic pipes, weeps for upper cliff terrace wall? |
| 1-2       | L2-DO301 | Unknown           | Unknown                  | No                            | Located beneath rip rap   |
| 1-3       | L2-DO305 | Metal             | Yes                      | No                            | Erosion area and lots of seep   |
| 1-4       | L2-DO303 | Metal             | No                       | Medium (bluff face erosion)   |   |
| 1-5       | L2-DO306 | Metal             | Yes                      | Medium/High (bluff face/cave) |   |
| 1-6       | L2-DO302 | Unknown           | Unknown                  | No                            | Willows dense in area, could not find outfall                             |

| Outfall # | City ID  | Material        | Contributing to Erosion? | Erosion Area of Concern | Notes   |
|-----------|----------|-----------------|--------------------------|-------------------------|---|
| 1-7       | L2-DO407 | Concrete        | No                       | No                      | Restoration opportunity, hanging stream                     |
| 1-8       | L2-DO405 | Metal           | No                       | High (undercut)         |   |
| 1-9       | L2-DO404 | Plastic and CMP | Yes                      | No                      | Water seeping from cliff                                    |
| 1-10      | L2-DO401 | Plastic         | No                       | No                      |   |
| 1-11      | L2-DO402 | Unknown         | Unknown                  | No                      | Located beneath rip rap and iceplant                        |
| 1-12      | L2-DO406 | Metal           | No                       | No                      |   |
| 1-13      | M2-DO303 | Unknown         | Unknown                  | No                      | end of John Street  |
| 1-14      | M2-DO301 | Unknown         | Unknown                  | Medium (undercut)       | end of Getchell St.   |
| 1-15      | M2-DO302 | Metal           | No                       | High (cave)             |   |
| 1-16      | M2-DO102 | Unknown         | Unknown                  | No                      | Small black plastic pipe near location? Is this an outfall? |
| 1-17      | M2-DO103 | Metal           | No                       | High (cave)             |   |
| 1-18      | M2-DO101 | Metal           | No                       | No                      | Further inspection required                                 |
| 1-19      | M2-DO202 | Unknown         | Yes                      | No                      |   |
| 1-20      | M2-DO201 | Concrete        | No                       | No                      | Large outlet  |
| 2-1       | M3-DO513 | Metal           | Yes                      | No                      | coming out of seawall                                       |
| 2-2       | M3-DO201 | Concrete        | No                       | No                      | Located at Bethany Curve, below bridge                      |
| 2-3       | N2-DO104 | Unknown         | Unknown                  | No                      | Located beneath rip rap and iceplant                        |
| 2-4       | N2-DO205 | Unknown         | Unknown                  | No                      | Located beneath rip rap                                     |
| 2-5       | N2-DO105 | Metal           | Unknown                  | No                      | Rusted, lots of rip rap                                     |

| Outfall # | City ID  | Material | Contributing to Erosion? | Erosion Area of Concern   | Notes  |
|-----------|----------|----------|--------------------------|---------------------------|--|
| 2-6       | N2-DO102 | Unknown  | Unknown                  | No                        | Located beneath rip rap  |
| 2-7       | N2-DO103 | Unknown  | Unknown                  | No                        | Located beneath rip rap and iceplant                           |
| 2-8       | N2-DO106 | Concrete | Yes                      | High (bluff face erosion) | bluff erosion  |
| 3-1       | N2-DO210 | Metal    | Yes                      | High (bluff face erosion) |  |
| 3-2       | N2-DO206 | Metal    | Yes                      | No                        | Sakrete wall above   |
| 3-3       | N2-DO208 | Unknown  | Yes                      | No                        | Located behind Sakrete wall: water seeping                     |
| 3-4       | N2-DO207 | Plastic  | Yes                      | No                        |  |
| 3-5       | N2-DO201 | Metal    | No                       | No                        |  |
| 3-6       | N2-DO209 | Metal    | No                       | No                        | Coming out of seawall  |
| 3-7       | O2-DO101 | Unknown  | Unknown                  | No                        | Located along cliff, No Access                                 |
| 3-8       | O2-DO102 | Metal    | Yes                      | No                        | some erosion around culvert                                    |
| 3-9       | O3-DO501 | Unknown  | Yes                      | Medium (undercut)         | under parking lot  |
| 3-10      | O3-DO502 | Plastic  | No                       | No                        | located above rip rap  |
| 4-1       | O3-DO301 | Unknown  | Unknown                  | Low (undercut)            | Located along cliff, No Access                                 |
| 4-2       | O3-DO104 | Metal    | No                       | No                        | Located adjacent to Cowell Beach Access stairway (Access# 4-2) |
| 4-3       | O4-DO501 | Metal    | Yes                      | No                        | eroding underneath   |
| 4-4       | O4-DO502 | Unknown  | Unknown                  | No                        | Located along cliff, No Access                                 |

### West Cliff Stormwater Outfalls Maintenance and Erosion Concerns

Stormwater drains can cause significant erosion of the cliff face, specifically the upper terrace deposits, compounding coastal erosion hazards and leading to potential loss of additional West

Cliff infrastructure. Replacement and redesign of aged stormwater pipes can help to reduce erosion of highly erosive soils as well as help to reduce costly repairs and loss of access.

A number of storm drains have been replaced. In other locations old pipes have been abandoned and new ones were installed that were not visible during field visits (likely covered with vegetation or rip-rap). Table 2-9 above notes storm drains that were identified during field surveys as likely contributing to coastal erosion. Storm drains contributing to erosion that are also located within areas noted by field investigations as showing signs of active erosion (i.e., Outfall #s 1-5, 2-8, 3-1) should be evaluated for replacement or upgrades (Figure 2-16).



**Figure 2-16. Examples of stormwater outfalls and proximity to erosion or seepage.**

## 2.6.2. Electrical, Gas and Communications Systems

The electrical, gas and communications system infrastructure along West Cliff Drive are owned by others and the City does not have any records with their locations. The Plan will be provided to the utility providers. Any planning and implementation of any near-term Plan projects will include outreach to these utilities in advance.



### 3. Project Planning Considerations and Constraints

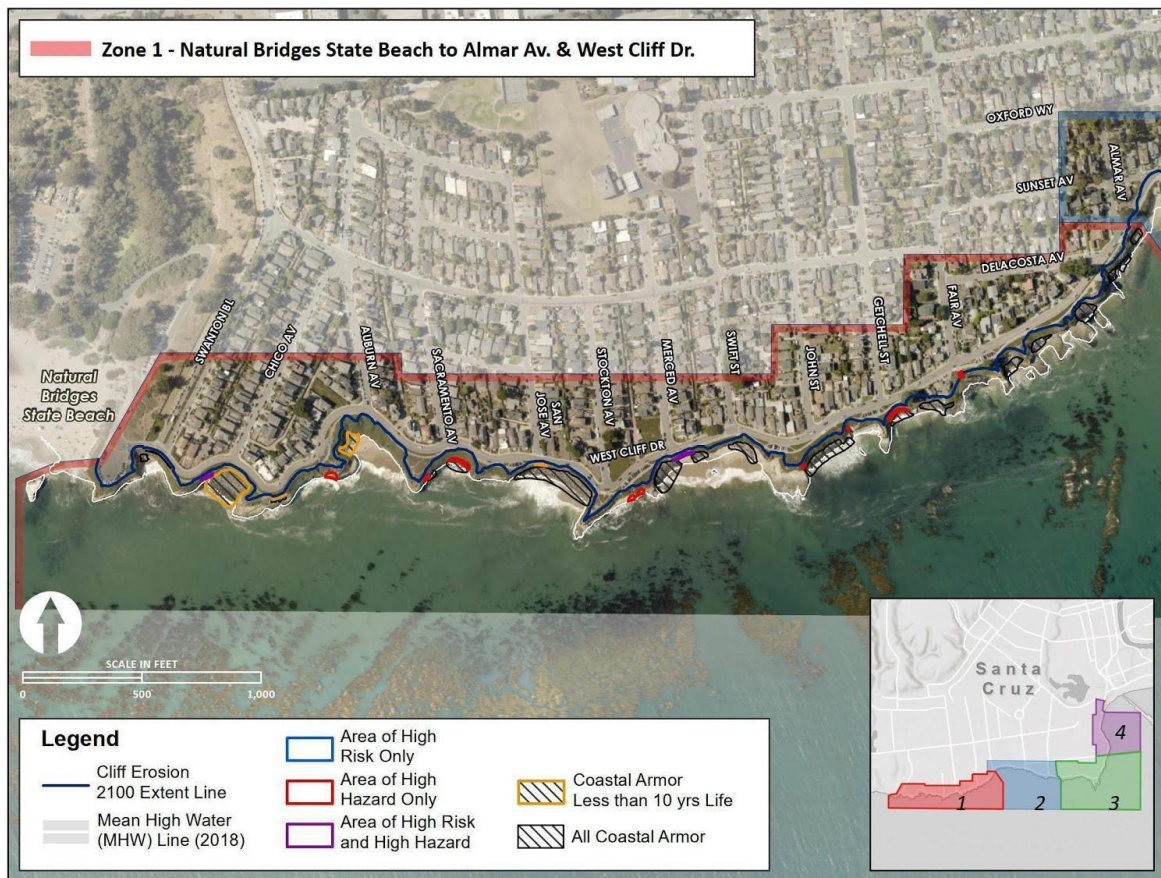
#### 3.1. Land Resources

This section focusses on the planning considerations and constraints for each zone from a land resource perspective. Mapped areas and descriptions characterized as “high hazard” include areas of erosion concern where (1) undercuts of caves are > than 6-ft in depth or (2) the distance between the eroding cliff or terrace deposits and the cliff edge or Recreational Trail or cliff top is between 0 and 10 feet. There are 48 areas of areas of erosion concern but most are not identified as high hazards. A geologic hazard is a naturally occurring phenomenon capable of causing damage and includes both sudden and slow moving phenomena. Areas with faster coastal erosion or more rapid landward erosion of the cliff edge are considered to have greater hazards. A risk is the potential that exposure to the hazard will lead to a vulnerability and generally refers to the product of the magnitude of the potential failure or event and the probability of it occurring. Figures 3-1 through 3-4 depict the areas of high hazard and high risk, coastal armoring, and projected extent of 2100 erosion with no adaptation intervention for each zone.

##### **Zone 1—Natural Bridges Overlook to Almar Avenue**

This westernmost Zone of West Cliff Drive has 21 different coastal armoring structures and 23 areas of erosion concern. Two areas of erosion concern were identified as high risk in the short term with erosion likely to impact the Recreational Trail and/or West Cliff Drive. These areas are associated with the existing failure affecting the Recreational Trail near Auburn Avenue and erosion at the end of Merced Avenue (Figure 3-1). In addition, there are three locations along West Cliff Drive where the curb-to-curb distance is less than 25 feet and traffic safety are already impaired (Figure 3-1). Within the short term of the next 10 years, 8 of these coastal armoring structures are projected to fail and require attention, while 12 of the areas of erosion concern are deemed potentially high hazard and likely to erode. The coastal armoring structures that need short term attention include two shotcrete sandbag walls and the failed revetment on Pyramid Beach which currently presents hazardous conditions with rusted rebar and impaired access.

The eroded Recreational Trail near Auburn has already been identified by the City for repair using an elevated approach for a 70 foot length of trail. In addition to the short-term risk and hazards, there are several locations where management changes could improve upon existing conditions, by removing some of the extensive revetments covering small pocket beaches, improving lateral access along the wave cut platforms, restoring habitats including bluff top and the perched wetland on Auburn Creek, and reducing disturbance to sensitive species by improving management of recreational uses.



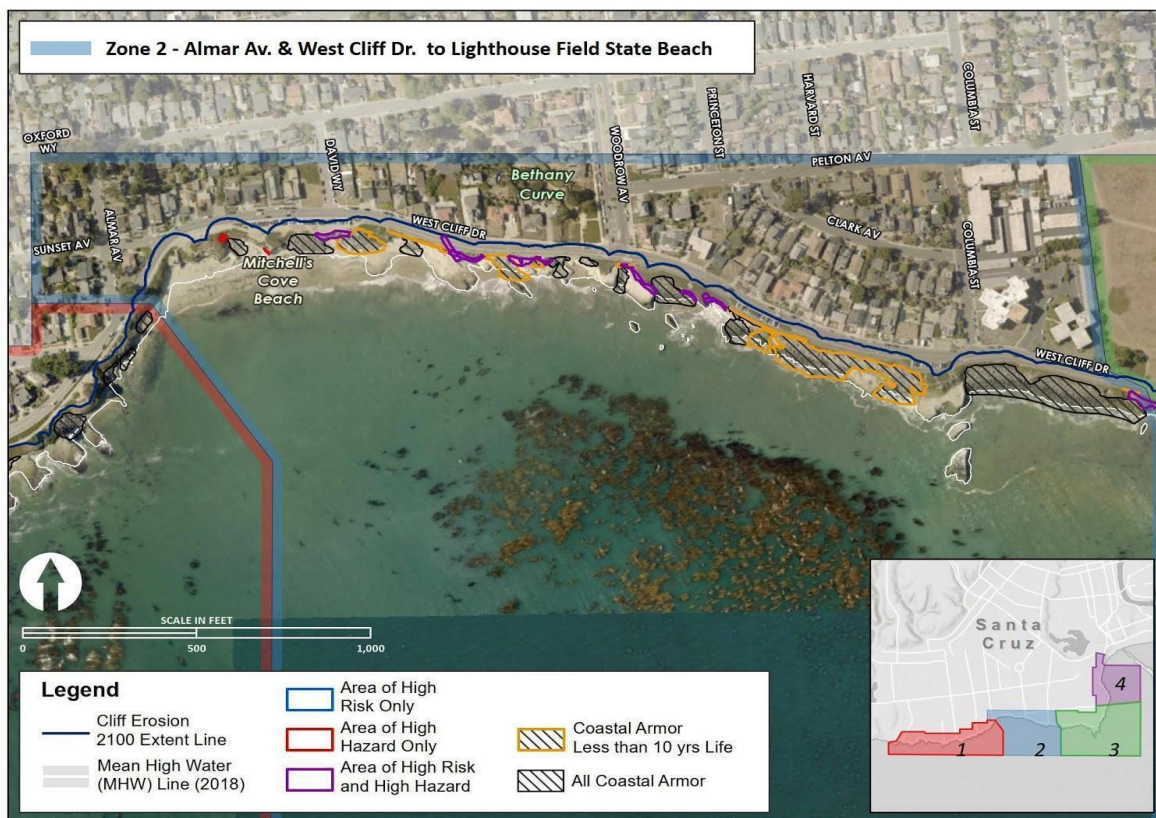
**Figure 3-1. Priority areas for adaptation and management in Zone 1.**

### **Zone 2—Almar Avenue to Lighthouse Field State Beach**

Zone 2 of West Cliff Drive contains 27 different coastal armoring structures and 8 areas of erosion concern. Eight of these short-term high hazard areas of erosion concern were also identified as high risk in the short term with erosion likely to impact the Recreational Trail and/or West Cliff Drive. The most severe is the sea cave near David Way which undermines the Recreational Trail and both lanes of traffic on West Cliff Drive. The remainder of these high risk areas are largely associated with failures in the soft bluff top sediments where the cliff edge is in close proximity to the Recreational Trail. There are two locations along this zone of West Cliff Drive where the curb-to-curb distance is less than 25 feet and traffic safety are already impaired (Figure 3-2). This zone is also the only one where West Cliff Drive residences can access their properties directly from West Cliff Drive.

Within the short term of the next 10 years, 11 of these coastal armoring structures are projected to fail and require attention, while 10 of the areas of erosion concern mapped are deemed high hazard and likely to erode. Many of these structures are revetments built on the beach and the top of the cliff that show signs of deterioration with many fugitive rocks

contributing to the burial of the beach and reduction of coastal recreational and habitat resources. The heavily used beach at Mitchell's Cove provides an important beach access used for surfing, beach recreation, and marine safety.



**Figure 3-2. Priority areas for adaptation and management in Zone 2.**

### **Zone 3—Lighthouse State Beach to Pelton Avenue at the Surfer Statue**

Zone 3 of West Cliff Drive contains 7 different coastal armoring structures and 10 areas of erosion concern. Within the short term of the next 10 years, three areas of erosion concern were identified as high risk erosion likely to impact the Recreational Trail and/or West Cliff Drive. These include a substantial sea cave at Lighthouse Point that could affect the Lighthouse and surf museum in the future. In addition, several undercuts could likely undermine portions of the Recreational Trail. In Zone 3, none of the coastal armoring structures are projected to fail. Four of the areas of erosion concern are deemed high hazard, and if they erode, would likely affect the Recreational Trail, parking, and potentially West Cliff Drive (Figure 3-3).





**Figure 3-3. Priority areas for adaptation and management in Zone 3.**

#### **Zone 4—Pelton Avenue and the Surfer Statue to Bay Avenue**

Zone 4 of West Cliff Drive contains three different coastal armoring structures and four areas of erosion concern. Within the short term of the next 10 years, three areas of erosion concern were identified as high risk so when erosion does occur, it will likely impact the Recreational Trail, parking and/or West Cliff Drive. These locations are all associated with sea caves, with only one of them identified as a high hazard likely to fail in the short term. Presently, none of these coastal armoring structures are projected to fail nor require attention (Figure 3-4). This area however does have the highest traffic and Recreational Trail usage of the West Cliff Drive Corridor.





**Figure 3-4. Priority areas for adaptation and management in Zone 4.**

### 3.2. Climate

West Cliff Drive represents an ocean front road and recreational transportation corridor that provides visitor and resident access along a 2.7 mile stretch of low cliff backed coast (20 to 45 feet in elevation) from Natural Bridges State Beach in the west to Cowell's Beach in the east. This corridor currently contains two lanes of traffic, one in each direction and the West Cliff Drive Recreational Trail (Recreational Trail), a multi-use biking and walking trail with scenic and coastal accesses. Cliff erosion is common and there is a long history of coastal erosion along this corridor. Erosion responses have been to either relocate or to armor the eroded areas. Currently, almost 50% of West Cliff is protected by seawalls and rip-rap, of varying age and in varying condition, which currently mitigates some of the existing erosion hazards but may not be sufficient to mitigate future sea level rise hazards.

The weather in Santa Cruz is considered Mediterranean with cool, wet winters, and warm, dry summers. Winds generally blow out of the northwest except during storm conditions when winds come from the south. Waves also change seasonally with large west and northwest swells in the fall and winter, wind waves in the spring, and smaller southerly swell waves in the summer. The wave direction largely drives sand transport from the west to the east. Ocean water temperatures are typically cool to cold with the northwest winds driving ocean upwelling and keeping temperatures cold year-round.

Future climate conditions will drive the timing and intensity of impacts such as sea level rise, coastal storm flooding and erosion. This Plan includes projects for erosion through the end of the century under various assumptions as summarized in Appendix A1. The City's Climate Adaptation Plan Update (2018) provides projections for these impacts, and others, throughout the City and will be updated with best available science in 2023.

### 3.3. Topography

The coastline from Natural Bridges State Beach to Cowell's Beach consists of a low cliff (20 to 45 feet in height). The lower bedrock portion of the cliff consists of Santa Cruz Mudstone from Natural Bridges to Almar Avenue, where the mudstone then dips below sea level. The overlying and younger Purisima Formation first appears in the cliff at Swift Street and by Almar Avenue makes up the entire lower bedrock portion of the cliff. Much younger sandy to cobble terrace deposits cap the bedrock along the entire length of West Cliff Drive. Small beaches are found in the various embayments along the coast with the two largest beaches at Mitchell's Cove and Its Beach created by downcoast promontories trapping sand as it moves along the coast. Along the shoreline are a variety of beaches, rocky intertidal, and cliff roosting habitat for a variety of sensitive bird and intertidal species. Just offshore are kelp beds and offshore rocks, which provide habitat for sea otters and a host of other marine mammals. During fall and spring, it is common to observe migratory whales moving between Alaska and Mexico.

### 3.4. Geology and Coastal Erosion Geologic & Geomorphic

The coastline from Natural Bridges State Beach to Cowell's Beach consists of a low cliff (20 to 45 feet in height), which forms the outer edge of the lowest marine terrace along the Santa Cruz City coastline. The lower bedrock portion of the cliff consists of Santa Cruz Mudstone from Natural Bridges to Almar Avenue, where the mudstone then dips below sea level. The overlying and younger Purisima Formation that first appears in the cliff at Swift Street and by Almar Avenue makes up the entire lower bedrock portion of the cliff. Much younger sandy to cobble bluff terrace deposits cap the bedrock along West Cliff Drive and are typically about 10 to 15 feet in thickness (Figure 3-5).

The Santa Cruz Mudstone is relatively hard and resistant to erosion compared to the mudstones, siltstones, and sandstones of the Purisima Formation, but there are also significant variations in erosional resistance controlled by jointing, fracturing, and also differences in lithology and cementation. These differences in erodibility have led to an irregular coastline along West Cliff Drive consisting of embayments with narrow pocket beaches interspersed with more resistant bedrock protrusions or points (Figure 3-5). Many of the embayments within the Mudstone and the Purisima Formation follow joint patterns, and therefore have nearly the same orientations (approximately northwest–southeast). Variations in erosion between layers of bedrock have also led to the frequent occurrence of natural arches or bridges, which will form and then collapse over time (Figure 3-6). The collapse of these arches produces high short-term erosion rates, generally followed by long periods when the cliffs are stable and relatively unchanged. In some locations, a weak stratigraphic layer or bed along the base of the cliff has led to an undercut, which eventually leads to collapse of the overlying bedrock.



**Figure 3-5. Oriented embayments eroded along parallel joints in the Santa Cruz Mudstone; note the locations of small low tide pocket beaches where no coastal armoring exists.**





**Figure 3-6. Formation of arches due to undercutting along joint patterns is common.**

The overlying unconsolidated terrace deposits vary from sands to gravels and cobbles (Figure 3-7) and are easily eroded when exposed to direct wave attack during periods of high tides and large waves. This process of wave overtopping that strips off the terrace deposits results in the common presence of a bedrock platform along the lower cliff in many locations along West Cliff Drive (Figure 3-7 and Figure 3-8). The exposed or stripped platform ranges from a few feet to about 100 feet in width, with the latter exposed at the end of Swift Street. There is a limit, however, to how far the terrace deposits can be eroded back from the outer edge of the platform due to limitations on how far significant wave energy overtopping the bedrock platform can extend landward.

Nonetheless, the erosion of the terrace deposits has produced the greatest threat to the Recreational Trail along most of West Cliff and ultimately to the roadway itself. The second greatest threat is the landward erosion of caves along joint sets in the Purisima that have extended a considerable distance landward from the cliff edge or beach. The roofs of several of these caves have collapsed or partially collapsed over the years leaving coves or embayments into the cliff or sinkholes, the most recent one occurred in 2017 under a parking lot between Woodrow and Columbia (Figure 3-9) that required a large volume of concrete to fill and stabilize (Figure 3-10).

There is a long history of local sightseeing along West Cliff extending back well over a century, long before it was paved and a part of it became a formal street (*"the road of a thousand*

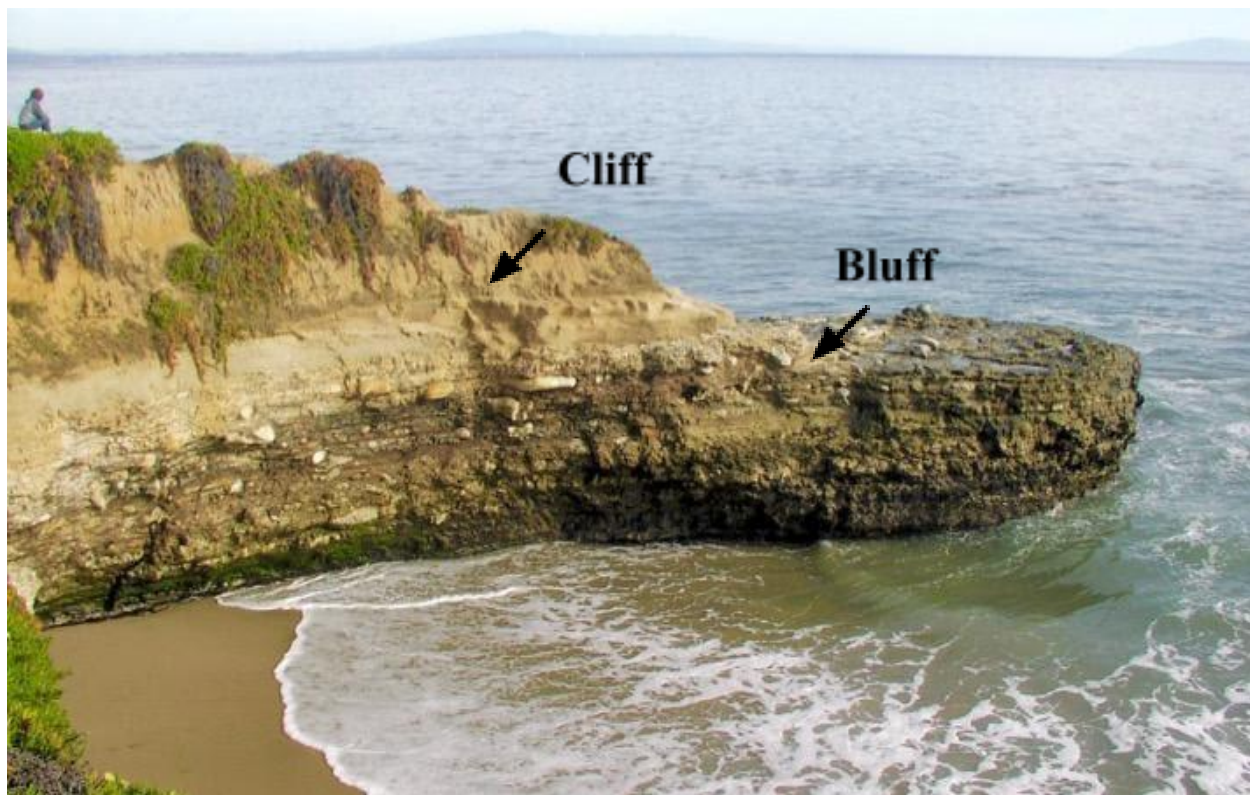


*wonders*” appeared on some early colored postcards). In the early days, there were horse and buggy rides out along the cliffs on a dirt road. In 1897–98, however, Santa Cruz suffered a major drought such that the dirt road along the cliff and typical afternoon winds produced dust that made the ride unpleasant, which deterred tourists from visiting. The city subsequently hired the Armstrong brothers (who were inventors) to solve this concern and bring back the visitors.



**Figure 3-7. Section of bluff top terrace deposits at the end of Swift Street consisting of sand below and mudstone gravel and cobbles above**





**Figure 3-8. Wave overtopping of the more resistant cliffs made of the Santa Cruz Mudstone has eroded back the overlying Purisima Formation and bluff top terrace deposits (Zone 1)**



**Figure 3-9. Collapse of one of the parking areas along West Cliff due to wave undermining of a seawall just west of Columbia Street followed by collapse of overlying fill material (Zone 2).**

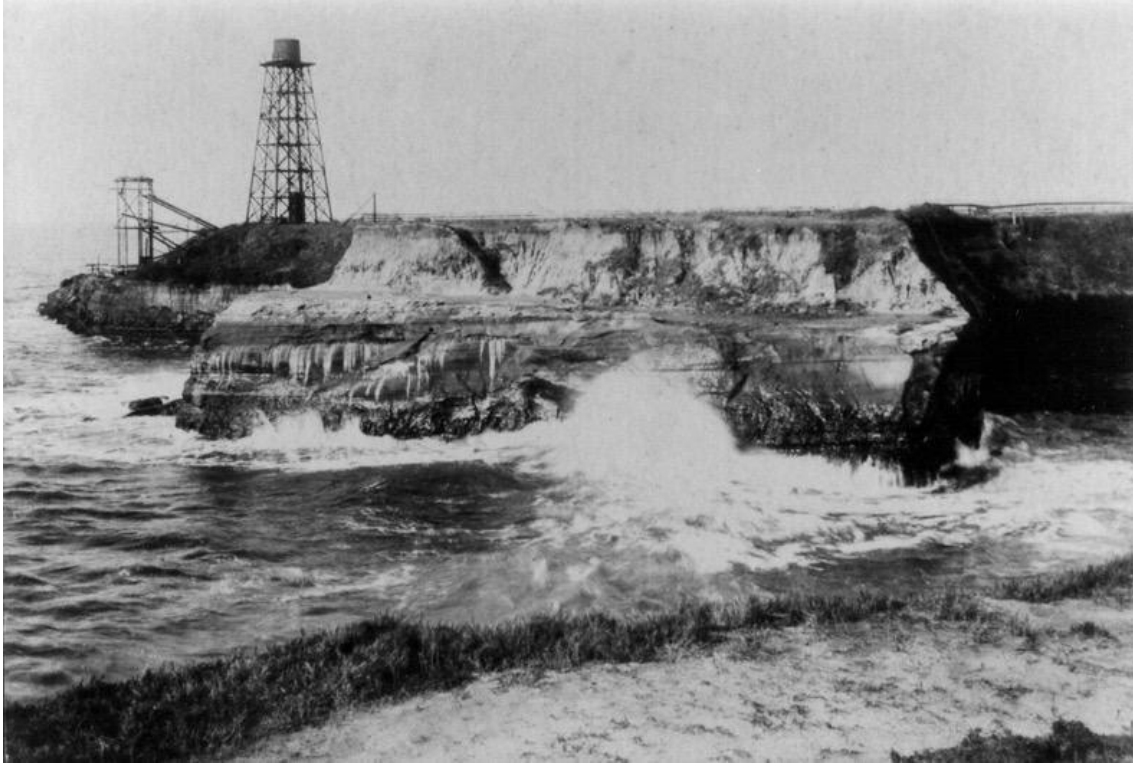


**Figure 3-10. Repair of 2016 sinkhole in Zone 2 between Woodrow Avenue and Columbia Avenue.**

The Armstrong brothers engineered a solution by using what was likely a cave and natural blowhole just east of the end of today's Chico Avenue. They bored two approximately 6-foot diameter shafts through the bedrock terrace into a sea cave, and then placed large pipes with pistons into the shafts. Large waves surging in at high tides pushed the pistons up. As they descended under gravity, the pistons forced seawater up through pipes into a storage tank mounted on a derrick above the clifftop (Figure 3-11). Seawater then flowed by gravity into a horse drawn water tank, which was used to water down the dirt road to keep the dust under control.

The history of erosion at that location provides an important perspective on the long-term erodibility of the Santa Cruz Mudstone along West Cliff (Figure 3-11 and Figure 3-12). Now, more than 125 years later, the outer shaft has eroded, but the inner shaft still exists and is now plugged with a concrete cap perforated with PVC pipe to allow the wave surge at high tide to be dissipated as an artificial blowhole (Figure 3-13). This suggests that certain portions of West Cliff Drive, particularly in the Santa Cruz Mudstone Formation in Zone 1 are not very erodible.





**Figure 3-11. Wave motor near the end of Chico Avenue (1898).**



**Figure 3-12. Wave motor near the end of Chico Avenue (2006) (same view as Figure 3-15).**





**Figure 3-13. Concrete cork-like cap over former wave motor shaft was fitted with three PVC pipes to relieve pressure from wave surge and now serves as a natural blowhole.**

### **Processes of Cliff (bedrock) and Bluff (terrace deposits) Erosion**

There are many different types of coastal and terrestrial processes that contribute to erosion along West Cliff Drive. These processes include:

- Wave erosion of the marine terrace deposits
- Wave erosion and undercutting of the bedrock at the base of the cliff
- Sea cave development and failure
- Sea arch formation and collapse
- Sink holes in compacted fill
- Stormwater scour
- Trampling of erodible bluff top terrace deposits
- Wind driven wave splash erosion
- Biological disturbance from burrowing animals and vegetative weighting

Photographs can sometimes provide useful evidence of cliff erosion. The earliest dated photographs we have discovered of this coast were taken 143 years ago (1876). Certain areas such as the picturesque arches, sea stacks and distinct rock formations, for example, were photographed frequently and memorialized in hand-colored postcards and family albums. Over the subsequent years, as winter storms have periodically battered the bluffs and cliffs, and sea level has gradually risen, the coastline has slowly retreated. Some areas have changed dramatically (Figure 3-14 vs. Figure 3-15; and Figure 3-16 and Figure 3-17 vs. Figure 3-18) and others have changed surprisingly little. The natural bridges, arches, and sea stacks that owe their origins to wave attack of the weaker sandstones, siltstones, and mudstones have been destroyed by the same forces that created them, with many fascinating and revealing photographs taken of these natural and unnatural features along the way (Figure 3-19).



**Figure 3-14. Bird Rock and vicinity west of Lighthouse Point in 1909.**



**Figure 3-15. Bird Rock and vicinity west of Lighthouse Point in 2006.**





**Figure 3-16. Arch east of Lighthouse Point at Steamer Lane in ~1890.**



**Figure 3-17. Collapsed arch at Steamer Lane in ~1920.**



**Figure 3-18. Base of arch at Steamer Lane almost completely eroded in 2006**



**Figure 3-19. Over the course of about 25 years, an arch had collapsed near the end of Almar Avenue at Mitchell's Cove Beach and then broken up further (photo dates from left: 1990, 2011, and 2016).**

While it is difficult to get any quantitative measurements of cliff or bluff retreat from old ground photographs, they do provide a clear qualitative record of the extents of change or erosion that has taken place since the time of the original photographs. In many cases and for most people, a *then* and *now* set of photographs can provide a more understandable record of coastal change that is readily understood by a wide community cross section than a numeric rate of retreat given in inches/year or centimeters/year. However, in order to project future cliff erosion hazards, it is important to get accurate historical erosion rates.

### 3.5. Biotic Resources

#### **Coastal Habitats: Nearshore (rocky intertidal, beaches, kelp)**

West Cliff has a mix of rocky intertidal and beach habitats that support a diverse assemblage of species and provide for recreational and educational opportunities. Figure 3-20 and Figure 3-21 show the location of intertidal areas, and Table 3-1 shows the acreage of these habitats in each zone. We calculated the intertidal zone from the differences between MHW and MLLW. We interpreted the resulting data based on observations of the intertidal landscape and sand levels from recent years, including the 2018/19 winter. The intertidal points of interest locations reflect human use of intertidal area along West Cliff and were digitized based on the City Recreational Use Surveys and more than 25 years of professional observation.

**Table 3-1. Area (acres) by Zone of Nearshore Marine Habitats above Low Water along West Cliff Drive**

| Zone  | Beaches | Intertidal Areas | Intertidal Points of Interest |
|-------|---------|------------------|-------------------------------|
| 1     | 4.64    | 1.28             | 1.12                          |
| 2     | 2.64    | 0.40             | 0.23                          |
| 3     | 2.84    | 4.26             | 1.55                          |
| 4     | 3.86    | 3.30             | 6.33                          |
| Total | 13.97   | 9.23             | 9.23                          |

The West Cliff intertidal habitats are comprised of a mix of substrates including sand, native rock, rip-rap (granite, limestone, sandstone, concrete and other), and seawall. Dynamic by nature, the abundance and distribution of sand varies at annual, interannual, and greater (decadal/episodic) time scales. Rocky intertidal communities are resilient to burial and can emerge intact following long periods of being inundated by sand. The area of intertidal habitat is greatest in Zones 3 and 4, related to patterns in the seaward extension of the rocky shelf and sand accumulation. Intertidal Points of Interest are greatest in Zone 4 where Lighthouse Point and fringing kelp beds afford substantial protection from direct swell and northwest winds. Much of the Zone 4 intertidal habitat is only accessible during extreme low tides.

The fingered rock outcroppings west of Mitchell's Cove in Zone 1 are notable intertidal features that align with the jointing in the Santa Cruz Mudstone Formation. The combination of pocket beaches and rock structural complexity make for a diverse and accessible intertidal zone. The rock shelf outcropping at the base of John Street has exceptional tidepools, similar to those



found at the Natural Bridges State Beach Tidepools (Figure 3-22). In addition to being popular locations for recreation, these intertidal habitats are inhabited and utilized by many species. Shorebirds and seabirds frequent the rocky intertidal between Zones 1 and 3 where they are commonly observed during the migration season (September through April). Rip-rap forms a substrate for many intertidal organisms along West Cliff and this habitat is frequented by foraging seabirds, shorebirds, and waders. These species are most commonly found in the more inaccessible portions of West Cliff and during times of low human visitation.

Beaches are found throughout the study area with the largest total beach area occurring in Zones 1 and 4. Notable features include Its Beach, west of Lighthouse Point, Cowell's Beach at the base of the Cowell's Stairs, Mitchell's Cove, the pocket beaches to the west of Mitchell's Cove, and the beach at the base of Auburn Avenue. Of these, only Its Beach and Mitchell's Cove regularly remain accessible during high tide, in many instances due to shoreline armoring that covers the beach. These beaches provide foraging habitat for shorebirds and seabirds. Pacific sand crabs (*Emerita analoga*) inhabit these sites and are important prey for nearshore fishes and shorebirds. All beaches in the study area are frequently occupied by people when exposed during daylight hours with good weather, meaning species must either forage elsewhere or at night.



Figure 3-20. Nearshore habitats in Zones 1 & 2.







**Figure 3-22. Tidepools at the base of John Street**

Large beds of giant kelp (*Macrocystis pyrifera*) occur along West Cliff Drive. These features are sparser in sand-bottomed areas near Natural Bridges, Mitchell's Cove, Its Beach and near Cowell's Beach. This foundational species supports a diverse assembly of organisms, harboring important prey and habitat for many species from invertebrates, fish, and seals to the California sea otter (*Enhydra lutris*). Wading shorebirds such as great and snowy egrets (*Ardea alba* and *Egretta thula*) often use kelp beds as floating perches to hunt the abundance of kelp associates. Kelp beds also calm wave chop and can significantly improve near shore water surface conditions for beachgoers and surfers. The extent of kelp varies over time depending on the season, upwelling, water clarity and solar radiation. Kelp and other algae are dislodged by seasonal swells. Sometimes considered a nuisance, the resulting drift algae is an important subsidy to the coastline and marine environment. Algae wrack forms food and habitat for detritivores such as kelp flies (*Coelopa frigida*) that feed a host of higher trophic species including shore and landbirds. The kelp holdfasts when torn from the reef also provide a transportation pathway for cobbles to reach the shoreline.





**Figure 3-23. Drift algae at Steamer Lane.**

Documented observations of sensitive species that utilize the nearshore habitats along West Cliff Drive are presented in Figure 5-1 and Figure 5-2 and Table 3-2. Unless otherwise specified, observations were collected in part for the Final Environmental Impact Report (EIR) for the 2030 Santa Cruz General Plan (2012) and during 25 years of working and recreating along West Cliff Drive. Sensitive species of West Cliff seek privacy where they can breed or roost unmolested by people, pets or predatory animals (e.g., black rat, *Rattus rattus*). These sites include offshore rocks, cliff ledges, and cliff cavities. Over time, coastal management practices such as armoring have reduced these features by stopping erosional processes. Increased coastal access and recreational use has compounded the problem. The Santa Cruz General Plan/Local Coastal Program, 1990-2005 (1994) defers to language in the General Plan for Lighthouse Field State Beach (1984) for mitigation of these impacts and calls out specific species including the black swift (*Cypseloides niger*) and pigeon guillemot (*Cepphus columba*). The black swift is a Priority 3 Species of Special Concern with known historical nesting sites southwest of Mitchell's Cove and at Lighthouse Point ([link to photo](#)). The more abundant pigeon guillemot nest at various sites along West Cliff with the most important being a colony of approximately 5–10 pairs located in crevice features on the cliffs at the base of Stockton Avenue.



**Table 3-2. Sensitive Animal Species Documented as Utilizing Habitat in Each Zone along West Cliff Drive**

| Zone | Pt # | Class          | Species                                       | Type                    | Location                        |
|------|------|----------------|---|-------------------------|---------------------------------|
| 1    | 1    | Seabirds       | Brown Pelican, Seabird spp., Shorebird spp.   | Roosting Rock           | Natural Bridge                  |
| 1    | 2    | Seabirds       | Brandt's Cormorant, Western Gull              | Nesting Rock            | Natural Bridge                  |
| 1    | 3    | Seabirds       | Western Gull                                  | Nesting Ledge           | Natural Bridges Head            |
| 1    | 4    | Seabirds       | Black Oystercatcher                           | Nesting Ledge           | Natural Bridges Head            |
| 1    | 5    | Seabirds       | Brandt's Cormorant                            | Nesting Ledge           | Natural Bridges Head            |
| 1    | 6    | Seabirds       | Snowy Egret, Shorebird                        | Roosting Ledge          | Natural Bridges Head            |
| 1    | 7    | Seabirds       | Pelagic Cormorant                             | Nesting Ledge           | Cliff between Swanton and Chico |
| 1    | 8    | Seabirds       | Cormorant spp.                                | Roosting Ledge          | Cliff between Swanton and Chico |
| 1    | 9    | Seabirds       | Pigeon Guillemot                              | Nesting Cavities        | Stockton Cove                   |
| 2    | 1    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Ledge          | SE of Woodrow                   |
| 2    | 2    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Ledge          | SE of Woodrow                   |
| 2    | 3    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Rock           | SE of Woodrow                   |
| 2    | 4    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Rock           | SE of Woodrow                   |
| 2    | 5    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Rock           | SE of Woodrow                   |
| 2    | 6    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Rock           | N of Bird Rock                  |
| 2    | 7    | Seabirds       | Cormorant spp., Shorebird spp., Brown Pelican | Roosting Rock           | Bird Rock Off Columbia          |
| 3    | 1    | Seabirds       | Pigeon Guillemot                              | Nesting Cavities        | Off West End Lighthouse Field   |
| 3    | 2    | Seabirds       | Shorebird spp., Seabird spp.                  | Roosting Ledge          | Off West End Lighthouse Field   |
| 3    | 3    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Ledge          | Lighthouse Point                |
| 3    | 4    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Ledge          | Lighthouse Point                |
| 3    | 5    | Landbirds      | Black Swift                                   | Historical Nesting 1994 | Sea Cave East Side of Its       |
| 3    | 6    | Seabirds       | Seabird spp., Shorebird spp.                  | Roosting Ledge          | Lighthouse Point                |
| 3    | 7    | Marine Mammals | California Sea Lion                           | Haulout Ledge           | Lighthouse Point                |
| 3    | 8    | Seabirds       | Shorebird spp.                                | Roosting Ledge          | Lighthouse Point                |
| 3    | 9    | Seabirds       | Cormorant spp., Shorebird spp., Brown Pelican | Roosting Rock           | Seal Rock                       |
| 3    | 10   | Marine Mammals | California Sea Lion                           | Haulout Rock            | Seal Rock                       |
| 3    | 11   | Seabirds       | Pigeon Guillemot                              | Nesting Cavity          | Lighthouse Point Above the Slot |
| 3    | 12   | Landbirds      | Black Swift                                   | Historical Nesting      | Lighthouse Point                |
| 3    | 13   | Seabirds       | Pigeon Guillemot                              | Nesting Cavity          | Due East of Lighthouse          |

|   |    |          |                   |                    |  |
|---|----|----------|-------------------|--------------------|--|
| 3 | 14 | Seabirds | Pigeon Guillemot  | Nesting Cavity     | East of Parking Lot on Ocean Side by Bathrooms |
| 3 | 15 | Insects  | Monarch Butterfly | Overwintering Site | NE Side Lighthouse Field                       |
| 4 | 1  | Seabirds | Pelagic Cormorant | Roosting Ledge     | East of St Joseph's                            |
| 4 | 2  | Seabirds | Pelagic Cormorant | Roosting Ledge     | East of St Joseph's                            |
| 4 | 3  | Seabirds | Pelagic Cormorant | Roosting Ledge     | East of St Joseph's                            |
| 4 | 4  | Seabirds | Pelagic Cormorant | Roosting Ledge     | Below Small Park by Old Bathrooms SE of Manor  |

The largest seabird colony on West Cliff is the colony of Brandt's cormorants (*Phalacrocorax penicillatus*) at the Natural Bridge (Figure 3-24). The colony moved from Natural Bridges to breed on a relatively isolated mainland ledge on the eastern side of Natural Bridges head. The move from the Natural Bridges to the mainland coincided with large influxes of migrating California brown pelicans (*Pelicanus occidentalis*) whose roosting activities on the bridge may have displaced the cormorants. By 2018, the mainland cormorant colony had grown to 36 nests and 84 fledglings. This expansion occurred despite disturbance by coastal visitors. California State Parks and Groundswell Coastal Ecology erected interpretive signage to minimize seabird disturbance at Natural Bridges. The cormorants resumed nesting on the Natural Bridges in 2019, a year when fewer pelicans migrated to Santa Cruz. As Natural Bridge and other rocks disappear, seabirds, shorebirds and other species will face diminishing offshore roosting and nest resources. The Brandt's cormorant story is a good example of how marine species can be limited by undisturbed breeding sites along West Cliff and potential solutions (i.e., safe mainland nesting habitat).



Figure 3-24. Brandt's cormorant nesting colony on the leeward side of Natural Bridges head.

Table 3-2 and Table 3-3 contain information on species that rely on nearshore and land habitats along West Cliff Drive. Marine mammals such as harbor seals (*Phoca vitulina*) and California sea lions (*Zalophus californianus*) require isolated locations for resting and breeding. California sea lions haul out on Seal Rock and have been observed using Lighthouse Point during the night. Sea otters may occasionally seek refuge on land during birth or become stranded during extreme weather events. Table 5-4 highlights the multitude of migratory and resident seabird species that utilize rocks and ledges along West Cliff for roosting and breeding.

**Table 3-3. Breeding Status of Mammal Species Documented along West Cliff Drive  
(Final EIR for the 2030 Santa Cruz General Plan [2012] and personal observation)**

| Common Name               | Scientific Name                        | Marine (M)/<br>Terrestrial (T) | Breeding Status (B –<br>Breeding, M – Migratory) | Invasive |
|---------------------------|--|--------------------------------|--|----------|
| California Sea Lion       | <i>Zalophus californianus</i>          | M                              | M  |          |
| California Sea Otter      | <i>Enhydra lutris</i>                  | M                              | B  |          |
| Common Bottlenose Dolphin | <i>Tursiops truncatus</i>              | M                              | B  |          |
| Northern Elephant Seal    | <i>Mirounga angustirostris</i>         | M                              | M  |          |
| Grey Whale                | <i>Eschrichtius robustus</i>           | M                              | M  |          |
| Harbor Porpoise           | <i>Phocoena phocoena</i>               | M                              | B  |          |
| Harbor Seal               | <i>Phoca vitulina</i>                  | M                              | B  |          |
| Humpback Whale            | <i>Megaptera novaeangliae</i>          | M                              | M  |          |
| Black Rat                 | <i>Rattus rattus</i>                   | T                              | B  | I        |
| Black-tailed Deer         | <i>Odocoileus hemionus columbianus</i> | T                              | B  |          |
| Bobcat                    | <i>Lynx rufus</i>                      | T                              | B  |          |
| Brush Rabbit              | <i>Sylvilagus bachmani</i>             | T                              | B  |          |
| Coyote                    | <i>Canis latrans</i>                   | T                              | B  |          |
| Feral Cat                 | <i>Felis cattus</i>                    | T                              | B  |          |
| Long-tailed Weasel        | <i>Mustela frenata</i>                 | T                              | B  |          |
| Opossum                   | <i>Didelphis virginiana</i>            | T                              | B  | I        |
| Pocket Gopher             | <i>Thomomys bottae</i>                 | T                              | B  |          |
| Raccoon                   | <i>Procyon loter</i>                   | T                              | B  | I        |
| Striped Skunk             | <i>Mephitis mephitis</i>               | T                              | B  |          |



**Table 3-4. Breeding Status and Habitat Requirements of Bird Species along West Cliff Drive**

Key: Seabird/Landbird = S/L, Breeding Status: B – breeding, B? – likely breeding, M – migration, R – resident.

| Common Name               | Scientific Name                   | Landbird or Seabird/Shorebird | Breeding Status | Cliff/Ledge Nester | Protected Roosts | Rocky Intertidal | Beach |
|---------------------------|-----------------------------------|-------------------------------|-----------------|--------------------|------------------|------------------|-------|
| Allen's Hummingbird       | <i>Selasphorus sasin</i>          | L                             | B               |                    |                  |                  |       |
| American Crow             | <i>Corvus brachyrhynchos</i>      | L                             | B               |                    |                  |                  |       |
| American Robin            | <i>Turdus migratorius</i>         | L                             | B?/M            |                    |                  |                  |       |
| Anna's Hummingbird        | <i>Calypte anna</i>               | L                             | B               |                    |                  |                  |       |
| Barn Owl                  | <i>Tyto albus</i>                 | L                             | B?/R            | 1                  | 1                |                  |       |
| Barn Swallow              | <i>Hirundo rustica</i>            | L                             | B               | 1                  |                  |                  |       |
| Bewick's Wren             | <i>Thryomanes bewickii</i>        | L                             | B               |                    |                  |                  |       |
| Black Oystercatcher       | <i>Haematopus bachmani</i>        | S                             | B               | 1                  | 1                |                  |       |
| Black Phoebe              | <i>Sayornis nigricans</i>         | L                             | B               | 1                  |                  |                  |       |
| Black Swift               | <i>Cypseloides niger</i>          | L                             | B (Hist)        | 1                  | 1                |                  |       |
| Black Turnstone           | <i>Arenaria melanocephala</i>     | S                             | M               |                    | 1                | 1                |       |
| Black-crowned Night-Heron | <i>Nycticorax nycticorax</i>      | S                             | B?/R            |                    | 1                |                  |       |
| Black-headed Grosbeak     | <i>Pheucticus melanocephalus</i>  | L                             | B?/M            |                    |                  |                  |       |
| Brandt's Cormorant        | <i>Phalacrocorax penicillatus</i> | S                             | B               | 1                  | 1                |                  |       |
| Brewer's Blackbird        | <i>Euphagus cyanocephalus</i>     | L                             | B               |                    |                  |                  |       |
| Brown Creeper             | <i>Certhia americana</i>          | L                             | B               |                    |                  |                  |       |
| Brown Pelican             | <i>Pelecanus occidentalis</i>     | S                             | M               |                    | 1                |                  |       |
| Bushtit                   | <i>Psaltiriparus minimus</i>      | L                             | B               |                    |                  |                  |       |
| California Gull           | <i>Larus californicus</i>         | S                             | M               |                    |                  |                  |       |
| California Quail          | <i>Callipepla californica</i>     | L                             | B?/R            |                    |                  |                  |       |
| California Scrub-Jay      | <i>Aphelocoma californica</i>     | L                             | B               |                    |                  |                  |       |
| California Thrasher       | <i>Toxostoma redivivum</i>        | L                             | B?/R            |                    |                  |                  |       |
| California Towhee         | <i>Melospiza crissalis</i>        | L                             | B               |                    |                  |                  |       |
| Chestnut-backed Chickadee | <i>Poecile rufescens</i>          | L                             | B               |                    |                  |                  |       |

| Common Name              | Scientific Name                 | Landbird or Seabird/ Shorebird | Breeding Status | Cliff/ Ledge Nester | Protected Roosts | Rocky Intertidal | Beach |
|--------------------------|---------------------------------|--------------------------------|-----------------|---------------------|------------------|------------------|-------|
| Clark's Grebe            | <i>Aechmophorus clarkii</i>     | S                              | M               |                     |                  |                  |       |
| Cliff Swallow            | <i>Petrochelidon pyrrhonota</i> | L                              | B               | 1                   | 1                |                  |       |
| Common Loon              | <i>Gavia immer</i>              | S                              | M               |                     |                  |                  |       |
| Common murre             | <i>Uria aalge</i>               | S                              | M               |                     |                  |                  |       |
| Common Raven             | <i>Corvus corax</i>             | L                              | B?              |                     |                  |                  |       |
| Common Yellowthroat      | <i>Geothlypis trichas</i>       | L                              | B?/R            |                     |                  |                  |       |
| Cooper's Hawk            | <i>Accipiter cooperii</i>       | L                              | M               |                     |                  |                  |       |
| Dark-eyed Junco          | <i>Junco hyemalis</i>           | L                              | B               |                     |                  |                  |       |
| Double-crested Cormorant | <i>Phalacrocorax auritus</i>    | S                              | R               |                     | 1                |                  |       |
| Downy Woodpecker         | <i>Dryobates pubescens</i>      | L                              | B?/R            |                     |                  |                  |       |
| European Starling        | <i>Sturnus vulgaris</i>         | L                              | B               |                     |                  |                  |       |
| Fox Sparrow              | <i>Passerella iliaca</i>        | L                              | M               |                     |                  |                  |       |
| Glaucous-winged Gull     | <i>Larus glaucescens</i>        | S                              | M               |                     |                  |                  |       |
| Golden-crowned Sparrow   | <i>Zonotrichia atricapilla</i>  | L                              | M               |                     |                  |                  |       |
| Great Blue Heron         | <i>Ardea herodias</i>           | S                              | B?/R            |                     |                  |                  |       |
| Great Egret              | <i>Ardea alba</i>               | S                              | B?/R            |                     |                  |                  |       |
| Great Horned Owl         | <i>Bubo virginianus</i>         | L                              | B?/R            |                     |                  |                  |       |
| Green Heron              | <i>Butorides virescens</i>      | S                              | B?/R            |                     | 1                |                  |       |
| Hairy Woodpecker         | <i>Dryobates villosus</i>       | L                              | B?/R            |                     |                  |                  |       |
| Heermann's Gull          | <i>Larus heermanni</i>          | S                              | M               |                     |                  |                  |       |
| Hermit Thrush            | <i>Catharus guttatus</i>        | L                              | M               |                     |                  |                  |       |
| House Finch              | <i>Haemorhous mexicanus</i>     | L                              | B               |                     |                  |                  |       |
| House Wren               | <i>Troglodytes aedon</i>        | L                              | R               |                     |                  |                  |       |
| Hutton's Vireo           | <i>Vireo huttoni</i>            | L                              | B?/M            |                     |                  |                  |       |
| Killdeer                 | <i>Charadrius vociferus</i>     | S                              | B               |                     |                  |                  |       |
| Lesser Goldfinch         | <i>Spinus psaltria</i>          | L                              | B               |                     |                  |                  |       |

| Common Name              | Scientific Name                | Landbird or Seabird/ Shorebird | Breeding Status | Cliff/ Ledge Nester | Protected Roosts | Rocky Intertidal | Beach |
|--------------------------|--------------------------------|--------------------------------|-----------------|---------------------|------------------|------------------|-------|
| Long-billed Curlew       | <i>Numenius americanus</i>     | S                              | M               |                     |                  |                  | 1     |
| Mallard                  | <i>Anas platyrhynchos</i>      | S                              | R               |                     |                  |                  |       |
| Marbled Godwit           | <i>Limosa fedoa</i>            | S                              | M               |                     | 1                |                  | 1     |
| Mew Gull                 | <i>Larus canus</i>             | S                              | M               |                     |                  |                  |       |
| Mourning Dove            | <i>Zenaida macroura</i>        | L                              | B               |                     |                  |                  |       |
| Northern Harrier         | <i>Circus hudsonius</i>        | L                              | R               |                     |                  |                  |       |
| Northern Mockingbird     | <i>Mimus polyglottos</i>       | L                              | B               |                     |                  |                  |       |
| Orange-crowned Warbler   | <i>Oreothlypis celata</i>      | L                              | M               |                     |                  |                  |       |
| Osprey                   | <i>Pandion haliaetus</i>       | L                              | B?/M            |                     | 1                |                  |       |
| Pacific Loon             | <i>Gavia pacifica</i>          | S                              | M               |                     |                  |                  |       |
| Pacific-slope Flycatcher | <i>Empidonax difficilis</i>    | L                              | B?/M            |                     |                  |                  |       |
| Pelagic Cormorant        | <i>Phalacrocorax pelagicus</i> | S                              | B               | 1                   | 1                |                  |       |
| Peregrine Falcon         | <i>Falco peregrinus</i>        | L                              | R/M             |                     | 1                |                  |       |
| Pied-billed Grebe        | <i>Podilymbus podiceps</i>     | S                              | R               |                     |                  |                  |       |
| Pigeon Guillemot         | <i>Cepphus columba</i>         | S                              | B               | 1                   | 1                | 1                |       |
| Pygmy Nuthatch           | <i>Sitta pygmaea</i>           | L                              | B               |                     |                  |                  |       |
| Red-breasted Sapsucker   | <i>Sphyrapicus ruber</i>       | L                              | B?/R            |                     |                  |                  |       |
| Red-necked Loon          | <i>Gavia stellata</i>          | S                              | M               |                     |                  |                  |       |
| Red-necked Phalarope     | <i>Phalaropus lobatus</i>      | S                              | M               |                     |                  |                  |       |
| Red-shouldered Hawk      | <i>Buteo lineatus</i>          | L                              | B               |                     |                  |                  |       |
| Red-tailed Hawk          | <i>Buteo jamaicensis</i>       | L                              | B               |                     |                  |                  |       |
| Red-winged Blackbird     | <i>Agelaius phoeniceus</i>     | L                              | B               |                     |                  |                  |       |
| Ring-billed Gull         | <i>Larus delawarensis</i>      | S                              | M               |                     |                  |                  |       |
| Rock Pigeon              | <i>Columba livia</i>           | L                              | B               | 1                   |                  |                  |       |

| Common Name            | Scientific Name                  | Landbird or Seabird/Shorebird | Breeding Status | Cliff/Ledge Nester | Protected Roosts | Rocky Intertidal | Beach |
|------------------------|----------------------------------|-------------------------------|-----------------|--------------------|------------------|------------------|-------|
| Ruby-crowned Kinglet   | <i>Regulus calendula</i>         | L                             | B?/M            |                    |                  |                  |       |
| Sanderling             | <i>Calidris alba</i>             | S                             | M               |                    | 1                |                  | 1     |
| Say's Phoebe           | <i>Sayornis saya</i>             | L                             | M               |                    |                  |                  |       |
| Sharp-shinned Hawk     | <i>Accipiter striatus</i>        | L                             | M               |                    |                  |                  |       |
| Short-billed Dowitcher | <i>Limnodromus griseus</i>       | S                             | M               |                    | 1                |                  | 1     |
| Snowy Egret            | <i>Egretta thula</i>             | S                             | B?/R            |                    |                  |                  |       |
| Song Sparrow           | <i>Melospiza melodia</i>         | L                             | B               |                    |                  |                  |       |
| Spotted Towhee         | <i>Pipilo maculatus</i>          | L                             | B?/R            |                    |                  |                  |       |
| Steller's Jay          | <i>Cyanocitta stelleri</i>       | L                             | R               |                    |                  |                  |       |
| Surf Scoter            | <i>Melanitta perspicillata</i>   | S                             | M               |                    |                  |                  | 1     |
| Surfbird               | <i>Calidris virgata</i>          | S                             | M               |                    | 1                | 1                |       |
| Townsend's Warbler     | <i>Setophaga townsendi</i>       | L                             | M               |                    |                  |                  |       |
| Tree Swallow           | <i>Tachycineta bicolor</i>       | L                             | B               |                    |                  |                  |       |
| Violet Green Swallow   | <i>Tachycineta thalassina</i>    | L                             | B?/M            |                    |                  |                  |       |
| Warbling Vireo         | <i>Vireo gilvus</i>              | L                             | B?/M            |                    |                  |                  |       |
| Western Grebe          | <i>Aechmophorus occidentalis</i> | S                             | M               |                    |                  |                  |       |
| Western Gull           | <i>Larus occidentalis</i>        | S                             | B               | 1                  | 1                |                  |       |
| Western Tanager        | <i>Piranga ludoviciana</i>       | L                             | B?/M            |                    |                  |                  |       |
| Western Wood-Pewee     | <i>Contopus sordidulus</i>       | L                             | M               |                    |                  |                  |       |
| Whimbrel               | <i>Numenius phaeopus</i>         | S                             | M               |                    |                  |                  | 1     |
| White-crowned Sparrow  | <i>Zonotrichia leucophrys</i>    | L                             | B?/R/M          |                    |                  |                  |       |
| White-tailed Kite      | <i>Elanus leucurus</i>           | L                             | R               |                    |                  |                  |       |
| Wilson's Warbler       | <i>Cardellina pusilla</i>        | L                             | M               |                    |                  |                  |       |
| Wrentit                | <i>Chamaea fasciata</i>          | L                             | B?/R            |                    |                  |                  |       |
| Yellow-rumped Warbler  | <i>Setophaga coronata</i>        | L                             | M               |                    |                  |                  |       |



### Coastal Habitat: Upland

Upland habitat along West Cliff Drive is dominated by invasive species with elements of historical native communities. Habitats seaward of West Cliff Drive along with recent restoration sites can be seen in Figure 3-25 and Figure 3-26. Table 3-5 summarizes acreage for the dominant habitats: iceplant, restored, and tree canopy. Specific habitat types along with species assemblages are listed in Table 3-6 and Table 3-7. Remnant native species occur primarily at stream outfalls, Lighthouse Field State Beach, and isolated cliff faces such as those above Cowell's Beach. Most of the native species listed in these tables have been reintroduced along West Cliff by coastal restoration efforts that began with support from the City in 2012.

Lighthouse Field State Beach has significant canopy cover from Monterey cypress (*Cupressus macrocarpa*), blue gum (*Eucalyptus globulus*), arroyo willow (*Salix lasiolepus*), and Monterey pine (*Pinus radiata*). These trees comprise the important Lighthouse Field monarch butterfly overwintering site in Zone 3 (Figure 3-27). This monarch site ranked second highest in numbers among western overwintering sites during the recent 2018/19 season (Xerces 2019) and is managed under the [Monarch Butterfly Overwintering Site Management Plan for Lighthouse Field State Beach in 2017](#) (Pelton 2017). The plan supports strategic tree plantings to maintain structure of the overwintering grove for monarchs. Tree plantings were initiated in the late 2000s and have resumed during the past two winters. The iconic Monterey cypress is the dominant cliff top tree species along West Cliff. Valued for aesthetic, shade, structural habitat and salt tolerance, this species can accelerate coastal erosion through hydraulic root pressure as their roots wedge into seams in the rock substrate in search of water. There are relevant examples of this process at Seabright Beach. Cypress are prone to toppling when planted in shallow soils of the first coastal terrace. Evidence of this can be seen at Lighthouse Field State Beach following periods of heavy rainfall and wind.

Other forest types are described in Table 3-6. Development of the coastal terrace and riparian zones has left only small traces of these communities along West Cliff. Remnants can be found in Lighthouse Field, a few seeps west of Mitchell's Cove and along Bethany Creek.

The majority of vegetation on the seaward side of West Cliff consists of invasive nonnative highway iceplant. (*Carpobrotus edulis*) and a hybrid between this and sea fig (*Carpobrotus chilensis*), herein collectively referred to as iceplant. Originally from South Africa, iceplant was introduced around 1900 and was planted extensively along railroad grades and highways to stabilize sand (Weber and D'Antonio, 1990). Iceplant has also been used extensively as an ornamental. Iceplant outcompetes other plants species by suppressing the growth of seedlings and mature plants (Zedler and Scheid, 1988; D'Antonio, 1990; D'Antonio and Mahall, 1991; D'Antonio et al., 1993). The California Invasive Plant Council lists iceplant as Category A-1 plant, highly invasive. Iceplant has severely impacted native Northern Coastal Bluff Scrub and Coastal Dune habitats and now covers thousands of acres in coastal California (CalIPC). The highest acreage of iceplant occurs in Zone 1. Iceplant forms monotypic stands with extremely low diversity, offering little in structure or forage for wildlife. Iceplant also alters soil chemistry by increasing salt load, reducing pH, and adding organic matter that is slow to breakdown. Dense

fibrous roots interfere with water uptake by more deeply rooted native plants (D'Antonio and Mahall 1991). A study on native bee response to removal of iceplant and restoration of native Coastal Bluff Habitat found a tenfold increase in bee abundance and threefold increase in diversity at the genus level.

Iceplant is almost always observed in association with large erosion events of marine terrace deposits along West Cliff. Iceplant becomes engorged and heavy following rainfall during the wet season. The shallow-rooted iceplant mats then fail in large slips (Figure 3-25). This observation may be in part due to the ability of iceplant to hold materials beyond the angle of repose. These failures lead to relaxation of the bluff edge towards a more stable angle.



**Figure 3-25. Iceplant slippage near Natural Bridges (left) and west of Its Beach (right).**

Other common West Cliff invasive plants are listed in Table 3-7. Of these species, the City has undertaken efforts to eradicate most of the jubata grass (*Cortaderia jubata*) from West Cliff with small patches remaining near the base of De la Costa Avenue. This included removing a large stand on the cliffs east of the Cowell's Stairs in about 2016 following a fire associated with a homeless encampment. The grasses on this list can make the initial phases of coastal restoration difficult but can be brought under control over time. Fortunately, the patches of Kikuyu and Bermuda grass on West Cliff are relatively small and restricted to highly trafficked areas such as by the public bathrooms at Lighthouse Field State Beach.

Invasive mammals are known to negatively impact native communities. Of these, black rats are commonly found in the rip-rap and iceplant habitat. Black rats are voracious predators of seabird eggs and prey on intertidal communities. The author led an egg predation study in 2002, which found that eggs in artificial nests in areas with rip-rap along West Cliff were more likely to be subject to predation than those in areas without rip-rap. Black rats could very likely be limiting some seabirds and landbirds from nesting along West Cliff. Rat trails can be seen in the soft soils along West Cliff (Figure 3-26). Feral cats are another species with top down effects that are commonly fed at several locations on West Cliff. Rock doves (pigeons) are a third ruderal invasive species that competes with pigeon guillemots for nesting sites. People feed pigeons at several locations along West Cliff including at the Natural Bridges Overlook. Pigeons were linked to a reduction in water quality at Cowell's Beach where the City spent significant funds to exclude this species from under the wharf. All these invasive species likely play a significant role in limiting wildlife populations in the study area.





**Figure 3-26. Black rat tracks above rip-rap west of Its Beach.**

Fossorial mammals along West Cliff Drive include pocket gophers (*Thomomys bottae*). Pocket gophers are ecosystem engineers and their tunneling activities are important to mixing the soil and creating subterranean habitat for other species. Gophers are linked to erosion and can cause water piping that can exacerbate erosional processes. Appropriately selected native plants are resistant to gophers; however, nonnative plant communities often have difficulties becoming established in the presence of gophers. They are important prey items for many species and both raptors and waders can be observed taking gophers along West Cliff.

Coastal restoration has considerably increased native vegetation communities along West Cliff Drive. Restoration sites are located on California State Parks, City of Santa Cruz properties, as shown in Figure 3-27 and Figure 3-28. The area of restored habitat is summarized in Table 3-5. Restoration efforts along West Cliff began in 2011 by Groundswell Coastal Ecology and are ongoing ([link to photo](#)). This work involves local schools and community members. Restoration target communities draw on the following vegetation alliances: Yellow Bush Lupine Scrub, California Sagebrush Shrub, Dune Mat, Arroyo Willow Thickets, Poison Oak Scrub, Coyote Brush Scrub, Sea Lyme Grass Patches, Ashy Ryegrass–Creeping Ryegrass Turfs, Silver Dune Lupine–Mock Heather Scrub, Slough Sedge Swards, and Sand Dune Sedge Swaths (California Native



Plant Society’s Manual of California Vegetation Online). All restoration materials are from locally collected stock and raised in the Groundswell greenhouse at Branciforte Small Schools ([link to photo](#)). Some materials are propagated at satellite greenhouses located at local schools.

Newly restored communities have become well established within 1 to 3 years after planting. Maintenance is required to prevent iceplant from reinvading along the plot edges ([link to photo](#)). Native resident and migrant animal species have recruited to the restored habitat. Local students and community participated in all restoration efforts. This work has also integrated science curricula into the restoration process ([link to photo](#)). These efforts provide a working model for future restoration along West Cliff Drive. This work has received support from the City, State, and federal agencies (including the Coastal Commission), and local donors.

**Table 3-5. Area (acres) by Zone of Coastal Habitats along West Cliff Drive**

| Zone | Restoration (Coastside) | Restoration (Inland) | Iceplant | Canopy (Coastside) |
|------|-------------------------|----------------------|----------|--------------------|
| 1    | 0.57                    | 0.17                 | 5.56     | 0.39               |
| 2    | 0                       | 0.02                 | 1.52     | 0.00               |
| 3    | 3.27                    | 0.22                 | 1.60     | 0.11               |
| 4    | 0.02                    | 0                    | 0.73     | 0.43               |
| All  | 3.86                    | 0.41                 | 9.42     | <b>0.94</b>        |



**Figure 3-27. Upland habitats and sensitive animal species in Zones 1 & 2.**



Figure 3-28. Upland habitats and sensitive animal species in Zone 3 & 4.

Table 3-6. Native Tree and Plant Species and Associated Plant Alliances (CNPS Manual of California Vegetation online) Found in Forested Habitats of West Cliff Drive (personal observation)

| Common Name          | Scientific Name   | Non-native Trees | Coast Live Oak Woodland | Central Coast Arroyo Willow Thickets | Red Alder Forest |
|----------------------|---|------------------|-------------------------|--------------------------------------|------------------|
| California buckeye   | <i>Aesculus californica</i>                             |                  | 1                       |                                      |                  |
| red alder            | <i>Alnus rubra</i>                                      |                  |                         |                                      | 1                |
| California mugwort   | <i>Artemisia douglasiana</i>                            |                  | 1                       | 1                                    | 1                |
| salt marsh baccharis | <i>Baccharis glutinosa</i>                              |                  |                         | 1                                    | 1                |
| valley sedge         | <i>Carex barbarae</i>                                   |                  |                         | 1                                    | 1                |
| ceonothus            | <i>Ceanothus thyrsiflorus</i>                           |                  | 1                       |                                      |                  |
| soap plant           | <i>Chlorogalum pomeridianum</i> var. <i>divaricatum</i> |                  | 1                       |                                      |                  |
| yerba buena          | <i>Clinopodium douglasii</i>                            |                  | 1                       |                                      |                  |
| Red osier dogwood    | <i>Cornus sericea</i> ssp <i>sericea</i>                |                  |                         | 1                                    | 1                |
| beaked hazelnut      | <i>Corylus cornuta</i> var <i>californica</i>           |                  | 1                       | 1                                    | 1                |

|                             |   |   |   |   |   |
|-----------------------------|---|---|---|---|---|
| Monterey cypress            | <i>Cupressus macrocarpa</i>                     | 1 |   |   |   |
| blue gum                    | <i>Eucalyptus globulus</i>                      | 1 |   |   |   |
| California fescue           | <i>Festuca californica</i>                      |   | 1 |   |   |
| wood strawberry             | <i>Fragaria californica</i>                     |   | 1 |   |   |
| common cowparsnip           | <i>Heracleum maximum</i>                        |   |   | 1 | 1 |
| ocean spray                 | <i>Holodiscus discolor</i>                      |   | 1 |   |   |
| horkelia                    | <i>Horkelia californica</i>                     |   | 1 | 1 |   |
| Mexican Rush                | <i>Juncus mexicanus</i>                         |   |   | 1 | 1 |
| Western rush                | <i>Juncus occidentalis</i>                      |   |   | 1 | 1 |
| common rush                 | <i>Juncus patens</i>                            |   |   | 1 | 1 |
| bicolored lupine            | <i>Lupinus bicolor</i>                          |   | 1 |   |   |
| California wax myrtle       | <i>Morella californica</i>                      |   |   | 1 |   |
| Monterey pine               | <i>Pinus radiata</i>                            | 1 |   |   |   |
| self heal                   | <i>Prunella vulgaris</i> var. <i>lanceolata</i> |   | 1 |   |   |
| coast live oak              | <i>Quercus agrifolia</i>                        |   | 1 |   |   |
| California buttercup        | <i>Ranunculus californicus</i>                  |   | 1 |   |   |
| canyon gooseberry           | <i>Ribes menziesii</i> var. <i>menziesii</i>    |   | 1 |   |   |
| flowering currant           | <i>Ribes sanguineum</i>                         |   | 1 |   |   |
| fuchsia flowered gooseberry | <i>Ribes speciosum</i>                          |   | 1 |   |   |
| California rose             | <i>Rosa californica</i>                         |   | 1 |   |   |
| thimbleberry                | <i>Rubus parviflorus</i>                        |   |   | 1 | 1 |
| California blackberry       | <i>Rubus ursinus</i>                            |   | 1 | 1 | 1 |
| arroyo willow               | <i>Salix lasiolepis</i>                         |   |   | 1 |   |
| red elderberry              | <i>Sambucus racemosa</i>                        |   |   | 1 | 1 |
| bee plant                   | <i>Scrophularia californica</i>                 |   |   | 1 |   |
| California hedge nettle     | <i>Stachys bullata</i>                          |   | 1 | 1 |   |
| poison oak                  | <i>Toxicodendron diversilobum</i>               |   | 1 |   |   |

**Table 3-7. Common Invasive Plant Species Found along West Cliff Drive (personal observation)**

| Common Name   | Scientific Name              |
|---------------|------------------------------|
| sea fig       | <i>Carpobrotus edulis</i>    |
| iceplant      | <i>Carpobrotus chilensis</i> |
| jubata grass  | <i>Cortdateria jubata</i>    |
| Bermuda grass | <i>Cynodon dactylon</i>      |

|                          |                                |
|--------------------------|--------------------------------|
| Canarian Sea<br>Lavender | <i>Limonium perezii</i>        |
| Kikuyu grass             | <i>Pennisetum clandestinum</i> |
| ripgut brome             | <i>Bromus diandrus</i>         |

Three coastal creeks terminate at the ocean on West Cliff (Table 3-8). The first, Arroyo Seco, is almost entirely underground in Zone 1, daylighting for some 20 feet before spilling out over the cliff near the base of Auburn Avenue (Figure 3-29). The creek terminus may have been rerouted from a previous path that perhaps went down Auburn Avenue and helped create the small cove that still exists today. There is also a small patch of arroyo willow where the logical creek path appears to lay. Bethany Creek has good water flow, elements of native vegetation and a maturing grove of sycamore trees (*Platanus* spp.). Recent restoration efforts here follow a red alder and arroyo willow riparian habitat model and making headway against the many invasive species in this watershed ([link to photo](#)). Lighthouse Creek is a promising seasonal watershed with low gradient lines that shoot out over the coastal cliff and onto Its Beach. The creek holds a seasonal population of Pacific chorus frogs (*Hyla regilla*) and drains the flat annual grass lands of Lighthouse Field. Connectivity of the creek to surface runoff along Pelton Avenue is poor offering an enhancement opportunity to reduce seasonal street flooding and help rewater the Lighthouse Field shallow water aquifer. Biological diversity along the creek is low and could benefit from the addition of flowering moist native perennial grassland plants, which would help benefit the overwintering monarch population and other pollinator species.

**Table 3-8. Names and Lengths of Streams Falling within the West Cliff Drive Project Area**

| Creek Name       | Length (ft) |
|------------------|-------------|
| Arroyo Seco      | 434         |
| Bethany          | 447         |
| Lighthouse Field | 701         |





**Figure 3-29. Arroyo Seco Creek outlet near Auburn Avenue in Zone**

## 4. Goals, Objectives, Program Overview Plan Projects

### 4.1. Resource and Management Goals and Objectives

Goals and objectives were refined through early TAC and community engagement. The overarching goal for resource and coastal management as outlined in this Plan is to recognize the need to prioritize coastal-dependent resources and equitably balance competing resource needs over changing long-term conditions.

#### 4.1.1. Coastal Resource Goals

1. Maintain/protect beach width where feasible. [Environmental Quality]
2. Ensure beaches along the length of the city coastline remain accessible and preserve public and private visitor serving facilities and minimize increases in visitor densities on specific beaches in collaboration with other agencies holding jurisdiction (e.g., State Parks). [Parks and Recreation]
3. Maintain a distribution of beach access points by encouraging a variety of transportation options along the entire city coastline. [Parks and Recreation]
4. Minimize coastal habitat loss and maintain ecological connectivity. [Environmental Quality]
5. Address needs of underserved people of the community, both local residents and visitors, little to no cost access and recreation, day use parking, transportation, cultural and spiritual uses, and jobs. [Community Design; Housing, Cultural]
6. Maintain public safety on beaches and when accessing beaches; work with marine safety staff to upgrade priority marine rescue egress locations (i.e. Zone 2). [Safety]
7. Accommodate a diversity of recreational activities for a range of users. [Parks and Recreation]
8. Maintain and enhance water quality to the extent feasible. [Environmental Quality]
9. Encourage, enhance and maintain regional sediment supply to the coast including sand management programs that enhance beach and coastal recreation while partially mitigating some impacts from coastal armoring. [Safety, Environmental Quality, and Parks and Recreation]

#### 4.1.2. Coastal Management Goals

1. Minimize coastal armoring. [Safety, Park and Rec, Environmental Quality, Econ Development]

2. Reduce beach area loss from placement footprint of shoreline protection structures. [Safety, Parks and Recreation]
3. Prioritize living shoreline adaptations. [Safety, Park and Rec, Environmental Quality]
4. Monitor coastal access infrastructure and beach width long-term and in response to extreme storm events; monitor how coastal change is impacting coastal use. [Safety]

Overarching goal: Recognize the need to prioritize coastal-dependent resources and equitably balance competing resource needs over changing long-term conditions.

#### 4.1.3. Objectives for Sense of Place and Cultural Identity

- Continue to honor and uphold the unique places along West Cliff Drive where people may live, play, worship, and work
- Retain (in place or relocate), or enhance key local features that contribute to the historical and contemporary cultural identity of West Cliff Drive (surfing, coastal resources, Lighthouse and museum, sculptures, memorial benches, and scenic views)
- Increase education and awareness of coastal change (sea level rise and erosion) and its potential community impacts to local ecosystems, recreation, transportation and infrastructure

#### 4.1.4. Objectives for Recreation and Access

- Maintain or enhance public access so as to distribute access to ocean, beaches, and along cliff top to promote use across the entire West Cliff Drive corridor
- Maintain or enhance public access so as to distribute access to ocean, beaches and along cliff top to promote visitation across the entire West Cliff Drive corridor
- Prioritize lateral access along West Cliff Drive cliff tops and in the Main Beach area so that all groups of people have access to recreation opportunities
- Maximize access, especially for most vulnerable populations
- Mitigate the need for emergency repairs by adopting a plan allowing necessary maintenance and upkeep of City facilities
- Maintain and enhance emergency access for marine rescue operations
- Monitor coastal access infrastructure and beach width long term and in response to extreme storm events; monitor how coastal change is impacting coastal use
- Maintain/protect pocket beach width where feasible
- Maximize beaches for as long possible

#### 4.1.5. Objectives for Transportation

- Improve transportation safety, aiming to resolve multi-modal transportation conflicts, especially for underrepresented populations within the community (e.g., elderly, disabled, linguistically isolated)
- Prioritize lateral access along West Cliff Drive cliff tops and in the Main Beach area so that all groups of people have access to recreation opportunities
- Maximize access, especially for most vulnerable populations
- Mitigate the need for emergency repairs by adopting a plan allowing necessary maintenance and upkeep of City facilities
- Maintain and enhance emergency access for marine rescue operations
- Monitor coastal access infrastructure and beach width long term and in response to extreme storm events; monitor how coastal change is impacting coastal use
- Maintain first responder access to coastline, beaches, and residences
- Maintain and improve the corridor for active transportation modes (e.g. walking, cycling)
- Manage limited parking resources to promote maximum public access

#### 4.1.6 Objectives for Ecosystems and Habitats

- Maintain and enhance biological and species diversity, water quality, minimize coastal habitat loss and maintain ecosystem connectivity
- Reduce erosion by managing sediments, recreational uses, amenities, and stormwater systems
- Maintain and enhance biological and species diversity, water quality, minimize coastal habitat loss and maintain ecosystem connectivity
- Minimize coastal armoring, prioritize living shoreline adaptations, and reduce beach area loss from placement footprint of shoreline protection structures.

### 4.2. Public Works Project Concepts Overview

Future actions for West Cliff Drive can be considered along various time frames. For the purposes of this project, the City is using a Public Works Plan to define priority projects for near term implementation (next 10-15 years), which is summarized in this section. The Plan also identifies projects that initiate further studies, and planning and design for the medium-term (10 to 30 years). **The summary of the priority project concepts is followed by specific public works projects by zone and by habitat and landscaping projects and maintenance for West Cliff Drive corridor-wide.** A Capital Improvements Program table summarizing all projects across all zones is located in Chapter 9.



Adaptation to coastal erosion and sea level rise along each zone of West Cliff Drive will likely require multiple approaches over time. Uncertainties in timing of large storm waves at high tides, elevation of sea level rise in the future, and projected extents of future coastal erosion, require consideration of feasible adaptation strategies over both short- and long-term time scales with an adaptation pathways approach. Short-term projects authorized through this Plan as well as medium to longer term adaptations were determined through a systematic process during 2019-2020.

#### 4.2.1. Revetment and Armoring

A priority of the Plan is to identify the components of an armoring maintenance program, specifically (1) new and replacement armoring projects zone by zone, (2) anticipated design and implementation phases and (3) criteria for maintenance repairs corridor-wide. This program is aimed at enhancing recreational uses and maintaining the existing path while repurposing existing riprap if reasonably possible and minimizing the addition of new riprap. In addition to the in-depth evaluation of armoring conducted as part of the preparation of the Plan, the Public Works department conducts an annual inspection and assessment of all armoring movement. The near term projects and anticipated maintenance proposed in the Plan will include the retrieval of fugitive rocks where feasible (i.e., rip rap that has moved out of place but could be restacked), the restacking or repair of existing structures (which could include new rock) to minimize toe scour, stabilization of caves, maintenance of the revetment design profiles (when feasible) to reduce the footprint on the beach, replacement and design of seawalls and general maintenance to avoid of emergency repairs. The Existing Conditions inventory and engineering assessment determined that all existing riprap and armoring could be reached by crane from the cliff top, although some may require partial temporary closure of West Cliff Drive. The Public Works Department, with adequate funding, will phase the short-term projects proposed by Zone in addition to other typical maintenance that may be required as revealed through annual inspection. Aside from the near-term projects proposed, the trigger for maintenance repairs will be exceedance of the minimum revetment elevation target (e.g., 80% of revetment design height).

Design activities related to armoring should be coordinated with other priorities of the Plan, e.g., transportation, habitat restoration, overlook improvements, etc. Construction activities related to armoring should attempt to minimize impacts to coastal access and the neighborhoods during operations. Maintenance operations could be summarized annually in a monitoring and maintenance report.

#### 4.2.2. Transportation Facilities

Multi-modal traffic count data collected along the corridor show a well-used Recreational Trail by cyclists, pedestrians and other non-auto users. Observations and public feedback noted that user conflicts and congestion are common along the trail, especially at several narrow pinch

points along the Trail. Recent widening efforts have been effective in minimizing overcrowding along limited sections of the Recreational Trail.

Several alternative transportation designs to West Cliff Drive and the Recreational Trail were identified to support walking and bicycling priorities. In community outreach for this project, the Recreational Trail was the highest priority transportation facility to maintain in the corridor. In general, the transportation adaptation alternatives maximize the use of available space and are intended to respond to actual erosion events and narrowing of the West Cliff Drive corridor over time. The Short-Term Alternative 1 identifies the following transportation improvements for implementation:

- Improved signage along the corridor indicating it is a shared Class III bicycle facility on the roadway
- Improved visibility and addition of marked crosswalks, including signage and painted crosswalk improvements,
- Inventory and identification of all curb cuts and tactile warning boards, and improvements to those that are substandard
- Consideration of additional curb cuts to facilitate access to and from the recreational trail from the roadway and side streets
- Continued multi-modal traffic count monitoring along the corridor
- Continued parking lot occupancy counts and consideration of additional parking management strategies including, but not limited to enforcement, user fees, expanded time based limits, residential permits, and other demand side tools to support adaptation.

The medium term Alternative 2 considers a conversion to a vehicular one-way east to west roadway pending future coastal erosion. There has been substantial input from the community on Alternative 2, with no consensus from community feedback received during the outreach events in support of or against the one-way option. Public Works Department will continue the use of multi-modal traffic counts, conducting regular counts and further community engagement as needed for assessing the potential impacts and the future design of this alternative. The transportation alternative concepts are more fully discussed with Figures in plan and section view in Chapter 7 of this Plan.

#### 4.2.3. Public Access, Recreation, and Education

The Existing Conditions Inventory identified a comprehensive list of needs to improve, repair, and enhance the existing designated accesses and provide new overlook opportunities. New structures or maintenance work should include consideration of access improvements. Specific locations of access projects (e.g., stairwells) are discussed in the Zone by Zone project section.

Many West Cliff users visit the unique overlook terraces along the coastline that provide a close-up and off-road experience and provide unique ocean and sunset views, fishing opportunities and beach or ocean access. Some of this coastal terrace has been covered with rock as part of historical armoring efforts. This rock covers areas of this unique coastal environment and restricts lateral access among areas of the coast. A further analysis of current terrace use and potential use will be completed to identify areas where vertical sea wall upgrades to failing rock revetment can provide added terrace access, overlooks and use. Specific locations of revetment upgrades projects are discussed in the Zone by Zone project section. Such an increase in resource area and access can help to address loss of vertical access and over time beach use along other areas of West Cliff.

West Cliff Drive is an important part of the Santa Cruz community. It is a great location to educate residents and visitors alike about the coastal processes, history, recreational uses, and climate change. It is also an opportunity to expand and invite different populations of the community that are often underrepresented to learn and enjoy this community facility. The City anticipates evaluating and implementing signage about the coastal processes, history, climate change, recreation, and ecology along with transportation signage, as appropriate. It is important the signage does not overwhelm, clutter and ultimately degrade the natural scenic beauty along West Cliff. Design considerations and placement will help maintain continuity and a sense of place along West Cliff Drive. Signs could be designed in Spanish and English.



Figure 4-1. Example of habitat signage along Natural Bridges State Park

#### 4.2.4. Sand Management Program

As identified in the Adaptation Alternatives analysis completed for the project with a high benefit cost ratio, the proposed sand management concept would place approximately sand from a source such as the Harbor, San Lorenzo River or other, raising sand levels. A Sand Management Study proposed in the short-term will evaluate sources, feasibility, downstream impacts and costs for a periodic sand placement program. For example, one scenario to model and evaluate could involve recycling about 10% of the annual sand volume dredged at the harbor to augment natural sand supply and widen City Beaches while assessing any alternations to natural sand supply to beaches downcoast of the Harbor. If Santa Cruz Harbor is a viable source, sand might be transported by barge to the beach and pumped onshore. Whereas if the San Lorenzo River is a viable source, sand might be trucked and placed on beach. The sand placement may help mitigate the loss of beaches from coastal armoring and enhance the quality of some of the surf breaks, also a feature to be analyzed. Close and early engagement with downcoast stakeholders will also be key to the Sand Management Study's scope of work. This feasibility study would include consultation with the necessary regulatory and funding agencies to inform the permitting and environmental review, and establish possible funding mechanisms. The economic analysis indicates that benefits can be maximized if this project is completed within this decade. Dependent on the outcome of this analysis the City may initiate planning if feasibility study identifies an alternative with a high likelihood of success and support from community engagement.

#### 4.2.5. Habitat and Landscaping

Key opportunities for enhancing nearshore marine resources include maintaining sandy beach habitat, tidepools, offshore rock outcroppings, and isolated seabird roosting and nesting habitat. Elements such as tidepools, cracks, and substrate texture that facilitate colonization by marine species and be integrated into existing, purpose built, and multi-functional coastal armoring structures. Structures should include engineering elements to promote sand retention. Seabird roosting and nesting habitat should be created at key locations by restoring existing ledges currently covered by invasive plants, engineering new ledges and crevices on native bluffs as well as existing, and new built armoring structures. Structures built to stem the formation of sea caves could have opportunity to include habitat elements suitable for rare black swifts. Design standards and a prioritization framework must be developed not only for these opportunities, but for restoration and landscaping in general

#### **Potential Overarching Design Principles**

Design principles for landscaping and habitat enhancements or living shorelines adaptation strategies should provide desired ecosystem services, match landscape level patterns in coastal ecology, emphasize function habitat over landscaping, promote habitat connectivity, and balance attention on terrestrial and marine habitats. In addition to reducing erosion, enhancing coastal resiliency, and increasing biodiversity, healthy living shorelines provide ecosystem services including water filtration, nutrient uptake, carbon sequestration, pollination services, reduce invasive pests, help curb pollution, and more. One way of viewing living shorelines is as multipurpose landscaping that focuses on making coastlines more resilient and building habitat.



The design process should work to maximize the benefits of these and other services. Visitor access, human interaction, and aesthetic are important components of living shorelines from both the perspective of managing human impact on the environment and recognizing economic returns on coastal investments. Living shorelines solutions in high energy systems must either integrate with resilient geologic or built hard features or have space to accommodate dynamic shorelines and adaptive retreat. Living shorelines can be implemented through restoration of existing degraded habitat and accompany installation of coastal armoring. The most elegant implementations in developed systems seamlessly bridge elements of the built environment by weaving threads of functional habitat into engineered structures. To maximize project lifespans, design considerations should provide functionality at a wide range of tidal stages and future sea level rise horizons.

### **Prioritization Framework**

A prioritization framework based on factors including priority areas of erosion concern, potential to reduce erosion, project complexity, cost, project life span, access, and ecological benefit should be developed to facilitate living shorelines implementation. To identify projects with discrete boundaries, West Cliff Zones could be divided into subunits of manageable size that encompass priority areas of erosion concern, visitor access pathways, microwatershed boundaries, consider equipment access, and implementation considerations on adjacent subunits.

### **Physical Processes**

A primary goal of living shoreline adaptation strategies is to focus on physical processes such as reducing erosion, slope stabilization, increased sand retention, and runoff filtration. Individual projects may address erosion associated with existing armor, slope failures, and access ways. Implementation may require erosion control plans that specify use of materials such as jute and waddles. Since access pathways have significantly increased erosion and channelized stormwater runoff, this process may involve redesign of access pathways on the oceanside of the bike path. Many of these scenarios may require bioswales, curb-cutouts, and other permeable materials to reduce concentration of runoff, increase water retention, and percolation.

### **Ecological**

A second element of living shoreline adaptation strategies seeks to support healthy ecosystems including functional habitat. Primary ecological goals include matching landscape level patterns in biodiversity and abundance of species, include a diversity of habitats and promotion of habitat connectivity. Living shorelines can include both living (vegetation) and abiotic structural components and should occur in both the terrestrial and marine ecosystems. Vegetation can provide food such as seeds and nectar and structure for reproduction and shelter for native fauna. Abiotic components should prioritize local nature-based materials such as elements of local wood and rock. It is important to note that vertical habitat is often overlooked and under-utilized and offers a significant opportunity for additional habitat in space constrained systems.

## **Terrestrial**

Terrestrial living shorelines may focus on vegetated habitats where much of the work involves removal of invasive iceplant and subsequent revegetation along erosive trails and post construction restoration. This process should be multiphase, starting off with foundational species and then adding species that are less commonly encountered in coastal vegetation communities. Plant selection should focus on perennials and include both shrubs and rhizomatous species that develop fibrous underground root systems that are effective at stabilizing soils. Species palettes should be tailored to abiotic factors such as seasonal inundation, salt loading, soil type, and foot traffic. Species selection should also consider gopher pressure which can be intense at some sites, the life span of species, use of weedy native species which can dominate some systems, and patch size of individual species or species groupings. Restoration or post construction erosion control using reseeding can be effective in some scenarios. This practice should rely on locally collected native seed and avoid boiler plate seed mixes such the Santa Cruz Erosion Control Mix. In some instances, sterile nurse crops seeding in conjunction with natives may be useful in establishing vegetative cover on bare soils. Non-sterile nurse species should be avoided. Follow up planting and maintenance may be required as there may be some trial and error in determining where species may best grow. Many sites have low weed seedbanks due to almost complete monoculture of iceplant along West Cliff, however planting may require follow up maintenance to ensure natives become established and are able to outcompete invasive weeds. Community and school groups have shown to be a good venue for maintenance and monitoring of restoration sites.

Habitat for flora and fauna can also be designed into coastal armor structures to promote habitat connectivity across the landscape. Structures can incorporate elements such weep holes that can water vegetated ledges and shelves as well as shallow dishes that collect water for animals to drink. The curtailing of erosional processes along West Cliff has resulted in a loss of bird habitat. One opportunity to mitigate this is to build isolated ledges and crevices into natural cliffs and built structures to support breeding and roosting of seabirds and landbirds. This can be accomplished by clearing invasive vegetation, cutting, drilling, bolting on features, or designing habitat into native rock as well as existing and newly built structures. The extensive subsurface cavities associated with rip rap promote black rat habitat and should be avoided in future armor structures.

## **Marine**

There is opportunity to enhance the marine environment on existing and future structures. Engineering intertidal and subsurface features that increase sand retention could help support sandy beach habitat. Texture, rugosity and tidepools could be added to structures to provide habitat intertidal marine fauna. These features could be added to existing structures including rip rap and provide holes for fish and refugia crevices for limpets and abalone. There may also be opportunity to include small offshore rock outcroppings that service as roosting location for seabirds.

## **Restoration**

The greatest enhancement opportunities for the terrestrial portion of West Cliff are restoring native habitat by removing invasive iceplant followed by replanting with a diverse palette of locally sourced native plant species. Restored habitat may support an increased biodiversity of resident and migratory fauna in less than one year. The long-term goal should be to remove iceplant throughout West Cliff. To reduce effort and edge effects, the workplan should include a prioritization framework with planned units that minimize the perimeter of unrestored habitat and disturbance to adjacent lands. Removal should occur in late summer, so soils are not bare during the long dry season. Depending on site characteristics, iceplant removal may require multiple techniques. Hand work and heavy equipment such as excavators are feasible in flat areas and on slopes with less erosive soils.

Iceplant has formed dense mats over 2 feet thick in some locations. Here and in some other sites have a thick organic duff layer that is hydrophobic and a poor substrate for planting native plants. This layer must be removed to support successful native plantings. Heavy equipment is the tool of choice for this task. Physical removal techniques may cause excessive erosion on steep slopes with friable soils. Where ice plant mats tend to be less dense, treatment with herbicide is the most effective tool for removing iceplant. The remaining dead iceplant can serve as an erosion control mat which can be planted directly into. For this reason, the City may consider granting a policy exemption for the use of herbicides in removal of iceplant from priority areas that have erosive conditions which preclude hand or mechanized removal within the West Cliff living shoreline enhancement footprint. Solarization during the summer and fall months may be a viable alternative. However, using large tarps on steep slopes may be expensive and present risks including erosions and potential introduction of large amounts of plastic into the nearshore marine environment. Pilot trials should be carried out prior to exercising this option. For flat surfaces, it is most efficient to plant once the winter rains have saturated the soils. If watering is an option, planting can occur in the early fall before the winter rains to give plants a head start on establishment. This can be advantageous for steep surfaces. Opportunistic native plant restoration can also take advantage of the frequent natural slippage events that occur on iceplant slopes during the winter.

Aesthetic is an important consideration. Future built infrastructure should color and texture match the native geology better than previous attempts such as the Pleasure Point Seawall Project. This element is crucial to connecting coastal users, visitors and residents, with a sense of place, that they are here on the Central Coast of California. Achieving both color and texture to match that of the native Santa Cruz mudstone and Purisima formations is well within the capacities of cement contractors. This element should include testing that evaluates application techniques used in the field as colorants can stratify during application. Testing should also incorporate a waiting period for materials to cure, be exposed to saltwater, and material performance over extended time periods.

## **Landscaping and Overlooks**

A number of areas to improve landscaping, amenities and overlooks have been identified by zone in 4.3. The Parks and Recreation Department intends to lead a West Cliff Drive standards

project to specify design standards for overlooks, railings, park signs, interpretive signs, minor retaining walls, in FY 23. Incorporation of habitat and landscaping improvements into other larger Public Works projects will be evaluated.

#### 4.2.6. Stormwater Drainage

Stormwater drains can cause significant erosion of the cliff face, specifically the upper soft bluff terrace deposits, compounding coastal erosion hazards and leading to potential loss of the Recreational Trail and West Cliff infrastructure. Replacement and redesign of aged stormwater pipes can help to reduce erosion of highly erosive soils as well as help to reduce costly repairs and loss of access. While a number of storm drains have been replaced, in other locations old pipes have been abandoned and new ones installed that were not visible during field visits (likely covered with vegetation or rip-rap). In Chapter 5, the Plan specifies evaluating all stormwater outfalls and pipe infrastructure along West Cliff Drive in the near term and replacement of those in poor condition.

Failing CMP will be replaced with plastic pipe and realigned to minimize erosion. Design considerations for replacing stormwater infrastructure will focus on reducing seepage and erosion, dissipating flow velocities and discharging flow below the upper more erosive geologic layers. One drainage outfall in particular is deserving of additional design consideration. The drainage outfall at Pyramid Beach offers a unique opportunity to mirror a natural waterfall on the beach. Specific locations of these stormwater projects are identified in the Zone by Zone project section. Examples of stormwater infrastructure in need of upgrading are shown in Figure 4-2.



**Figure 4-2. Examples of failing stormwater infrastructure**



### 4.3. Zone by Zone Public Works Projects

Referencing the Existing Conditions inventory evaluated throughout the course of the Plan development process, short-term projects, the focus of this Plan, are proposed to be high priorities with planning, permitting, financing and implementation within the next 10-15 years. Projects are identified based on the projected life expectancy of Existing Conditions, projected impacts of sea level rise, and anticipated preferences of the City and community. While the focus is the short-term (<15 years), medium (15 to 30 years) and long-term (30+ years) adaptations are briefly mentioned in this section as well but are further detailed in the adaptation alternatives analysis. The City's proposed short-term projects also include planning, design, and consideration of permitting and financing requirements for more medium term projects. The City also anticipates it will develop and refine its triggers and monitoring program to identify when planning and implementation should commence based on observable changes to the West Cliff Drive corridor

The City will complete these projects according to the considerations and constraints, policies, best management practices, and illustrative transportation concepts described in Chapters 3, 5, 6 and 7, respectively. The City will consider combining projects, when feasible for cost effectiveness, achieving economies of scale by integrating into the major projects specified for design and/or implementation. For example, Parks and Recreation is interested in coupling a West Cliff Drive Recreational Path signage evaluation project with the evaluation of signage for the corridor-wide transportation signage project specified for all zones. Similarly, transportation, habitat restoration and overlook enhancement projects can be coupled with the design for large seawall projects. General cost estimates for each are included in the Capital Improvements Program Chapter 9 of the Plan.

All projects described by zone fall into one of four categories of projects with different levels of project authorizations required for each category of project as defined in Chapter 6: maintenance, minor projects, major projects, and other studies. In addition to the zone by zone projects, the City will complete a Corridor-wide Master Signage Plan and Design Standards.

#### **Zone 1 – Natural Bridges to Almar Avenue Project Descriptions**

Additional figures from the existing conditions inventory are included to provide further information for each of the short-term projects proposed as part of this Plan. At the end of the Zone 1 Project Descriptions, reference the Zone 1 and 2 Existing Conditions Maps for:

Map 1: Armoring Sites

Map 2: Areas of Erosion Concern

Map 3: Access

Map 4: Utility Infrastructure<sup>3</sup>

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<sup>3</sup> Utility Infrastructure depicted in Map 4 (for Zone 1 and all Zones) includes water, wastewater and stormwater infrastructure owned and operated by the City. Gas, electricity and communications infrastructure was not available to locate in mapping. However, the City will conduct outreach to those utility providers prior to Plan project implementation.

**Figure 4-3. Specific priority projects identified in Zone 1 to be completed in the short-term**



1. Maintenance: Improve transportation signage and striping aligned as indicated in Transportation Concept Alternative 1 to further communicate West Cliff Drive as a Class III bikeway as further described in Chapter 7. The City can begin consideration of a one-way vehicular alternative to maintain and enhance the Recreational Trail should a failure occur that inhibits status quo transportation patterns (AEC #6 and #14).
2. Maintenance: Improve the exterior of the stormwater outfall at Pyramid Beach between Auburn Avenue and Sacramento Avenue to look like a natural waterfall to enhance the viewshed.
3. Other Study: Conduct a sand management study to determine feasibility of the sand management program concept through additional engineering and scientific investigations including sand compatibility, sediment transport modeling, source analysis, transportation alternatives analysis, permitting, cost estimating and financing to determine the engineering feasibility and potential lifecycle for each placement. Includes engagement with regulators, downcoast stakeholders and the community.

4. Maintenance: Upgrade any failed non-engineered structures at armoring site #6 and 4, 5, 9 to retaining walls.
5. Major Project: Fill seacaves #13C, D and E. Based on the characterization provided in the existing conditions, the City will design and implement a cave fill project to bolster resilience of the coastline between Stockton Avenue and Merced Avenue.
6. (Zone-wide; not shown on map) Minor Project: Parking management strategies to encourage maximum public access and reflect frequent overflow parking from Natural Bridges State Park and Beach. These tools include times limits, hours of operation, residential parking permit zones, and user fees.
7. (Zone-wide; not shown on map) Maintenance: Addition of formal bike parking throughout Zone 1, including Natural Bridges, Parking areas, and Pyramid Beach.
8. (Zone-wide; not shown on map) Maintenance: Conduct stormwater outfall and pipe televising and repair/replace any failed pipe;

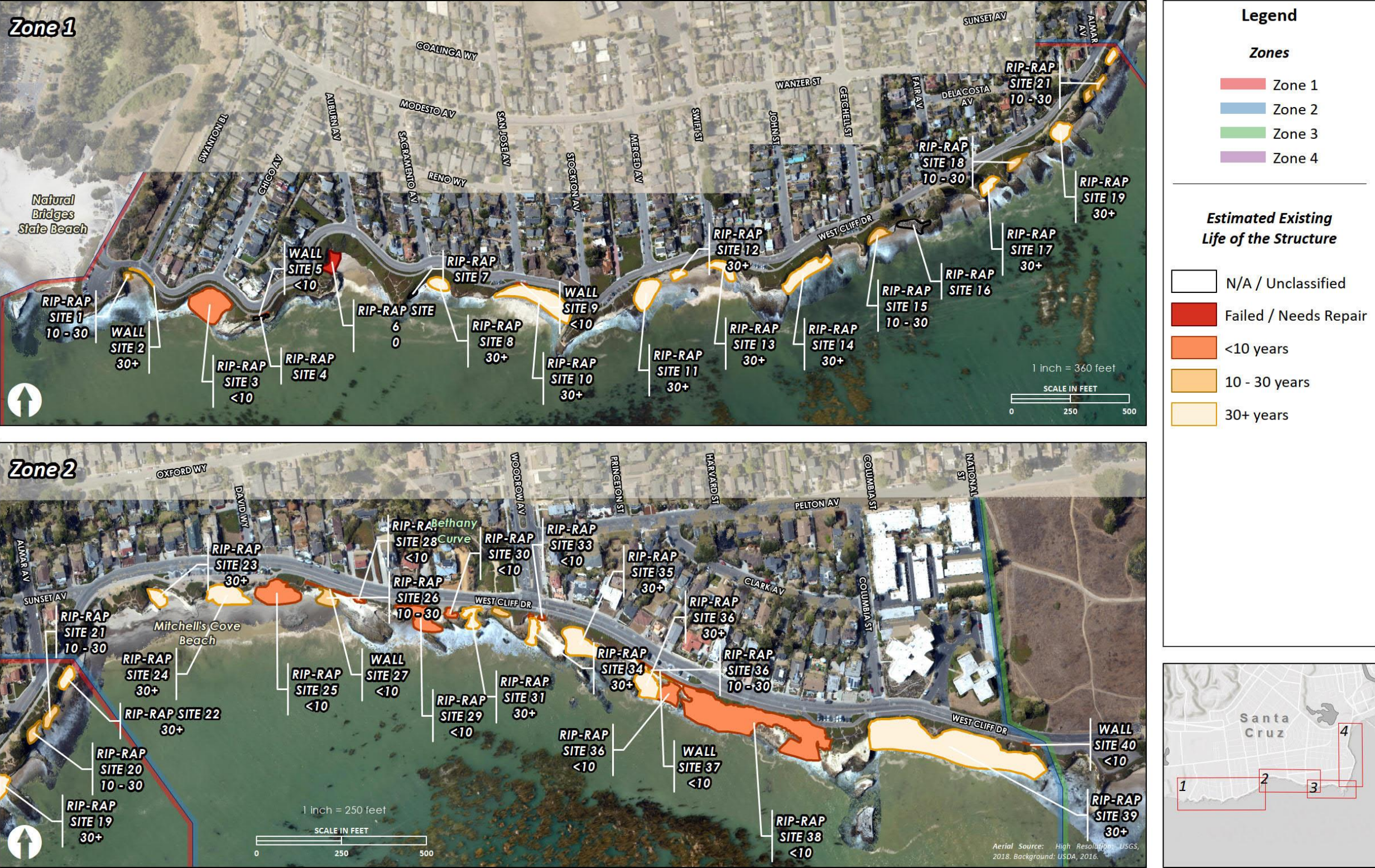
Specific projects that are likely to require additional study in the short term for implementation in the medium term will be identified based on continued monitoring of the extent of undercutting and the distance of the bluff edge to the Recreational Trail.

Medium-Term: Following significant wave or erosion events, the City will consider accommodating erosion and public access by relocating the Recreational Trail inland even if it requires the loss of parking or transitions the roadway from two-way vehicular traffic to one-way vehicular traffic from east to west for a portion or all of West Cliff Drive. Any road and or Recreational Trail realignment should seek to maximize width and maintain of the Recreational Trail based on the Conceptual transportation design concepts for Alternative 2 pursuant to standards in place at the time. If feasible medium term transportation improvements will be coordinated with other major projects identified for the medium term, e.g., new or improved armoring and/or sand management. Continued parking management tools are to be implemented to manage an increase in demand and a decrease in supply as the result of coastal erosion.

Long-Term: The City will further investigate and potentially implement a long-term investment in the sand management program based studies conducted in the short-term. As erosion events or maintenance costs exceed an identified trigger, then the City will consider prioritizing using the available public West Cliff Drive right of way space to realign and maintain the Recreational Trail by reducing street parking and vehicular traffic to a one way and eventually closure except for emergency services. It is anticipated that future updates to the West Cliff Drive Plan and Climate Adaptation Plan will continue to engage with residents and evaluate appropriate timing for planning and implementation of long-term adaptation strategies.

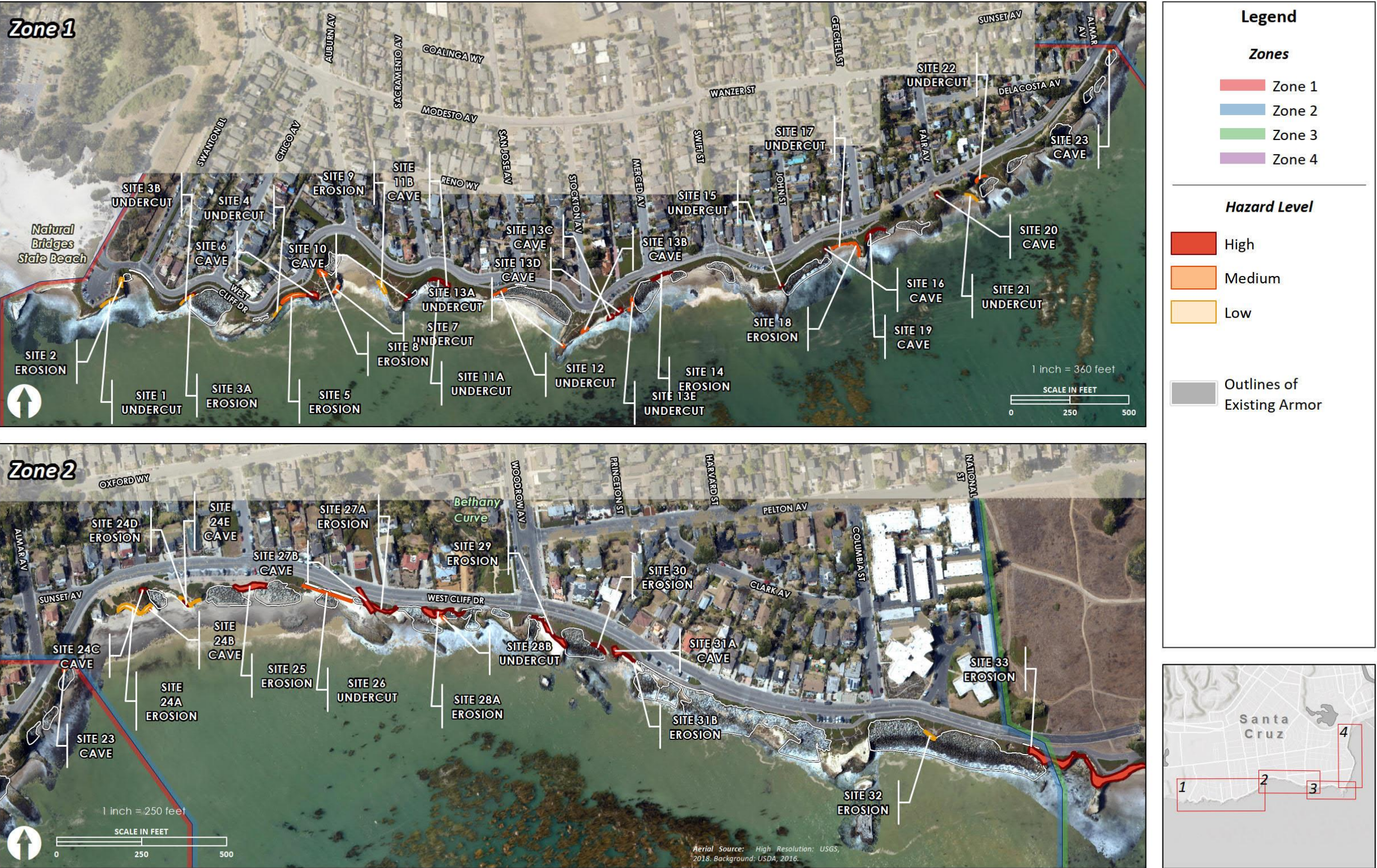


Map 1. Figure 4-4. All armor sites along West Cliff Drive (Zones 1 & 2).





Map 2. Figure 4-5. Priority Areas of Erosion Concern for Zones 1 & 2.





Map 3. Figure 4-6. Locations of formal and informal access areas along West Cliff Drive, Zones 1 & 2.





Map 4. Figure 4-7. Locations of Utility Infrastructure along West Cliff Drive, Zones 1 & 2.





## **Zone 2 – Mitchell’s Cove – Almar to Arch Rock Project Descriptions**

This zone is complex with the highest amount of current erosion risks, including high risk of sea cave failures. The estimated life span of many of the existing armoring structures is less than 10 years. The areas of erosion concern include several existing bluff top failures and sea caves where collapse would affect both the Recreational Trail and, likely, vehicular traffic along West Cliff Drive (AEC #27). Most of the existing armoring structures have substantial amounts of fugitive rocks that are affecting priority beach recreation areas. As a result, a zone wide approach is the priority for Zone 2. This zonal approach is similar to the County Redevelopment Agency funded project along East Cliff Drive at Pleasure Point, Santa Cruz. There, the County removed existing riprap and engineered a vertical soil nail seawall while improving the Recreational Trail along the clifftop and vertical access improvements. This Zone 2 Zonal approach includes replacing failing revetments, aging seawalls and removing fugitive rocks to improve beach recreational opportunities and where appropriate restore and enhance the blufftop terrace access, transportation corridor, habitats and recreational opportunities, as well as performing standard maintenance activities to extend the useful life of existing structures.

This zone has several constraints. For example, there are homes that are only accessible through West Cliff Drive. This area is a place of low bluff top elevation, high wave energy and poor vertical access. Marine safety staff routinely have to make rescues in this area.

The specific projects identified in Zone 2 focus on a very short-term maintenance of the existing revetments to prevent emergency failures and the design of a zonal approach. While funding is being assembled to implement the zonal approach design, maintaining the existing revetments will continue to be a priority to preserve the recreational trail and vehicular access. It is recommended that this Zone 2-wide project be identified in the Local Hazard Mitigation Plan (LHMP) to be eligible for federal FEMA funding.

For reference, before the Zone 2 Project Descriptions, please see the Zone 2 Existing Conditions Maps for by zone before the start of Zone 2:

Map 1: Armoring Sites

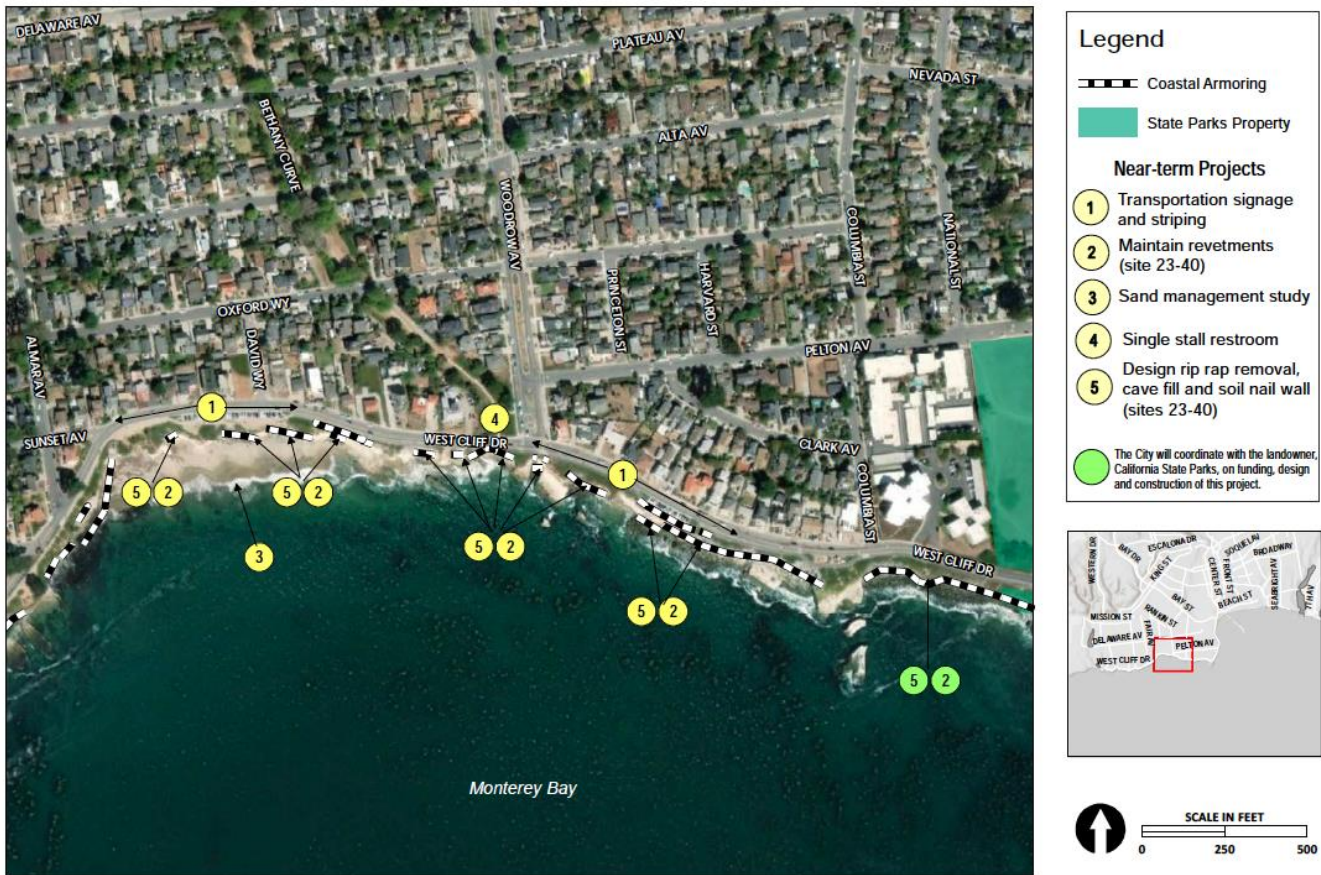
Map 2: Areas of Erosion Concern

Map 3: Access

Map 4: Utility Infrastructure



Figure 4-6. Specific priority projects identified in Zone 2 to be completed in the short-term



1. Maintenance: A priority is to improve transportation signage aligned with concept designs (Alternative 1 as depicted in Chapter 7) and to further communicate West Cliff Drive as a Class III bikeway as further described in chapter 7.
2. Minor Project: Maintain Revetments #23 - 40: Fugitive rocks will be restacked to reduce the potential of failure of short life span structures. Cap the entrance to the cave at David Way with rip rap.
3. Other Study: Conduct a sand management study to determine feasibility of the sand management concept.
4. Minor Project: Construct a gender neutral public restroom inland of Bethany Curve bridge near Woodrow.
5. Major Project: Design a zone-wide engineering and funding approach to remove or reduce the existing rip-rap (sites 23 to 40) and replace with soil nail walls or vertical recurved seawalls, with special consideration of integrating living shoreline approaches and habitat restoration. Some of the

revetment will be repurposed as fill if possible, sea caves will be reinforced and/or capped as feasible. If feasible armoring and revetment design will include design of transportation improvements, habitat restoration projects

6. (Zone-wide; not shown on map) Maintenance: Conduct stormwater outfall and pipe televising and replace failed pipe;
7. (Zone-wide; not shown on map) Minor Project: Parking management strategies to encourage maximum public access. These tools include times limits, hours of operation, residential parking permit zones, and user fees.
8. (Zone-wide; not shown on map) Maintenance: Addition of formal bike parking throughout Zone 2, including Mitchell's, Parking areas, Bethany Curve, and overlook areas.

Medium-Long Term: Based on results of the benefit cost analysis the City will evaluate construction of a groin or wave dissipation structure near Bethany Curve to reduce wave energy and erosion by impounding sand on the beach at Mitchells Cove. Such a structure could potentially enhance surf conditions and beach recreation.

The City may begin consideration of a one-way vehicular alternative to maintain and enhance the Recreational Trail should a failure occur that inhibits status quo transportation patterns , particularly as erosion continues to narrow the Recreational Trail (AEC #27 and #28). See Chapter 7 for more on this concept.

### **Zone 3 – Its Beach, Point Santa Cruz, and Steamer Lane**

Zone 3 contains a high concentration of beach and surfing resources highly valued by the community as determined during the outreach and engagement process. This Zone contains the Santa Cruz Lighthouse and is backed by Lighthouse Field which is managed by California State Parks. Given the different orientations of the coastline around Point Santa Cruz and slightly different community priorities and management challenges, this zone is broken into two subsections, the western side at Its Beach, and the eastern side along the iconic Steamer Lane surf break. Given the high recreational and visitor usage of this zone, currently with the only public restroom on West Cliff Drive, it is an important Zone to improve signage and expand education to a wider variety of user groups. Improved signage is discussed in the corridor wide priorities, but specifically, multilingual signage, gender neutral bathrooms, and signs depicting the outlines of existing sea cave extents would improve education.

Map 1: Armoring Sites

Map 2: Areas of Erosion Concern

Map 3: Access

Map 4: Utility Infrastructure

**Figure 4-7. Specific priority projects identified in Zone 3 to be completed in the short term**



Short-Term: The specific priority projects identified in Zone 3 to be completed in the near term include as noted on Figure 4-7. Additional figures are included from the existing conditions to provide further information for each of the near term projects proposed as part of this Plan. The City will consider combining projects, when feasible for cost effectiveness, to integrate access and habitat and landscaping improvements into the major projects specified for design and/or implementation. One constraint in this zone is that a portion is owned by the City and a portion by State Parks, making jurisdictional coordination in this zone particularly important. State Parks has reviewed this Plan is interested in carrying out projects identified on State Parks property if funding might be collaboratively obtained for those and other projects in Zone 3.

1. Maintenance: A priority is to improve transportation signage aligned with concept designs (Alternative 1) and to further communicate West Cliff Drive as a Class III bikeway.
2. Other Study: Conduct a sand management study to determine feasibility of the sand management concept.

3. Other Study: Conduct a geotechnical study of sea cave on west side of Lighthouse Point (AEC #37). Previous studies were conducted in 2006 and 2016 with little change in sea cave. Next scheduled study is in 2026. Although not anticipated, should the study reveal an imminent risk, the City will prioritize evaluation and design of an alternative or the feasibility of relocating the Lighthouse (retreat) in the medium to longer term.
4. Minor Project: Maintain revetment at armoring sites 47 and 48 to the east of Lighthouse Point including restacking fugitive rocks and removal of other deteriorated infrastructure no longer in use at armoring site 48. Maintenance at armoring site 47 includes the repair of vertical access as described in #6 below.
5. Maintenance: Design a sea wall replacement at armoring site 44 to be implemented in the medium term.
6. Maintenance: Improve vertical access by refurbishing existing stairwells (Access #4 and 7)
7. (Zone-wide; not shown): Parking management strategies to encourage maximum public access and promote parking turnover. These tools include times limits, hours of operation, residential parking permit zones, and user fees.
8. (Zone-wide; not shown): Addition of formal bike parking throughout Zone 1, including Its Beach, additional bike parking at the lighthouse, in lighthouse field parking areas, and at the surfer statue.

Medium-Term: The City will begin consideration of a one-way vehicular alternative to maintain and enhance the Recreational Trail should a failure occur that inhibits status quo transportation patterns. As erosion compromises the Recreational Trail, the City will prioritize an inland migration of the Recreational Trail and begin implementing a one way vehicular alternative based on the Conceptual Design (Alternative 2). The City will conduct community outreach and evaluate the one-way vehicular alternative to maintain and enhance the Recreational Trail should a failure occur that inhibits status quo transportation patterns. It is possible to relocate parking lots accordingly as conceptualized in the Alternative 2 analysis. Each location will need further design and accurate ROW measurements to understand how much parking can be maintained or suggest full parking lot relocation. The City will consider design or implement any designs for hardening or retreating the Lighthouse and associated amenities on the coastline.

Long-Term: The City will consider relocation of the Lighthouse inland based upon the Lighthouse Point Alternatives Analysis and Geotechnical Study contained in the Chapter 9 CIP program, to be performed around 2026, as well as any triggers established. As erosion occurs and the City plans for catastrophic failure, this alternative allows managed retreat and realignment the Recreational Trail. This longer-term option may consider either a one way West Cliff Drive vehicular traffic alternative or a rerouting option.



Map 5. Figure 4-8. All armor sites along West Cliff Drive (Zones 3 & 4)





**Map 6. Figure 4-9. Priority Areas of Erosion Concern for Zones 3 & 4.**





Map 7. Figure 4-10. Locations of formal and informal access areas along West Cliff Drive, Zones 3 & 4.





Map 8. Figure 4-11. Locations of utility infrastructure along West Cliff Drive, Zones 3 & 4.





## Zone 4 Pelton Avenue to Bay Street Project Descriptions

For reference, before the Zone 4 Project Descriptions, please see the Zone 4 Existing Conditions Maps for by zone:

Map 1: Armoring Sites

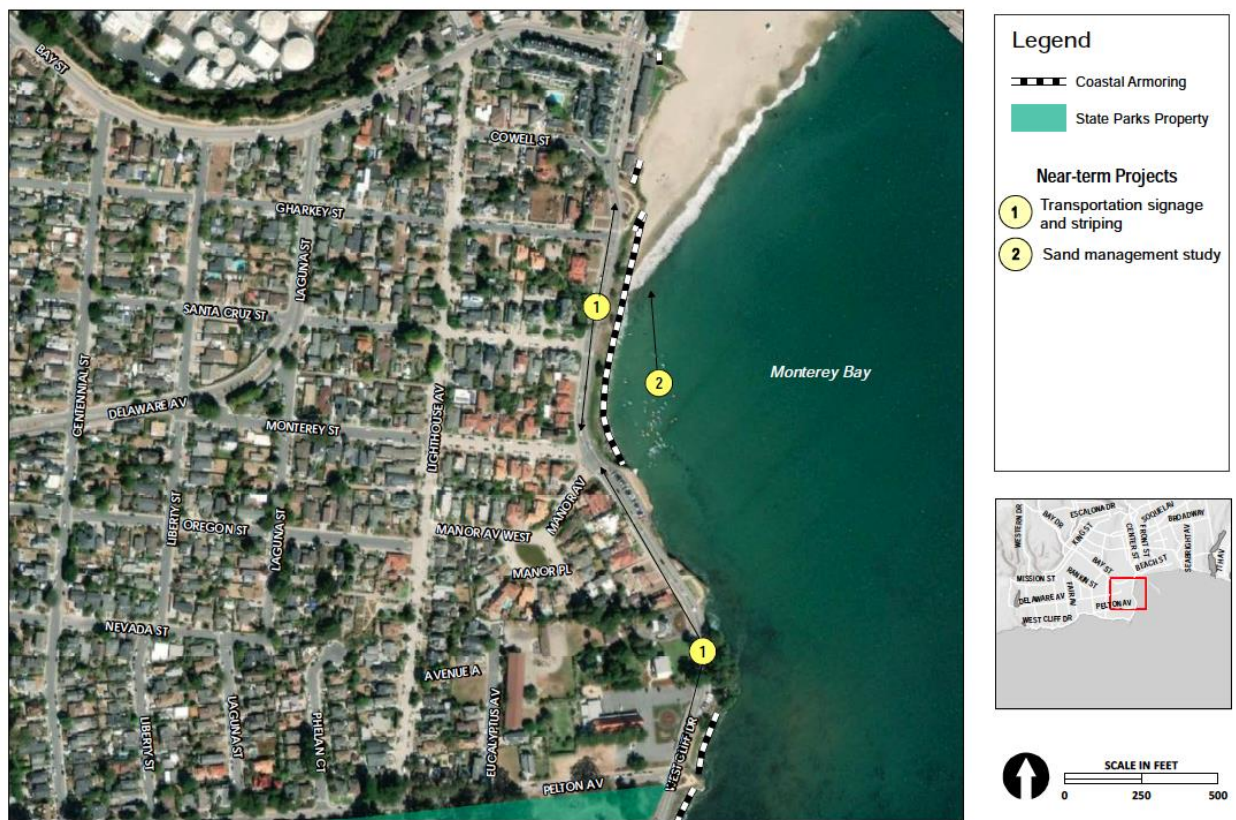
Map 2: Areas of Erosion Concern

Map 3: Access

Map 4: Utility Infrastructure

This zone has extremely high use of the Recreational Trail and beach access to the Cowells surf break. There are several sea caves (AEC #45 - #48) that will be monitored. Figure 4-12 below indicates the location of near-term projects recommended as part of the Plan.

**Figure 4-12. Specific priority projects identified in Zone 4 to be completed in the short term**



In the short-term, the City's priorities in Zone 4 are to improve transportation signage aligned with Concept designs (Alternative 1) to further communicate West Cliff Drive as a Class III bikeway, consider vertical access improvements to existing staircases and the sand management study.

1. Maintenance: A priority is to improve transportation signage aligned with concept designs (Alternative 1) and to further communicate West Cliff Drive as a Class III bikeway.
2. Other Study: Conduct a sand management study to determine feasibility of the sand management concept.
3. (Zone-wide; not shown): Minor Project: Parking management strategies to encourage maximum public access and promote turnover, especially near beach access points. These tools include times limits, hours of operation, residential parking permit zones, and user fees.
4. (Zone-wide; not shown): Maintenance: Addition of formal bike parking throughout Zone 4, including Parking areas, and additional bike parking at Cowell Beach.

Medium-Term: The City will begin consideration of a one-way vehicular alternative to maintain and enhance the Recreational Trail should a failure occur that inhibits status quo transportation patterns. As erosion and expansion of the sea caves continue (AEC #45 – 48), the City will consider some riprap placement in the cave (AEC#45) to reduce erosion rates and look to fill or grout sea caves (AEC #46 - #48). As bluff top erosion continues, and affects the Recreational Trail, the City will consider toward a one-way vehicle alternative (Alternative 2) to enhance Recreational Trail usage. Chapter 7 contains more details on this concept

Long-Term: Over the long term, the City, based triggers will further investigate and potentially implement a long-term investment in the sand management program. As erosion events or maintenance costs exceed an identified trigger, then the City will prioritize using the available public West Cliff Drive right of way space to realign and maintain the Recreational Trail by reducing street parking and vehicular traffic to a one way and eventually closure except for emergency services. It is anticipated that future updates to the West Cliff Drive Public Works Plan and City Adaptation Plan will continue to educate and evaluate appropriate timing of planning and implementation of long-term adaptation strategies.

#### 4.4. Corridor-Wide Habitat and Landscaping Maintenance Projects

This section specifies opportunities for habitat restoration and landscaping maintenance projects and under the responsibility of the Parks and Recreation Department. Project locations have been identified and will be coupled with Public Works projects identified in Section 4.3 and on an individual basis as funding allows. State Parks is interested in collaborating on the projects on their property with sufficient funding. In addition to ongoing maintenance, the City will also prepare Corridor-wide Master Landscaping Plan and Design Standards.

On-Going Maintenance: Routine repair and maintenance activities for maintaining landscaping, and existing structures will occur within fifty feet of the Coastal Bluff, involve the temporary use of mechanized equipment or placement of construction materials, may include a negligible

Scenic Overlooks: Small, ADA accessible, scenic overlooks are recommended along the multi-use trail. The overlooks will provide visitors opportunities to stop along the trail at numerous points of interest. The design of the overlooks will blend-in with the natural setting through the use of natural or natural-looking materials and native plantings and will incorporate site furnishings when possible.





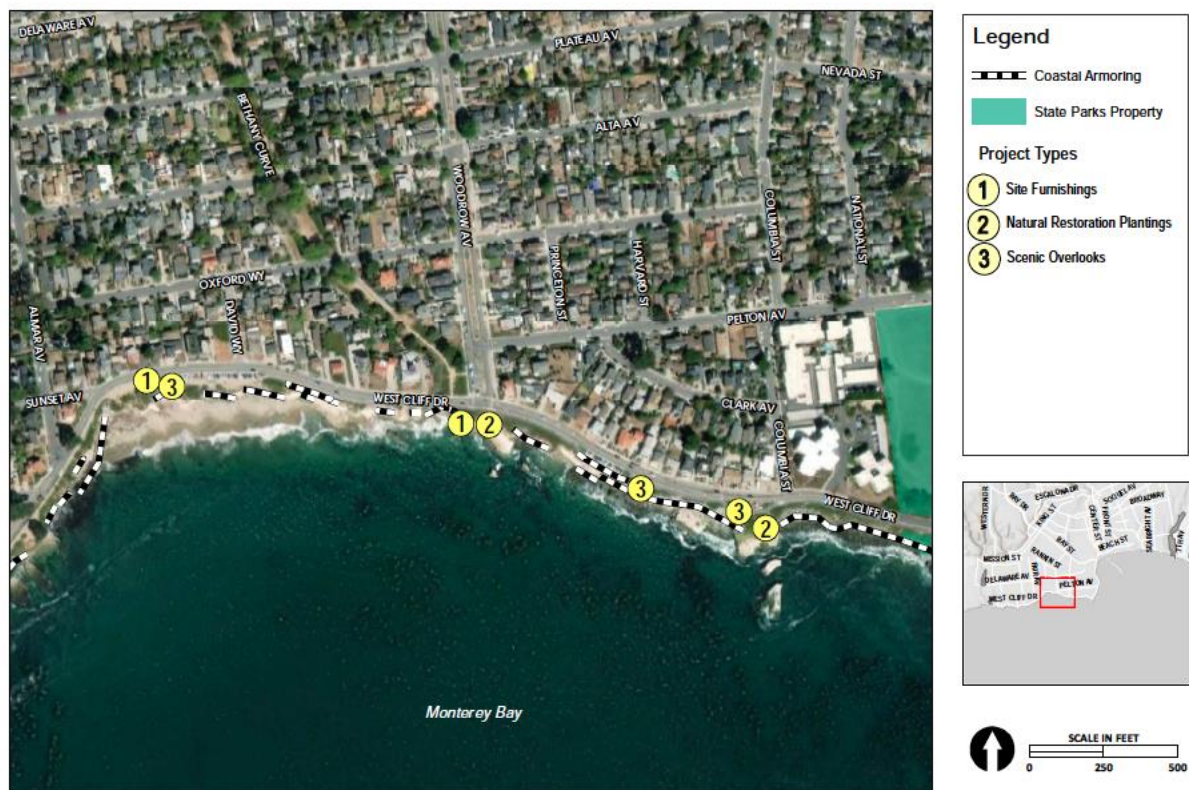
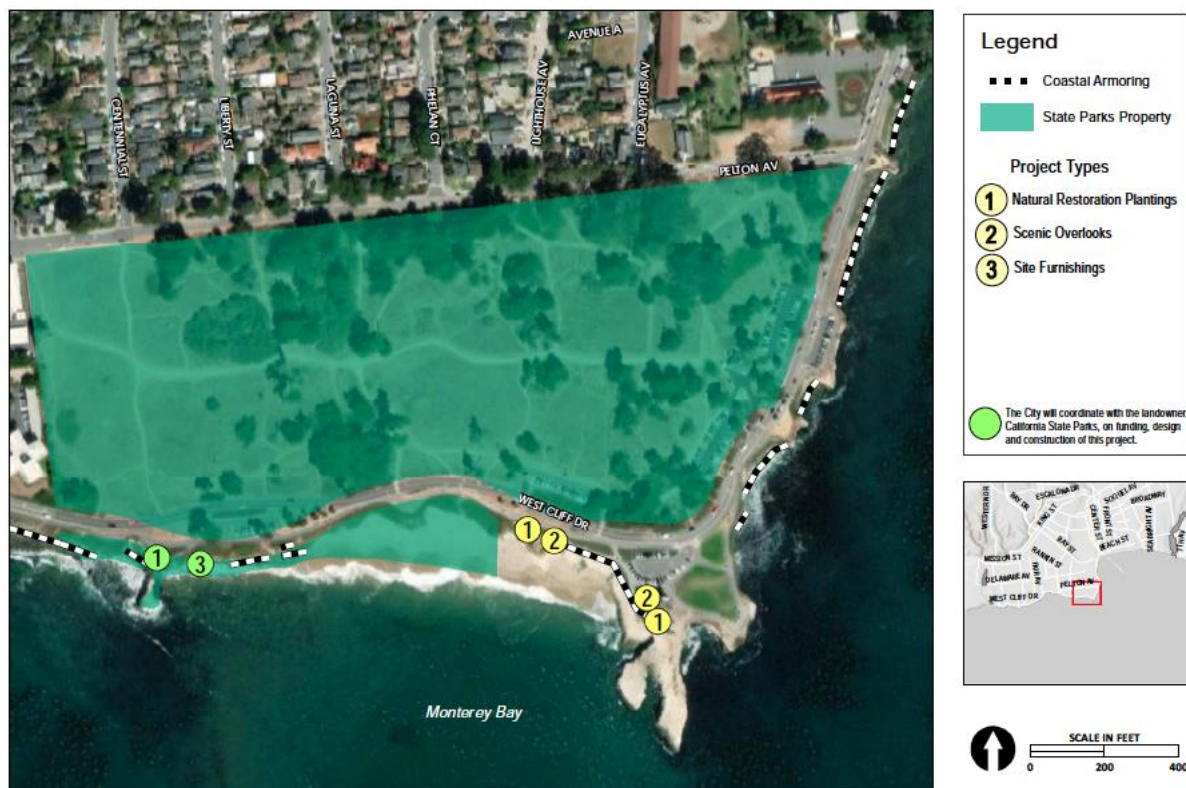
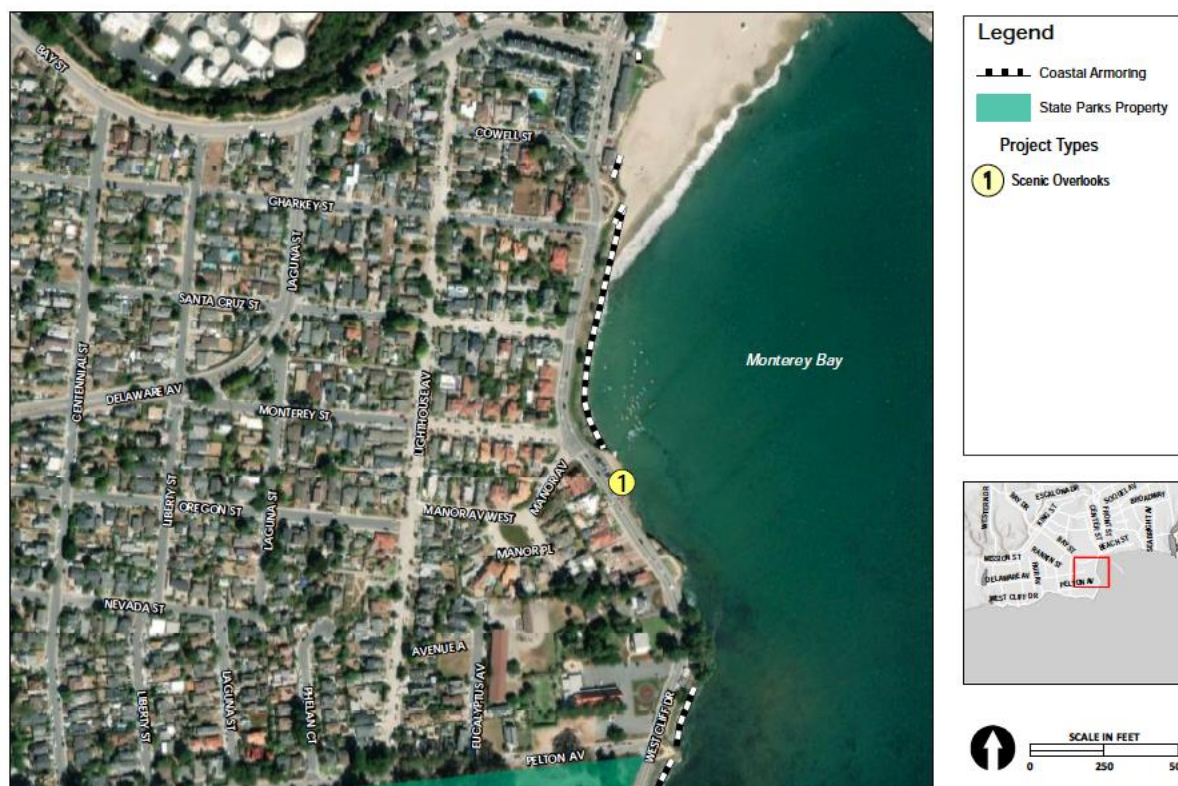


Figure 4-10. Specific priority habitat and landscaping maintenance projects identified in Zone2 to be completed in the short term







**Figure 4-12. Specific priority habitat and landscaping maintenance projects identified in Zone 4 to be completed in the short term**

## 4.5. Monitoring and Triggers

Triggers represent a point in time when action must be taken to address coastal hazard-related vulnerabilities before impacts reach a point of emergency. Triggers are measurable indicators that must be monitored to initiate planning, permitting, and/or the implementation process for adaptive measures. An appropriate trigger provides enough notice and lead time to plan for and implement an adaptation strategy before vulnerabilities become severe.

Triggers are an important component of the implementation of climate adaptation plans and pathways. Adaptation plans which utilize triggers supports a planning process which incorporates the inherent uncertainty (risk) surrounding the effects of climate change on coastal areas. These risks are often preceded by the crossing of tipping points or thresholds. The use of triggers can help to identify when planning and permitting processes should be initiated and when adaptation action should be implemented.

Triggers must be monitored to inform adaptation decisions, and triggers should be reevaluated and updated as needed in the future to capture advances in sea level rise science and changing conditions. A monitoring program plays an important role in the implementation of adaptation pathways, in order to limit risks. This report recommends planning-level adaptation thresholds that can be drafted in to a monitoring program and codified within the city LCP update. The City

will need to monitor and evaluate progress towards these thresholds to determine whether and when these thresholds are met and thus initiate action and expenditure of funds. One trigger is established by this Plan and as noted repeatedly, the monitoring program will be further developed after adoption of the Plan: Aside from the near-term projects proposed, the trigger for maintenance repairs will be exceedance of the minimum revetment elevation target (e.g., 80% of revetment design height).

The City makes an annual inspection of the coastline that will inform annual budgeting. The City is also developing partnerships to leverage resources and existing technologies to establish a resilient and efficient manner with which to monitor coastal conditions and triggers. Strategies may then be implemented before a trigger threshold is met.

The City may consider the following potential triggers for the adaptation of the cliffs, bluffs and transportation features.

- Distance between cliff edge and Recreational Trail
- Documentation of Recreational Trail impacts from cliff erosion (location, scale, repair costs)
- Survey of right of way easements along inland side of West Cliff Drive
- Wave overtopping and cleanup frequency near Bethany Curve
- Sea cave overburden (ceiling thickness and depth)
- Fugitive rocks and placement loss of beach area
- Recreational use of surf, beach/shoreline, and Recreational Trail (consider automated camera, laser counters, video extraction)
- Vehicular use (parking, types of vehicles, direction, and volume) on West Cliff Drive as well as residential roads and arterials
- Multi-modal traffic counts on West Cliff Drive and surrounding roadways
- Beach width during winter King tide series and late summer conditions
- Visual inspection following any wave event greater than a 10 year recurrence

## 5. Public Works Plan

The primary purpose of this chapter is to set forth a Public Works Plan for West Cliff Drive whereby the recommended policies in this chapter are an expression of the relevant provisions of Chapter 3 of the Coastal Act. This Public Works Plan reflects the planning objectives, program overview, design principles, and projects discussed in Chapters 4 and should be considered and interpreted in light of the narrative and diagrams of that chapter.

### 5.1. Application of the Public Works Plan

This section sets forth the manner in which the Plan shall be applied in order to ensure conformity with applicable laws, including the California Coastal Act.

#### 5.1.1. Policies Governing Interpretation and Use of the Public Works Plan

Projects defined in this Plan shall only commence only if City commitments identified in this Plan, comply with applicable rules and regulations and unless circumstances prevent such implementation.

### 5.2. Land Use

This Section sets forth potential policies for land use on West Cliff Drive relative to implementation of the Plan. These policies will be further developed and adopted in a subsequent LCP update. The Plan consists of the following program elements with potential policies pertaining to each included.

- Shoreline Protection Devices.
- Public Access and Recreation Facilities
- Traffic Circulation and Parking
- Water related Utilities
- Habitat and Landscaping
- Other Studies

The existing General Plan policy most directly applicable to potential LCP updates is PR 3.3 and its subparts:

**PR3.3** Protect, maintain, and enhance publicly accessible coastal and open space areas. .  
..

PR3.3.1 Protect coastal bluffs and beaches from intrusion by non-recreational structures and incompatible uses.

PR3.3.2 Ensure that development does not interfere with the public's right to access the ocean (where acquired through use or other legislative authorization).



PR3.3.3 Require new development and public works projects to provide public access from the nearest public roadway to the shoreline and along the coast, except where it is inconsistent with public safety or protection of fragile coastal resources, or where adequate access exists nearby.

PR3.3.4 Maximize public access and enjoyment of recreation areas along the coastline.

PR policy 3.3.3. concerning public works in particular highlights the need to update the General Plan consistent with policy and specific adaptation pathway projects that may be adopted in the LCP.

The City will work with the Coastal Commission to identify when and where certain public access amenities (i.e. parking, access) may need to be surrendered as part of an adaptation strategy for the retention of other coastal resources and amenities. For instance, it may be determined that PR policy 3.3 take precedence over similar policies to preserve coastal parking when coastal adaptation needs put these two policies at odds.

### 5.2.1 Recommendations for new general policies for all West Cliff projects

The Planning Department staff are considering the following recommendations for new policies to be integrated into the LCP amendment:

**Best Available Science:** Project reviews shall use, as applicable, the best available science about projected sea level rise and other climate-change related environmental changes when addressing coastal erosion, bluff failure, flooding and other coastal hazards.

**Adaptation Funding:** The City will pursue feasible grant funding sources or new funding mechanisms, such as the formation of special districts including Geologic Hazard Abatement Districts (GHADs), or securing FEMA and other federal or state adaptation and hazard mitigation funds, to finance adaptation strategies for public infrastructure.

**Plan Implementation:** The City will implement a West Cliff Drive Public Works Plan focused on short term maintenance, planning and engineering studies, and upgrades to West cliff Drive infrastructure. Projects included within the Plan may include: revetment repairs and upgrades, repairs, upgrades and rerouting of transportation infrastructure, relocation of parking out of hazard areas, emergency repairs to failing armoring and caves, sand management program feasibility studies, landscaping and maintenance, etc.

**Capital Improvements Policy:** Incorporate resiliency measures and adaptation strategies into capital improvement planning and other investment decisions. Resiliency measures can include but are not limited to: raising of infrastructure and structures, establishment of permanent or

temporary alternative routes for transportation infrastructure, green infrastructure that reduces flooding, and upgrades to stormwater and wastewater systems.

**Policy considerations to address needs of underrepresented groups**

- Signage improvements – multilingual and gender neutral
- Upgraded seawalls should integrate user groups who value access to the water (fishing from beach and bedrock platforms), and ADA cliff top infrastructure that does not impair views. Ensure that new armoring does not impact those who prefer to fish from mid-level terraces along cliffs by including design elements that enhance public use of roadway, public bike and pedestrian pathways, and access points to the beach and terrace. Implementation of beach nourishment programs in conjunction with construction of hard armoring can help to mitigate the loss of beach area below these structures.
- The potential loss of services (roadway and parking) due to adopting a managed retreat strategy may impact user groups who rely on ADA amenities, and cliff top infrastructure. The City shall prioritize the retention of public recreational infrastructure (walkways and bike paths), minimize the loss of public vertical access over 2 lane vehicular access, recreational trail, and parking.
- Measures to support community equity and access opportunities for all while adapting to sea level rise include: Install/maintain/ upgrade stairs, include cliff top fishing spots, remove rock impeding water access, upgrade stormwater and surface drainage infrastructure, replace lookouts as they fail, maintain coast trail, replace benches, gender neutral bathroom, riprap and enhance stairs, and enhance overlooks.

**5.2.2. Recommendations for new policies for Shoreline Protection Devices**

**Policy (New Shoreline Structures):** Unless a waiver of rights to shoreline protection applies, shoreline protection structures, including revetments, breakwaters, groins, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted consistent with the LCP’s policies when (1) required to serve coastal-dependent recreation uses, or protect existing principal development structures or public beaches in danger from erosion; (2) when designed to eliminate or mitigate adverse impacts on local shoreline sand supply, minimize the footprint of the structure on the beach and when there is no less environmentally damaging feasible alternative such as beach nourishment, non-structural drainage and native landscape improvements, or (3) other similar non-structural options. New structures shall be required to pay in lieu fees into a fund to support coastal adaptation in the City. For purposes of this policy “existing principal structures” means shoreline structures that were legally authorized prior to January 1, 1977.

**Partial Armoring: Policy:** Evaluate the potential of partially armoring or filling the Lighthouse Point sea cave to protect coastal resources, surf breaks and access opportunities.

**Existing Revetment Policy:** Existing revetments shall be monitored frequently (as outlined in the West Cliff Public Works Plan) and necessary repairs and upgrades will be reported to City Council and the Coastal Commission.

**Maintenance of Existing Revetment Policy:** Maintenance of existing revetments shall prioritize recreational benefits by removing fugitive rocks, enhancing vertical access opportunities and removing or repurposing unnecessary rip rap for use elsewhere along the West Cliff Drive corridor.

**New Revetment Policy:** To minimize the loss of other beach resources, prohibit revetments or other structures with large base footprints. Preferred armoring to be small-footprint recurved sea walls where feasible.

### 5.2.3. Recommendations for Public Access and Recreation Policies

#### **Public Access Policy** (CA Policies 30210-30222)

Maximum public access to the coastal resources of West Cliff Drive and the adjacent shoreline and coastal area shall be provided consistent with public safety, coastal resource protection, and implementation of the transportation and functional needs of the roadway.

### 5.2.4. Recommendations for policies for Bike and Auto Traffic Circulation and Parking

**Automobile Parking:** in order to expand coastal access, parking management techniques may be employed along the entirety of publicly managed parking resources within the study area. These parking management techniques could include, but not be limited to hours of operation, time-limited parking, zone based parking pricing, residential permit zones, and others.

**Bicycle Parking:** bicycle parking shall be a principally permitted use. Bicycle parking may be installed in locations consistent with standard city guidelines in order to expand non-automobile access to the coast and formalize bicycle parking areas. Parking shall minimize impacts to views and protect visual resources.

**Multiuse Path:** the existing multiuse pathway provides opportunities for coastal recreation, access to the beach and ocean, and opportunities for observation and quiet contemplation. Maintenance activities needed to maintain the pathway shall be permitted. Additionally, existing landscaped areas located between the pathway and edge of the roadway may be converted to expand the existing pathway and offer opportunities to create more spaces for the path or coastal overlooks.

### 5.2.5. Recommendations for policies for Water Related Utilities

**Storm Water Policy:** The City shall prioritize (i.e. include within related cliff top repair projects) the maintenance and improvement of West Cliff storm drain discharge infrastructure to ensure

its function as a critical flood prevention device to limit discharge impacts (erosion) to coastal resources, coastal access, public infrastructure and facilities, and existing development.

#### 5.2.6. Recommendations for policies for Habitat and Landscaping

The City shall seek to restore native landscaping and habitat, enhance the unique nature of the surroundings and educate the public. (Coastal Act Section 30230-30231)

#### 5.2.7. Recommendations for policies for Sediment Management

Sand management and placement may help to mitigate secondary impacts to recreational resources from existing revetments including surf breaks, beach width and continued loss of narrow pocket beach access for all West Cliff beaches.

**Policy:** The placement of sediments at appropriate points along the shoreline may be permitted for the purpose of beach nourishment, if the source material proposed for deposition contains the physical (e.g., grain size and type), chemical, color, particle shape, debris, and compatibility characteristics appropriate for beach replenishment and does not cause significant down coast sand limitations.

### 5.3. Recommended Monitoring and Trigger Policies

#### **Policy (Monitoring Shoreline Change)**

The City shall implement a monitoring program for sea-level rise, beach width, bluff offset, flooding and storm damage, traffic patterns, recreational uses, and other potential measures or triggers for guiding implementation of the LCP's sea-level rise adaptation policies. The monitoring program shall include post storm and yearly (minimum) shoreline and bluff edge observational surveys, document annual maintenance costs and also establish thresholds. Annual monitoring results will be reported to City Council for review.

**Monitoring Program Policy:** The City shall implement a monitoring program for sea level rise, beach width, bluff offset, flooding and storm damage, and other potential measures or triggers for guiding implementation of the Coastal Resilience policies. The monitoring program shall include yearly shoreline and bluff edge surveys and also establish thresholds for reassessing the City's Adaptation Plan.

**Monitoring Program Policy:** Monitor the beach profile and recreational use of beaches to obtain baseline information for analyzing riprap proposals and their recreational impacts and establish criteria for a maximum permitted coverage of sandy beaches by seawalls.



## 6. Best Management Practices

These **sample conditions** can be used to inform Coastal Development Permit applications. Not every condition will be appropriate for each project proposed as part of the Plan but the list can be used to determine what will generally be required by the Coastal Commission during project review.

### 6.1. Routine Maintenance

Routine maintenance does not require additional documentation or Executive Director approval and involves the replacement, minor expansion, and/or repair of existing infrastructure or facilities. Maintenance will involve the temporary use of mechanized equipment and placement of construction materials within 50-ft of the bluff edge, including but not limited to roadway, recreational path, sidewalk, utilities, parking, landscaping, fencing, and others.

### 6.2. Water Quality

#### 6.2.1. Principles

##### **Protect and Restore Water Quality**

Protect and, where feasible, restore the quality of coastal waters to implement Coastal Act policies (in particular Sections 30230 and 30231). Coastal waters include the ocean, rivers, streams, wetlands, estuaries, lakes, and groundwater.

§ 30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

§ 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

##### **Minimize Pollutants in Runoff from the Project**

Plan, site, and design project to minimize the transport of pollutants in runoff from the project site into coastal waters.

**Minimize Changes in the Site's Runoff Flow Regime**

Plan, site, and design project to minimize post-project changes in the site's runoff flow regime (i.e., volume, flow rate, timing, and duration), to preserve the pre-project hydrologic balance and prevent adverse changes in the hydrology of coastal waters (i.e., hydromodification).

**Give Precedence to Low Impact Development Approach to Stormwater Management**

Give precedence to a Low Impact Development (LID) approach to stormwater management in all development. LID integrates preventive project Site Design strategies with small-scale, distributed BMPs to replicate the site's pre-project hydrologic balance through infiltration, evapotranspiration, harvesting, detention, or retention of stormwater close to the source.

**Protect and Restore Hydrologic Features**

Plan, site, and design project to protect and, where feasible, restore hydrologic features such as stream corridors, drainage swales, topographical depressions, groundwater recharge areas, floodplains, and wetlands.

**Preserve or Enhance Vegetation**

Plan, site, and design project to preserve or enhance non-invasive vegetation to achieve water quality benefits such as transpiration, interception of rainfall, pollutant uptake, shading of waterways to maintain water temperature, and erosion control.

**Maintain or Enhance On-Site Infiltration**

Plan, site, and design project to maintain or enhance on-site infiltration of runoff, where appropriate and feasible, to reduce runoff and recharge groundwater.

**Minimize Impervious Surfaces**

Minimize the installation of impervious surfaces, especially directly-connected impervious areas, and, where feasible, increase the area of pervious surfaces, to reduce runoff.

**Use Pollutant Source Control BMPs**

Use pollutant Source Control Best Management Practices (BMPs), which can be structural features or operational actions, in projects to minimize the transport of pollutants in runoff from the project site.

**Prevent Adverse Impacts to Environmentally Sensitive Habitat Areas from Runoff**

In areas adjacent to an Environmentally Sensitive Habitat Area (ESHA), plan, site, and design project to protect the ESHA from any significant disruption of habitat values resulting from the discharge of stormwater or dry weather runoff flows.

**Minimize Adverse Impacts from Stormwater Outfall Discharges**

Avoid construction of new stormwater outfalls and direct stormwater to existing facilities with appropriate treatment and filtration, where feasible. Where new outfalls cannot be avoided,

plan, site, and design outfalls to minimize adverse impacts to coastal resources from outfall discharges, including consolidation of existing and new outfalls where appropriate.

#### **Manage BMPs for the Life of the Project**

Implement appropriate protocols to manage BMPs (including ongoing operation, maintenance, inspection, and training) in all projects, to protect coastal water resources for the life of the project.

#### **Minimize Water Quality Impacts During Construction**

Minimize water quality impacts during construction by minimizing the project footprint, phasing grading activities, implementing soil stabilization and pollution prevention measures, and preventing unnecessary soil compaction.

#### **6.2.1. Storm Water Pollution Prevention Plan**

Prior to commencement of construction, the Permittee shall submit two sets of a final Storm Water Pollution Prevention Plan (SWPPP) to the Executive Director for review and approval. Minor adjustments to the following requirements may be allowed by the Executive Director or their designee if the adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. The final SWPPP shall include provisions for all of the following:

##### **Sedimentation Controlled**

Runoff from the project site shall not increase sedimentation in coastal waters post-construction. During construction, runoff from the project site shall not increase sedimentation in coastal waters beyond what is allowable under the final Water Quality Certification approved for the project by the Regional Water Quality Control Board.

##### **Pollutants Controlled**

Runoff from the project site shall not result in pollutants entering coastal waters during construction or post-construction.

##### **BMPs**

Best Management Practices (BMPs) shall be used to prevent the entry of polluted stormwater runoff into coastal waters during construction and post-construction, including use of relevant BMPs as detailed in the current California Storm Water Quality Best Management Handbooks (<http://www.cabmphandbooks.com>).

##### **Spill Measures**

An on-site spill prevention and control response program, consisting of BMPs for the storage of clean-up materials, training, designation of responsible individuals, and reporting protocols to the appropriate public and emergency services agencies in the event of a spill, shall be implemented at the project to capture and clean-up any accidental or other releases of oil,

grease, fuels, lubricants, or other hazardous materials, including to avoid them entering coastal waters or wetlands.

#### **BMP Schedule**

A schedule for installation and maintenance of appropriate construction source-control BMPs to prevent entry of stormwater runoff into the construction site and prevent excavated materials from entering runoff leaving the construction site.

All requirements above and all requirements of the approved SWPPP shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved SWPPP.

### **6.2.2. Water Quality Management Plan**

Prior to commencement of construction, the Permittee shall submit two sets of a Water Quality Management Plan (WQMP) for the post-construction project site to the Executive Director for review and approval. The WQMP shall be prepared by a licensed water quality professional, and shall include plans, descriptions, and supporting calculations. Minor adjustments to the following requirements may be allowed by the Executive Director or their designee if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

#### **BMPs**

The WQMP shall incorporate appropriate structural and non-structural Best Management Practices (BMPs) (site design, source control and treatment control) into the development, designed to reduce, to the maximum extent practicable, the volume, velocity and pollutant load of stormwater and dry weather flows leaving the project area;

#### **Irrigation/Fertilizers**

Irrigation and the use of fertilizers and other landscaping chemicals shall be minimized through the use of low-maintenance landscaping and efficient irrigation technology or systems;

#### ***Post-Construction Criteria***

Post-construction structural BMPs (or suites of BMPs) used for water quality treatment shall be designed to treat, infiltrate or filter the amount of stormwater runoff produced by all storms up to the 95% percentile, 24-hour storm event for volume-based BMPs, and shall not create conditions that exceed pre-project peak flows for the 2-10 year storm events.

#### **Maintenance Required**

All BMPs shall be designed, installed, and maintained for the life of the project in accordance with well-recognized and accepted design principles and guidelines, such as those contained in the California Stormwater Quality Association Best Management Practice Manuals.



**Minimum Maintenance Schedule**

At a minimum, all BMP traps/separators and/or filters shall be inspected and cleaned/repared or otherwise maintained in accordance with the following schedule: (1) prior to the start of the winter storm season, no later than October 15th each year, (2) monthly thereafter for the duration of the rainy season (October 15th -April 30), and cleaned/maintained as necessary based on inspection and, (3) as needed throughout the dry season.

**Proper Disposal**

Debris and other water pollutants removed from structural BMP(s) during clean out shall be contained and disposed of in a proper manner.

**Manufacturer's Specifications**

It is the permittee's responsibility to maintain the drainage system and the associated structures and BMPs according to manufacturer's specifications.

All requirements above and all requirements of the approved WQMP shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved WQMP.

## 6.3. Construction Plan and Monitoring

### 6.3.1. Construction Plan

Prior to Commencement of Construction of a Major Project identified in the Plan that requires a CDP, the Permittee (the City) shall submit two sets of Construction Plans to the Executive Director for review and approval. The Construction Plans shall, at a minimum, include the following:

**Construction Areas**

The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (to the construction site and staging areas), and all public pedestrian access corridors. Construction activities will be managed to have the least impact on public access and coastal resources.

**Construction Methods and Timing**

The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separated from public recreational use areas (including using the space available on the blufftop portions of the project area for staging, storage, and construction activities) to the maximum extent feasible provided it does not significantly adversely affect public access, and including using unobtrusive fencing (or equivalent measures) to delineate construction areas), and including all methods to be used to protect Monterey Bay. All erosion control/water quality best management practices to be implemented during construction and their location shall be noted.

### **Construction Requirements**

The Construction Plan shall include the following construction requirements specified by written notes on the Construction Plan. Minor adjustments to the following construction requirements may be allowed by the Executive Director or designee if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

- Unless infeasible.
- All work shall take place during daylight hours, and lighting of the beach and ocean area is prohibited unless work is deemed emergency (e.g., in the case of infrastructure or catastrophic cliff failure).
- Grading of intertidal areas is prohibited, except removal of existing debris, concrete, rubble, etc., is allowed in these areas.
- Only rubber-tired construction vehicles are allowed on the beach, with the exception that track vehicles may be used if the Executive Director or their designee determines that they are required to safely carry out construction. When transiting on the beach, all such vehicles shall remain as close to the bluff edge as possible and avoid contact with ocean waters where feasible.
- All construction materials and equipment placed seaward of the bluffs during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from these areas by sunset each day that work occurs, except for erosion and sediment controls and/or construction area boundary fencing where such controls and/or fencing are placed as close to the toe of the coastal protection/bluff as possible, and are minimized in their extent.
- Construction (including but not limited to construction activities, and materials and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.
- Equipment washing, servicing, and refueling shall not take place on the beach, and shall only be allowed at a designated inland location as noted on the Plan. Appropriate best management practices shall be used to ensure that no spills of petroleum products or other chemicals take place during these activities.
- The construction site shall maintain good construction site housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the beach; etc.).
- All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. At a minimum, silt fences, or equivalent apparatus, shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or sediment from entering into Monterey Bay.
- All public recreational use areas and all beach access points impacted by

construction activities shall be restored to their pre-construction condition or better as soon as possible. Any native materials impacted shall be filtered as necessary to remove all construction debris.

All requirements above and all requirements of the approved Construction Plan shall comply with the CDP, if applicable. The City shall undertake projects in accordance with the applicable conditions and an approved Construction Plan. Adjustments to these requirements may be allowed by the Director or their designee if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

### 6.3.2. Construction Site Documents & Construction Coordinator

#### **Construction Site Documents**

Copies of the signed CDP, if applicable, or equivalent document and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site at all times, and such copies shall be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP (if applicable) and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

#### **Construction Coordinator**

A construction coordinator may be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and the coordinator's contact information (i.e., address, email, phone numbers, etc.) including, at a minimum, a telephone number and email address that will be made available 24 hours a day for the duration of construction, shall be conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with an indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the contact information (e.g., name, address, email, phone number, etc.) and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within one business day of receipt of the complaint or inquiry.

### 6.4. Shoreline Armoring

#### 6.4.1. Concrete Surfacing

Surfaces shall be of similar visual quality to the best examples of concrete surfacing in the project area. The color, texture, and undulations of the coastal protection surface shall be maintained throughout the life of the structure.

### **Drainage**

All drainage and related elements within the sculpted concrete shall be camouflaged (e.g., randomly spaced, hidden with overhanging or otherwise protruding sculpted concrete, etc.) so as to be hidden from view and/or inconspicuous as seen from the top of the bluffs and the beach.

### **Structural Concrete Foundation Reduction**

Any structural concrete foundation landward of the wall shall be lowered to the maximum extent feasible in order to facilitate lowering the height of associated railing. The reduction in foundation height shall be consistent with ensuring the structural stability of any armoring sidewalls.

### **Transition from project seawall to revetment**

The transition from the seawall to the revetment shall minimize the amount of rip-rap used to the maximum degree feasible while still maintaining the effectiveness of permitted armoring. All rip-rap shall be removed unless it is proven necessary for transition, and all other rip-rap shall be limited as much as possible with the goal being to remove as much rip-rap from the project area as possible.

### **Maintaining existing revetment**

Until such time a future project occurs, existing rip-rap shall be maintained to the maximum extent feasible.

### **All other rip-rap**

Other than the rip-rap allowed at the transition (see above), all other rock, rip-rap, concrete rubble, or equivalent in the project area shall be removed.

### **Concrete surfacing**

All seawall (including footing and scour apron) and stairway surfaces (other than stair treads) shall be faced with a sculpted concrete surface that mimics natural undulating bluff landforms in the vicinity in terms of integral mottled color, texture, and undulation. Any protruding concrete elements (e.g., corners, edges, etc.), including all stairways, shall be contoured in a non-linear manner designed to evoke natural bluff undulations. Surfaces shall be of similar or better visual quality in this respect to the best examples provided by the emergency walls in the project area.

### **Existing seawall**

Existing seawalls shall be modified to include additional surfacing and articulation, to more effectively camouflage these sections of the seawall.

### **Drainage**

All drainage and related elements within the sculpted concrete and any related energy dissipation measures shall be camouflaged (e.g., randomly spaced, hidden with overhanging or otherwise protruding sculpted concrete, etc.) so as to be hidden from view and/or inconspicuous as seen from the on top of the bluffs and the beach.



## 6.5. Public Pathways

### 6.5.1. Goat trails/high relief areas

All seawalls shall incorporate areas of high relief/informal goat trails at appropriate locations for emergency egress for surfers. A goat trail is common language for an informal access point.

### 6.5.2 Inland side of West Cliff Drive right-of-way

All public right-of-way along the inland side of West Cliff Drive may be appropriate to be used for public improvements. In locations where the road cannot be moved inland to the full right-of-way extent for good cause (like a required turning radius, existing pedestrian facilities, etc.), then the right-of-way shall still be put to public use (e.g., additional pedestrian facilities, coordinated landscaping along the inland road edge, parking, etc.). A curb or equivalent shall be included on the inland side of the West Cliff Drive travel lane and/or parking.

#### **Striping plan**

Project area striping shall be limited to the degree feasible while still providing clear direction and accounting for public safety. The transition from project area paths at both ends shall be clearly demarcated on the pavement in some way (different pavement markings, striping, coloring, etc.) and shall run more or less in the same general direction as the paths as much as possible (i.e., angled to the road as opposed to a perpendicular crossing).

#### **Sign plan**

Signs shall be limited to the degree feasible, including through consolidation of signs, while still providing clear direction and accounting for public safety. All sign siting, design, and text shall be provided. All signs shall be designed to blend into the parkway viewshed as much as possible.

#### **Drainage**

All project area drainage shall be filtered and treated prior to discharge from project area outfalls. All outfalls not located within the seawalls shall be completely screened from public view by vegetation.

All requirements above shall be enforceable components of this coastal development permit. Any proposed changes to the approved Revised Plans shall be reported to the Executive Director or their designee. No changes to the approved Revised Plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director or their designee determines that no amendment is necessary.

## 6.6. Drainage and Landscaping (Bluff Top)

### 6.6.1. Drainage Plan

The drainage shall be designed such that water will not flow over the coastal blufftop edge to the

beach below or over the arroyo blufftop edge to the arroyo below. The drainage system shall not contribute to coastal bluff or arroyo bluff erosion. The drainage system shall be visually unobtrusive, including through use of plantings so as to protect views of the site from any public viewpoint.

### 6.6.2. Landscaping Plan

The landscaping plan shall provide for the following:

1. Maintenance of the existing natural vegetated state, except that California coastal strand native plant species that do not exceed four feet in height (so that at maturity the plants do not block the view toward the ocean from any public viewpoint) may be planted if desired to enhance habitat. If the plan includes the planting of native plant species, the plan shall include drip or other low-water use irrigation details (if feasible) that may be used until the plants are established.
2. Removal of any invasive non-native plant species (as defined in the *California Invasive Plant Council's List*) that are present on the site.

## 7. Illustrative Future Transportation Concept Designs

### 7.1. West Cliff Drive Improvements Site Plan & Concept Designs

The current configuration of West Cliff Drive is a bidirectional two-lane roadway. The roadway is a Class III bicycle facility, meaning it is a designated bike route but without striped bicycle lanes. The current speed limit is 25 mph, and there are six three-way stop-controlled intersections along the corridor. In total, there are 17 intersecting residential feeder roads to West Cliff Drive. The corridor has a mix of on-street parking and 19 off-street parking areas throughout the corridor, including Natural Bridges State Beach overlook and Cowells Beach parking area (just outside the area of interest).

There are several ways to enhance the current transportation corridor configuration in order to help improve multimodal access and safety. Alternative 1 is a short-term management strategy to improve the safety and reduce conflicts along the corridor, including among users of the Recreational Trail, as well as to expand coastal access for multimodal users. Potential enhancements include improved signage, measures to reduce vehicle speeds, and additional pedestrian improvements such as marked crosswalks to improve accessibility between feeder roads and the Recreational Trail. Bicycle and pedestrian access would also be enhanced by completing the Recreational Trail widening projects in Zone 1.

While many transportation options are possible for West Cliff Drive, this Plan considers a phased approach based upon triggers. Alternative 1 is an improved “status quo,” which is recommended to be implemented in the near term. Alternative 2 would transition West Cliff Drive to one-way for a portion or the entirety of the corridor based upon erosion and sea level rise triggers that would prohibit the status quo from continuing. Erosion triggers will be developed in subsequent work.

Roadway cross sections are useful to help illustrate how the conceptual designs of alternatives function. Cross sections are presented for Alternatives 1 and 2 in five locations. In order to be consistent with City of Santa Cruz Fire Department requirements for emergency vehicle access, the conceptual alternatives were designed with a minimum clear width of 20 feet and a preferred width of 26 feet. These considerations are particularly relevant for Alternative 2.

The following five roadway cross section locations were selected to illustrate the alternative concepts based on an approximate public right of way (ROW) width analysis, including the sidewalk, roadway, Recreational Trail, and a space to the cliff edge. Further design work will require surveyed ROW widths to measure available public space. The resulting transects provided a broad list of candidate locations. The selected locations are representative of the corridor from the perspectives of a width constrained intersection, width and curve based parking lot, mid-corridor intersection, and general parking configurations.

1. Swanton Boulevard (Zone 1)
2. Pyramid Beach parking lot (Zone 1)
3. Woodrow Avenue (Zone 2)
4. State Parks Lot A (Zone 3?)
5. Santa Cruz Street (Zone 4)

These locations and conceptual designs provide both a plan view from above and a cross sectional view of the desired street dimensions for the proposed alternatives



**Figure 7-1. Roadway cross section locations included for Proposed Alternative Concepts**

A Traffic Operations Analysis for Alternatives 1 and 2 is also included in the [Transportation Conceptual Alternatives Analysis](#) deliverable from the 2019-2020 work.

## 7.1. Current Configuration with Enhancements (Alternative 1)

The proposed short-term enhancements for the current configuration (alternative 1) require minimum physical interventions. The goal is to reduce user conflicts and improve the safety of bicyclists along the corridor by enhancing the pavement markings and signing. The table containing Intersections Accessibility and Access to West Cliff Recreational Trail in the Existing Conditions reports indicates whether the intersections have curb cuts, tactile warning surfaces access to the Recreational Trail painted crosswalks and stop signs and should be referenced when the City proceeds with design of enhancements. Design will address how many new curb cuts will be required, where tactile warning surface updates are needed and where painted



crosswalks should be added. Per the proposed design concept, the West Cliff Drive corridor would remain a Class III Shared Roadway with added Shared Lane Markings (SLMs) or “sharrows” as in Figure 7-1. Conceptual designs in plan and section view are provided at the five roadway crossing locations for Alternative 1 enhancements in Figures 7-3 through 7-10. Any triggers development and/or initiating of this alternative must be coordinated with the joint land owner of many areas along West Cliff Drive, California Department of State Parks. State Parks has indicated interest in coordinating funding and implementation of this alternative in the near term.



**Figure 7-2. Green Backed Sharrow**

Source - <http://beagreencommuter.com/new-bike-lanes-on-campus-improve-safety-for-everyone/>

**Sharrows** are road markings used to indicate a shared lane environment for bicycles and vehicles. Shared lane markings reinforce the legitimacy of bicycle traffic on the street and recommend proper bicyclist positioning. Shared Lane Markings is not a facility type and should not be considered a substitute for bike lanes, cycle tracks, or other separation treatments. The Manual on Uniform Traffic Control Devices (MUTCD) outlines guidance for shared lane markings in section 9C.07. Shared Lane Markings can be used with ‘Bicycle May Use Full Lane’ R4-11 sign to inform road users that bicyclists might occupy the full travel lane.

Furthermore, it is recommended to provide wayfinding signage along the corridor to guide bicyclists to their destinations along preferred bicycle routes. These signs are typically placed at the intersections or other key locations. This proposed wayfinding should be integrated with the existing Countywide Bicycle Wayfinding signage, existing city wayfinding signage and other existing or new West Cliff Drive signage for consistency.

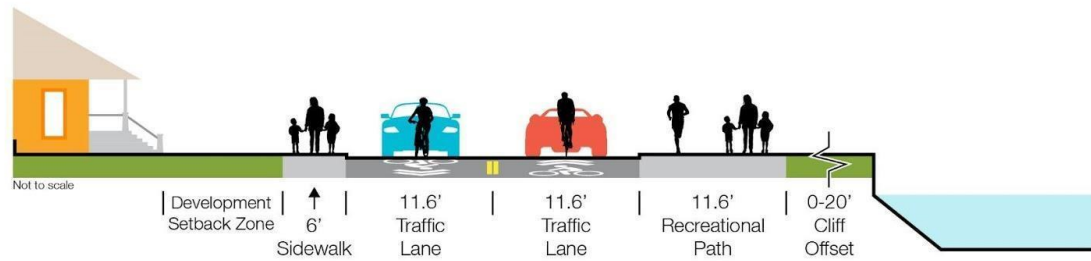
### 7.1.1 Location 1: Swanton Boulevard and West Cliff Drive



Figure 7-3 Plan view of Proposed Alternative 1 Enhancements at Swanton Blvd at West Cliff Drive

# WEST CLIFF DRIVE

Location 1 East Leg



**Figure 7-4 Cross Section of West Cliff Drive Proposed Alternative 1 Enhancements at Swanton Blvd**

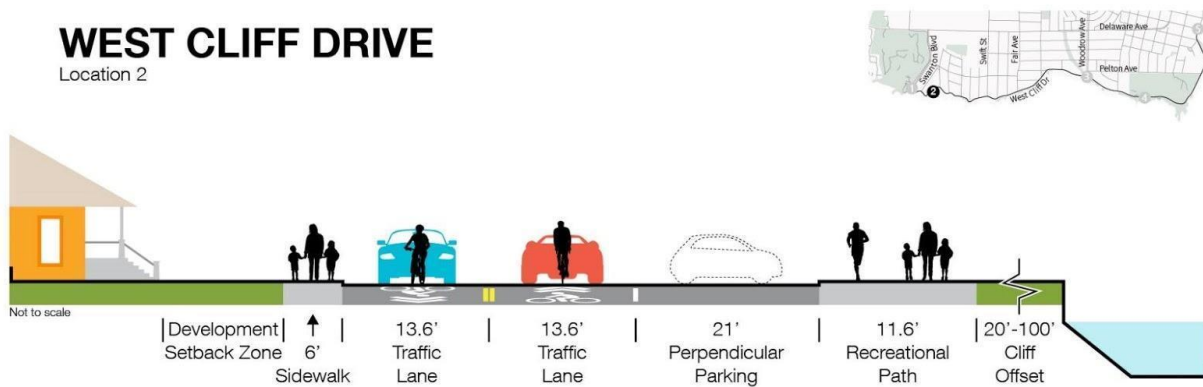


### 7.1.2. Location 2 Pyramid Beach parking lot between Auburn Ave and Chico St



Figure 7-5 Plan view of Proposed Alternative 1 Enhancements Plan view at Pyramid Beach parking lot





**Figure 7-6. Cross Section of West Cliff Drive Alternative 1 Enhancements at Pyramid Beach parking lot**

### 7.1.3. Location 3 Woodrow Avenue at West Cliff Drive



Figure 7-7 Plan view of Proposed West Cliff Drive Alternative 1 Enhancements at Woodrow Avenue

## WEST CLIFF DRIVE

Location 3a

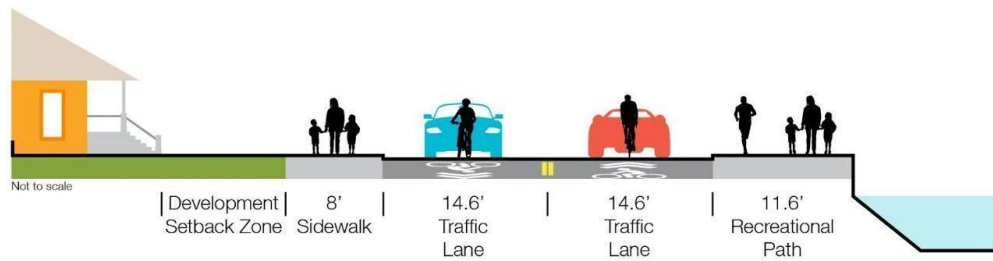
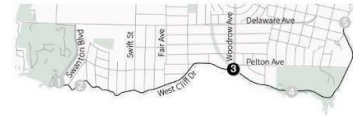


Figure 7-8 Cross Section of West Cliff Drive Alternative 1 Enhancements Just west of Woodrow Ave.

## WEST CLIFF DRIVE

Location 3b

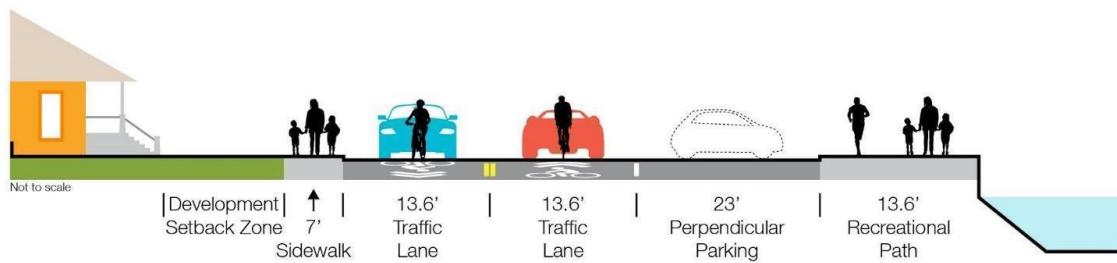
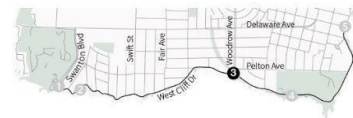


Figure 7-9 Cross Section of West Cliff Drive Alternative 1 east of Woodrow Avenue

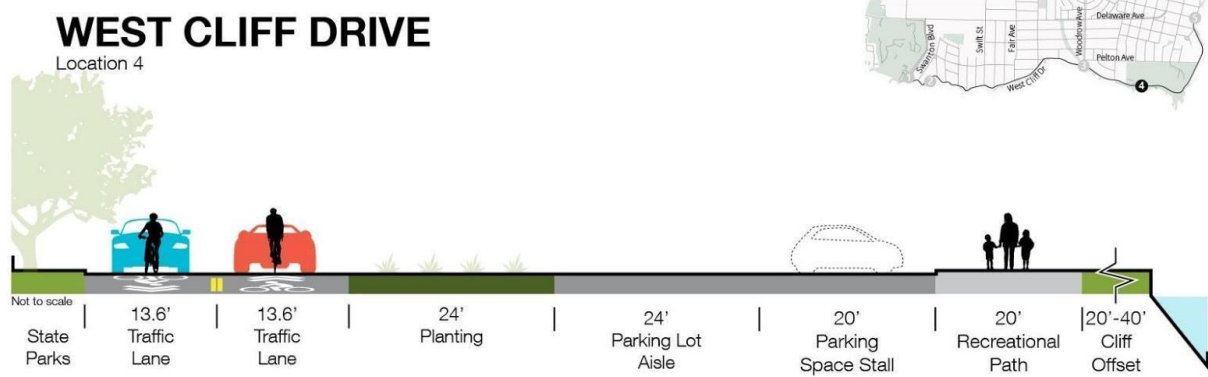


#### 7.1.4. Location 4 State Parks Parking Lot A



Figure 7-10 Plan view of West Cliff Drive Alternative 1 Enhancements at State Parks Parking Lot A





**Figure 7-11 West Cliff Drive Alternative 1 Enhancements at Cross Section of State Parks Parking Lot A**

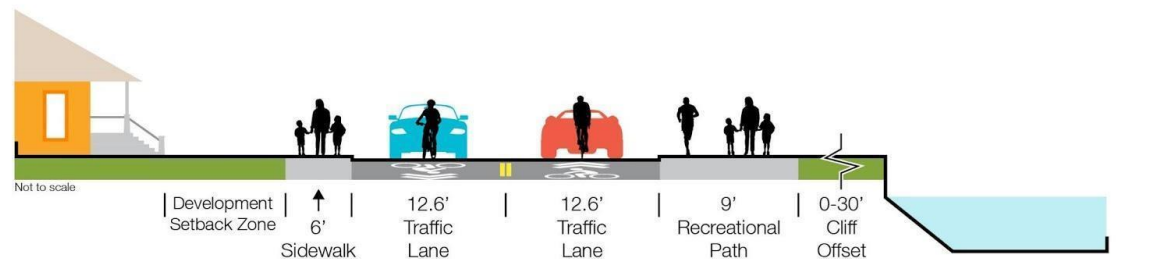
### 7.1.5. Location 5 Santa Cruz Street at West Cliff Drive



Figure 7-12 Plan view of Alternative 1 Enhancements at Santa Cruz St and West Cliff Drive

## WEST CLIFF DRIVE

Location 5



**Figure 7-13 Alternative 1 Enhancements at Cross Section of Santa Cruz St and West Cliff Drive**

## 7.2 One-way Traffic with Enhanced Bicycling Facility (Alternative 2)

While the near term alternative, e.g., Alternative 1, is the focus of projects advanced as part of the Plan, Alternative 2 is included in this report as a potential next step adaptation action for the City and Community to consider in the medium term. The City will evaluate under what conditions Alternative 1 is no longer viable and what triggers would initiate further exploration of Alternative 2 in future work.

This alternative would convert one automobile traffic lane to an additional bicycling facility, or cycle track. A two-way cycle track that is separated from automobile traffic would also allow the existing Recreational Trail to be primarily used as a walking path. This alternative would maintain westbound automobile access throughout the corridor for residential and recreational purposes. It would also be designed to maintain parking along the corridor. A two-way cycle track would help reduce user conflicts between bicyclists and other users along the Recreational Trail. This alternative is considered a medium-term adaptation approach, and could be initiated at some point in the future when cliff erosion trigger thresholds are exceeded (to be determined). Upon closure of the Recreational Trail the cycle track could be repurposed to serve as the relocated Recreational Trail. Any triggers development and/or initiating of this alternative must be coordinated with the joint land owner of many areas along West Cliff Drive, California Department of State Parks. Conceptual designs in plan and section view are provided at the five roadway crossing locations for Alternative 2 concepts in Figures 7-15 through 7-26.

### One-way with Enhanced Bicycling Facility

This alternative includes one-way westbound vehicle traffic with a two-way cycle track on the ocean side of the corridor. The following describes the concept design elements proposed in alternative 2:



**Two-way cycle tracks** are physically separated cycle tracks that allow bicycle movement in both directions on one side of the road using a single vehicular traffic lane. Some are separated by a buffer from adjacent pedestrian facilities or by a raised sidewalk if the cycle track is at roadway grade. In addition, two-way cycle tracks on one-way streets reduce out of direction travel by providing contra-flow movements. It should be noted that these facilities are more attractive to a wider range of bicyclists at all levels and ages than less separated facilities. Per Caltrans Design Information Bulletin 89-01, for separated bikeways at the same level as adjacent travel lane, there must be a minimum of 2 feet buffer with flexible posts. Figure 7-14 Shows a two-way cycle track with adjacent traffic and sidewalk along Beach Street in Santa Cruz.



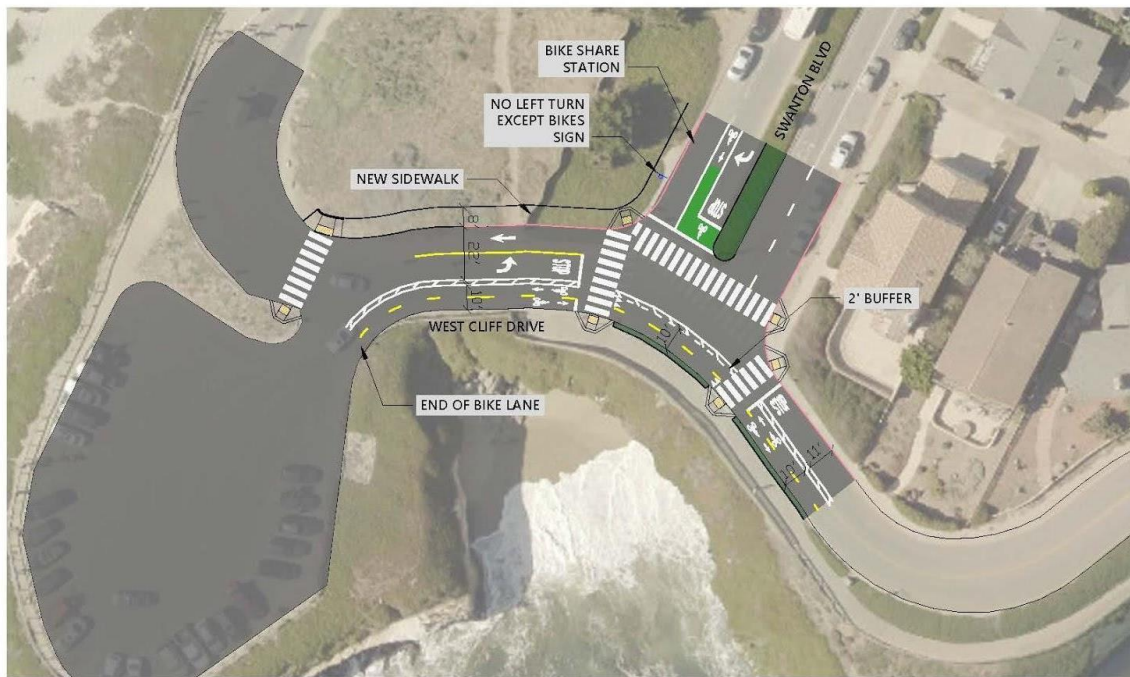
**Figure 7-14. Two-way cycle track with adjacent traffic and sidewalk.**

*Source: Fehr & Peers.*

**Drivable grass structure:** In some locations with wider ROW, it is recommended to consider use of drivable grass or other vegetation structure to provide a more appealing landscape. Drivable grass structure enables the permeable grass area to be used by emergency vehicles while preventing other vehicles from driving or parking over them.

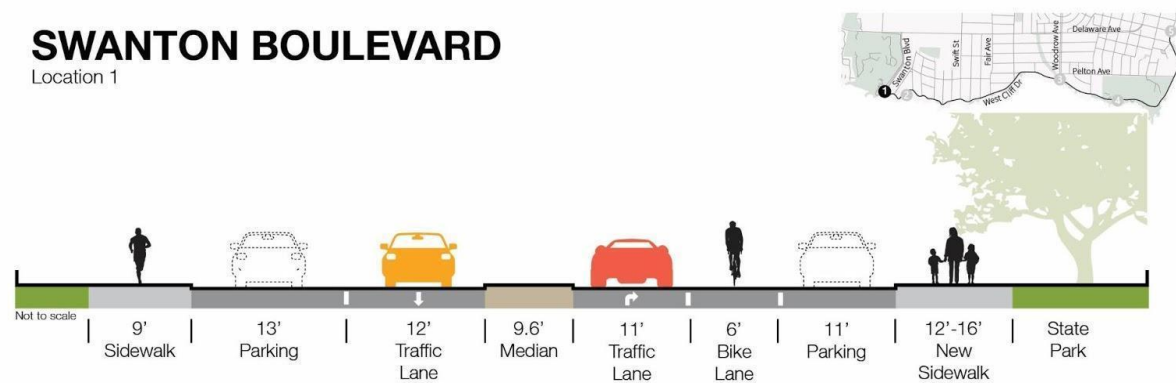


## 7.2.1 Location 1: Swanton Boulevard and West Cliff Drive



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

**Figure 7-15. Alternative 2 Concept- Plan view of Swanton Blvd at West Cliff Drive**



**Figure 7-16. Alternative 2 Concept- Cross Section of Swanton Blvd at West Cliff Drive**

## WEST CLIFF DRIVE (East Leg)

Location 1-2

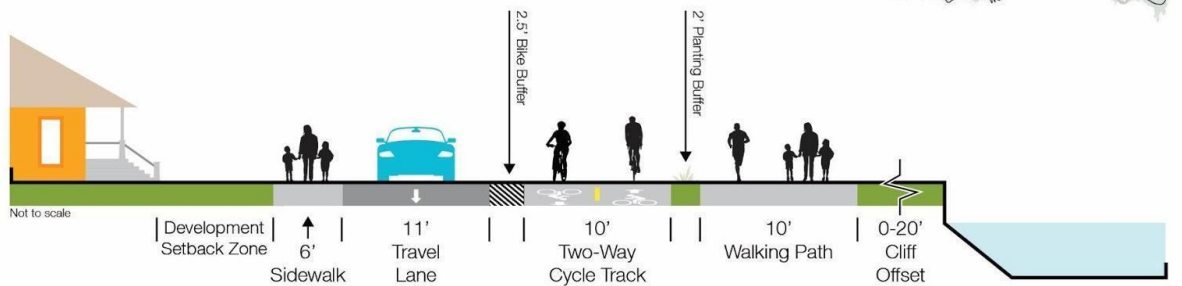


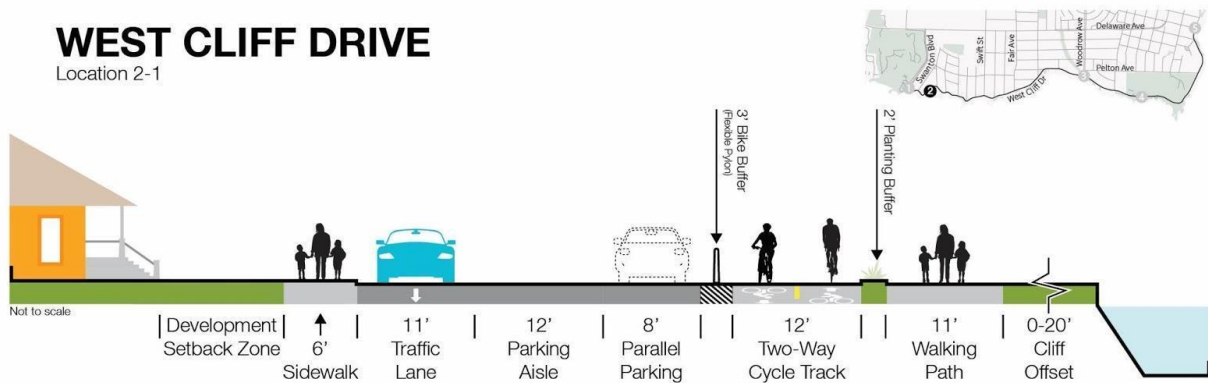
Figure 7-17. Alternative 2 Concept- Cross Section of West Cliff Drive east of Swanton Blvd

### 7.2.2. Location 2 Pyramid Beach parking lot



CONCEPTUAL - NOT FOR CONSTRUCTION. ADDITIONAL DETAILED ANALYSIS AND ENGINEERING DESIGN REQUIRED.

Figure 7-18. Alternative 2 Concept- Plan view of Pyramid Beach parking lot



**Figure 7-19. Alternative 2 Concept- Cross Section of Pyramid Beach parking lot**

### 7.2.3. Location 3 Woodrow Avenue at West Cliff Drive



**Figure 7-20. Alternative 2 Concept- Plan view of Woodrow Avenue at West Cliff Drive**



## WEST CLIFF DRIVE

Location 3a

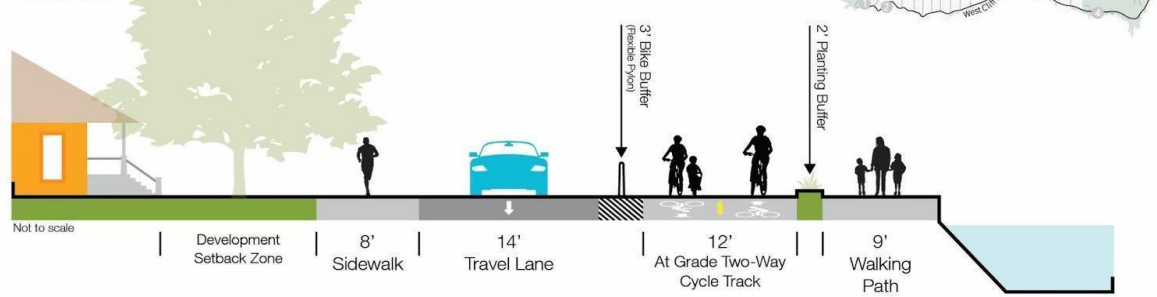


Figure 7-21. Alternative 2 Concept- Cross Section of Just west of Woodrow Avenue at West Cliff Drive

## WEST CLIFF DRIVE

Location 3b

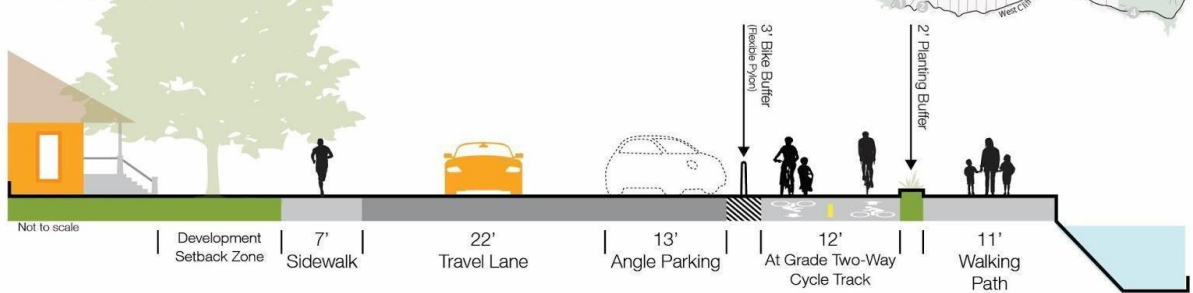


Figure 7-22. Alternative 2 Concept- Cross Section of parking lot on West Cliff Drive, east of Woodrow Avenue



## 7.2.4. Location 4 State Parks Parking Lot A



Figure 7-23. Alternative 2 Concept- Plan view of State Parks Parking Lot A

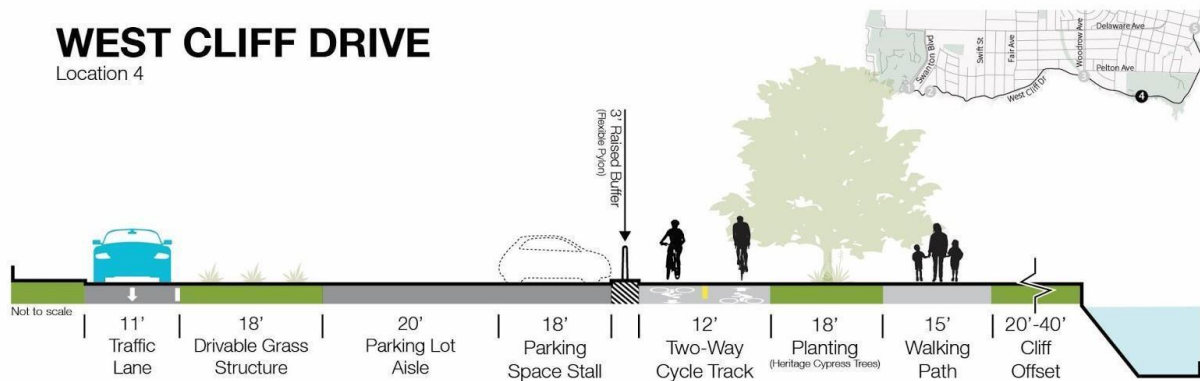
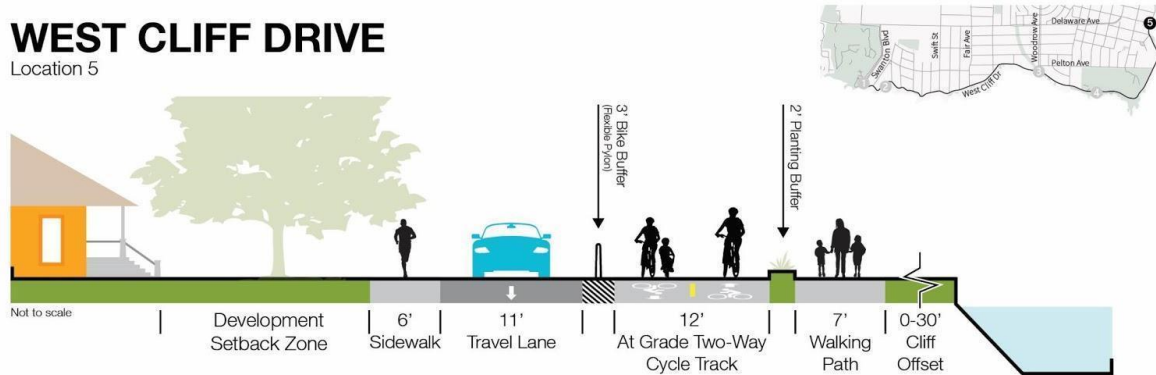


Figure 7-24. Alternative 2 Concept- Cross Section of State Parks Parking Lot A

## 7.2.5. Location 5 Santa Cruz Street at West Cliff Drive



**Figure 7-25. Alternative 2 Concept- Plan view of Santa Cruz St at West Cliff Drive**



**Figure 7-26. Alternative 2 Concept- Cross Section of Santa Cruz St at West Cliff Drive**

## 7.2.6. Alternative 2 Parking Spaces

The parking spaces described under Alternative 2 allow for angled or parallel parking options. Given the limited available ROW width for emergency vehicle access, the optimum use of the

available on-street parking spaces was considered for each parking lot locations. Table 7-1 outlines different on-street parking design configuration at each parking lot location.

**Table 7-1 Available parking spaces with different design configurations**

| Location                     | Existing Available Spaces | Parallel Available Spaces        | 90 Degree Angle Available Spaces | 60 Degree Angle Available Spaces | 45 Degree Angle Available Spaces |
|------------------------------|---------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Lot 1 Chico Ave / Auburn Ave | 8                         | 8                                | N/A*                             | N/A*                             | N/A*                             |
| Woodrow Parking Lot (Lot 7)  | 16                        | 6 (10)                           | N/A*                             | 7(9)**                           | 10(6)***                         |
| State Parks Lot A            | 19                        | 21 on-street & 18(1) parking lot | On-street N/A*                   | On-street N/A*                   | On-street N/A*                   |

\*Less than 20 feet width of ROW is remained for emergency vehicle access

\*\*26 feet width of ROW is remained for emergency vehicle access

\*\*\*22 feet width of ROW is remained for emergency vehicle access

(x) is the number of parking spaces lost due to configuration design

## 8. Project Review & Authorization Procedures

The purpose of this chapter is to set forth procedures for reviewing and authorizing project implementation on West Cliff Drive as well as delineating routine maintenance and pre-approved projects that do not require additional authorization. The Coastal Permit section of the City's Zoning Ordinance (Part 3 of Chapter 24.08 of the Santa Cruz Municipal Code) is part of the Implementation Program of the City's certified Local Coastal Program (LCP). It delineates the process for coastal permits and includes a list of project types that are excluded from the Coastal Development Permit process, as authorized by and in accordance with the procedures certified by the Coastal Commission. Part 3 also lists project types that are exempt from the Coastal Development Permit process in accordance with the California Coastal Act of 1976 and the California Code of Regulations. In addition to these lists of excluded and exempt project types, Part 3 includes noticing requirements and required findings for Coastal Development Permit determination.

This chapter describes three additional levels of project types that are specific to the West Cliff Drive Adaptation and Management Public Works Plan and the review and approval process for such projects. These project levels include basic maintenance, which is exempt from review based on this Public Works Plan; minor projects, which are contained in this Public Works Plan by description and are approved through the approval of this Plan; and major projects, which are not defined in this plan and would require approval of a Coastal Development Permit. Typically exemptions do not apply to a beach, wetland or sand dune or within a specified distance from the coastal bluff. However, projects contained in this Plan that are specified to take place within Coastal commission jurisdiction are allowable so long as the habitat and environmental protection measures outlined in Chapter 4 are followed and best management practices are utilized.

### 8.1. Review and Authorization of Proposed Projects by the City

#### 8.1.1. Definitions

"The Plan" or "Plan" means West Cliff Drive Adaptation and Management Public Works Plan.

"California Coastal Commission," "Coastal Commission," and "Commission" mean the California Coastal Commission.

"Contained in" means that a proposed development is of a kind contemplated by the Plan and is within the parameters of the Plan, including but not limited to the size, location, and type of the proposed project.

"Project" means a project developed for the purposes of this Plan.



“Person” means any individual, organization, partnership, limited liability company, or other business association or corporation, including any utility, and any federal, state, local government, or special district or an agency thereof.

“Public works” means (a) all production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities; (b) all public transportation facilities, including streets, roads, highways, public parking lots and structures, ports, harbors, airports, railroads, and mass transit facilities and stations, bridges, trolley wires, and other related facilities and (c) all publicly financed recreational facilities, all projects of the State Coastal Conservancy, and any development by a special district.

“The Public Works Director” and “the Director” mean the Public Works Director for the City of Santa Cruz

“The Executive Director of the California Coastal Commission” and “the Executive Director” mean the Executive Director of the California Coastal Commission or his/her designee. All required coordination/consultation with the Executive Director shall be initiated through and facilitated by Planning staff of the Coastal Commission's Central Coast District office. Note that all materials required to be sent to the Executive Director shall be sent to the Coastal Commission's Central Coast District Office.

“The City,” refers to the City of Santa Cruz.

### 8.1.2. Exclusions

The following categories of development are excluded from the requirement for a coastal development permit per the certified Local Coastal Program:

1. Signs. All signs are excluded except freestanding signs over eight feet in height and those signs governing shoreline access.
2. Bikeways. Construction of new bikeways (within existing rights-of-way), except if new construction reduces parking in the Beach Recreation or Seabright Beach Areas.
3. Exclusion of Temporary Events. Special events shall be evaluated for exclusion status by the city pursuant to Coastal Commission Guidelines for Exclusion of Temporary Events from Coastal Commission Permit Requirements (adopted May 12, 1994) in consultation with the Executive Director. The Executive Director shall retain exclusion review authority if it is determined that there are significant adverse impacts on coastal resources.

4. Temporary Structures. All temporary (six months or less; nonrenewable) structures and uses consistent with the conservation and cultural resource regulations and that do not conflict with public access and access policies.

In addition, the Zoning Administrator may, at the time the application for development within the Coastal Zone is submitted, make a determination that the development is categorically excluded from the requirement for a Coastal Development Permit. This determination shall be made with reference to the certified Local Coastal Program, including any maps, categorical exclusions, land use designations and zoning ordinances which are adopted as part of the Local Coastal Program. Only developments which fully comply with the policies and ordinances of the certified Local Coastal Program may be excluded under this categorical exclusion.

### 8.1.3 Notice of Exclusion.

Notices of exclusion shall be issued on forms prepared for that purpose by the department of planning and community development and shall indicate the developer's name, street address, if any, and assessor's parcel number(s) of the project site, a brief description of the development, and the date(s) of application for any other permit(s). A copy of the notice of exclusion shall be provided to the Coastal Commission and to any person who has requested such notice within five working days of issuance. The notice of exclusion may be issued at the time of project application but shall not become effective until all other approvals and permits required for the project are obtained. A copy of all terms and conditions imposed by the city shall be provided to the Coastal Commission.

### 8.1.4 Exemptions

Minor projects lacking coastal significance are exempted from the requirements of coastal development permit processing in accordance with the California Coastal Act of 1976, the California Code of Regulations, and Local Coastal Program. Other projects are not subject to local coastal development permit jurisdiction. Within this Plan there may be further exemptions that override the exceptions in the exemptions listed here.

No local coastal permit is required for the following activities:

1. Projects described in Repair, Maintenance and Utility Hook-Up Exclusions from Permit Requirements adopted by the California Coastal Commission on September 5, 1978, which is incorporated as Appendix II of the Local Coastal Program document and found at the end of this Chapter.
2. Projects undertaken by federal agencies.

3. Projects with Coastal Permit. Development authorized by a coastal permit (still valid) issued by the Coastal Commission or in areas where the Coastal Commission retains original permit jurisdiction.

4. Replacement After Natural Disaster. The replacement of any structure, other than a public works facility, destroyed by a natural disaster is exempt; provided, that the replacement structure:

- a. Will be for the same use as the destroyed structure; and
- b. Will not exceed the floor area, height, or bulk of the destroyed structure by more than ten percent; and
- c. Will be sited in the same location on the affected property as the destroyed structure.

5. Improvements to Existing Single-Family Residences, Including Mobilehomes.

a. Exempt improvements to single-family residences include the following:

(1) Additions and other improvements in the CZ-O Coastal Zone Overlay District but outside the SP-O Shoreline Protection Overlay District to an existing single-family residence, including improvements to any fixtures or other structures directly attached to the residence or to structures on the property normally associated with a single-family residence, such as garages, swimming pools, fences, storage sheds, decks, gazebos, patios, greenhouses, driveway paving, and other similar non-habitable improvements;

(2) On property located within the SP-O Shoreline Protection Overlay District, improvements that would not result in an increase in height of ten percent or more or an increase of ten percent or more of internal floor area of an existing structure, or an additional improvement of ten percent or less where an improvement to the structure had previously been undertaken pursuant to this section, and not including any non-attached structure such as garages, fences, shoreline protective works or docks;

(3) Landscaping on the lot.

b. This exemption for improvements to single-family residences, including mobilehomes, does not include the following:

- (1) Additions to single-family residences where the development permit issued for the original structure by the city or Coastal Commission indicated that any future additions would require a coastal permit;
- (2) Where the structure is located on a beach, wetland, or seaward of the mean high-tide line; where the residence or proposed improvement would encroach within fifty feet of the edge of a coastal bluff;
- (3) Where the improvement would involve any significant alteration of land forms on a beach, wetland, or sand dune, or is within one hundred feet of a coastal bluff or within any natural resource or natural hazard area as indicated in the Local Coastal Program;
- (4) In areas having a critically short water supply as declared by resolution of the Coastal Commission, construction of major water-using development not essential to residential use such as swimming pools or extension of landscape irrigation systems;
- (5) Expansion or construction of water wells or septic systems.

6. Improvements to Existing Duplexes and Multifamily Residences.

a. Exempt improvements to duplexes and multifamily residences include the following:

- (1) Additions and other improvements in the CZ-O Coastal Zone Overlay District but outside the SP-O Shoreline Protection Overlay District to an existing duplex or multifamily residence, including improvements to any fixtures or other structures directly attached to the residence or to structures on the property normally associated with a duplex or multifamily residence, such as garages, swimming pools, fences, storage sheds, decks, gazebos, patios, greenhouses, driveway paving, and other similar non-habitable improvements;
- (2) On property located within the SP-O Shoreline Protection Overlay District, improvements that would not result in an increase in height of ten percent or more or an increase of ten percent or more of internal floor area of an existing structure, or an additional improvement of ten percent or less where an improvement to the structure had previously been undertaken pursuant to this section, and not including any non-attached structure such as garages, fences, shoreline protective works or docks;



(3) Landscaping on the lot.

b. This exemption for improvements to duplexes and multifamily residences, including mobilehomes, does not include the following:

(1) Additions to duplexes or multifamily residences where the development permit issued for the original structure by the city or Coastal Commission indicated that any future additions would require a coastal permit;

(2) Where the structure is located on a beach, wetland, stream or lake; seaward of the mean high-tide line; where the structure or proposed improvement would encroach within fifty feet of the edge of a coastal bluff;

(3) Where the improvement would involve any significant alteration of land forms on a beach, wetland, or sand dune, or is within one hundred feet of a coastal bluff or within any natural resource or natural hazard area as indicated in the Local Coastal Program;

(4) Improvement which would change the type or intensity of use of the structure;

(5) In areas having a critically short water supply as declared by resolution of the Coastal Commission, construction of major water-using development not essential to residential use such as swimming pools or extension of landscape irrigation systems;

(6) Expansion or construction of water wells or septic systems.

7. Interior Remodeling. Interior remodeling, residential and non-residential, is exempt except where the use is being converted into a more intensive use or results in a loss of visitor-serving or public-access facilities.

8. Any activity that involves the conversion of any existing multiple-unit residential structure to a time-share project, estate or use, as defined in Section 11003.5 of the Business and Professions Code, is exempt except that the division of a multiple-unit residential structure into condominiums shall not be considered a time-share project, estate, or use.

9. Maintenance Dredging. Maintenance dredging of existing navigation channels or moving dredge material from such channels to a disposal area outside the Coastal Zone, pursuant to a permit from the United States Army Corps of Engineers.

10. Repair and Maintenance Activity. Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; however, the following extraordinary methods of repair and maintenance shall require a coastal development permit because they involve a risk of substantial adverse environmental impact:

a. Any method of repair or maintenance of a seawall revetment, bluff retaining wall, breakwater, groin, culvert, outfall, or similar shoreline work that involves:

- (1) Repair or maintenance involving substantial alteration of the foundation of the protective work including pilings and other surface or subsurface structures;
- (2) The placement, whether temporary or permanent, of rip-rap, artificial berms of sand or other beach materials, or any other forms of solid materials, on a beach or in coastal waters, streams, wetlands, estuaries and lakes or on a shoreline protective work, except for agricultural dikes within enclosed bays or estuaries;
- (3) The replacement of twenty percent or more of the materials of an existing structure with materials of a different kind; or
- (4) The presence, whether temporary or permanent, of mechanized construction equipment or construction materials on any sand area or bluff or within twenty feet of coastal waters or streams.

b. Any method of routine maintenance dredging that involves:

- (1) The dredging of one hundred thousand cubic yards or more within a twelve-month period;
- (2) The placement of dredged spoils of any quantity within an environmentally sensitive habitat area, or any sand area, within fifty feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within twenty feet of coastal waters or streams; or
- (3) The removal, sale, or disposal of dredged spoils of any quantity that would be suitable for beach nourishment in an area the Commission has declared by resolution to have a critically short sand supply that must be maintained for protection of structures, coastal access or public recreational use.

c. Any repair or maintenance to facilities or structures or work located in an environmentally sensitive habitat area, any sand area, within fifty feet of the edge of a coastal bluff or environmentally sensitive habitat area, or within twenty feet of coastal waters or streams that include:

- (1) The placement or removal, whether temporary or permanent, of rip-rap, rocks, sand or other beach materials or any other forms of solid materials;
- (2) The presence, whether temporary or permanent, of mechanized equipment or construction materials.

11. Land Division. Land division brought about in connection with the acquisition of such land by a public agency for recreational purposes.

12. Non-Major Vegetation Removal.

a. Trees, fourteen inches and less in diameter, and shrub removal and trimming not subject to the heritage tree provisions (Chapter 9.56 of the Municipal Code) and not located in a Vegetation Community (Map EQ-8) or otherwise identified by the Local Coastal Program, including area and specific plans as within an area of potentially significant natural resources or in an erosion hazard area, are exempted except when located seaward of the first public road paralleling the sea.

b. Weed abatement not located in a Vegetation Community (Map EQ-8) or otherwise identified by the Local Coastal Program, including area and specific plans as within an area of potentially significant natural resources or in an erosion hazard area is exempted except when located seaward of the first public road paralleling the sea.

13. Portions of Projects. Portions of projects on portions of parcels outside the CZ-O are exempt.

#### 8.1.5 Additional Maintenance Projects

In addition to the exempted maintenance projects described above, the maintenance projects of the following types and those contained in Chapter 4 of the Plan are approved by this Plan and shall not require a separate Coastal Development Permit. Projects that are exempt per the California Coastal Commission's *Repair, Maintenance and Utility Hook-Ups Exclusions from Permit Requirements* (see exhibit at end of Chapter) are noted with "RMU." Where the RMU refers to "highway" or "State Highway," it is recognized per Section II.A. of the RMU that this reference also applies to local roads and rights-of-way. For exemptions listed in 8.1.4 above

that restrict the application of the exemption to areas outside of a beach, wetland or sand dune or within a specified distance from the coastal bluff, that restriction of the exemption shall not apply so long as the habitat and environmental protection measures outlined in Chapter 4 are followed and best management practices are utilized, if applicable.

1. Signs governing coastal access that are contained in this Plan that replace existing signs with similar signs as part of an overall signage program, including new signs made necessary by safety concerns. (RMU II.A, Appendix I, 7.)
2. Repair, replacement, and addition of fencing and guard rail safety barriers. (RMU 17.c)
3. Repair and maintenance of existing roads and path, including pothole filling, repaving with associated striping, curb ramp replacement, concrete repair, and streetlight repair and replacement. (RMU II.A)
4. Repair and replacement of stormwater outlets. (RMU II.B.4)
5. Repair and maintenance of existing structures or facilities with no increase in the size of the structure or level or type of use. (RMU II.B.5.E)
6. Trimming and removal of overgrown vegetation by hand or mechanical means. (RMU Appendix I, 5.)
7. Maintenance of existing public service facilities. (RMU Appendix I, 10.)
8. The treatment, maintenance, and replacement of vegetative material within the right-of-way, including hand and mechanical means. (RMU Appendix I, 11)
9. Undergrounding of existing utilities. (RMU II.B.2.b)

#### Specific Maintenance Projects Contained in Plan:

1. Zone 1: Improve exterior of Pyramid Beach stormwater outfall. (RMU II.4)
2. Zone 1-4: Conduct stormwater outfall and pipe televising and replace failed pipe to achieve design performance. (RMU II.4)
3. All Zones: Sinkhole repair as needed. (RMU Appendix 1, 15)
4. Zone 3: Improve vertical access at existing stairwells (#4 and 7). (RMU Appendix 1, 17)
5. Addition of formal (marked) bike parking at the following locations:
  - a. Zone 1: Natural Bridges, other parking areas, and Pyramid Beach
  - b. Zone 2: Mitchell's Cove, parking areas, Bethany Curve, and overlook areas
  - c. Zone 3: Lighthouse, Lighthouse Field parking areas, Surfer statue.
  - d. Zone 4: Parking areas and Cowell Beach

#### 8.1.6 Minor Projects

Minor projects are those that do not qualify as repair and maintenance but that are contained in the Plan. Such projects will generally include little to no expansion of existing facilities (no more than a 20% increase in size), no new uses that are not contained in the Plan, and



negligible to no environmental impacts. Where the project would affect a beach, wetland or sand dune or would be within a specified distance from the coastal bluff, the habitat and environmental protection measures outlined in Chapter 4 shall be followed and best management practices shall be utilized, if applicable.

For minor projects, no new CDPs will be required. These projects will be included in the annual report of projects completed that the City submits to the Commission. Examples of projects in this category include:

1. Zone 2: Install a gender-neutral public restroom on the inland side of Bethany Curve bridge near Woodrow Avenue.
2. Zone 2: Maintain revetments #23-40 by restacking rock to original design grade and slope and capping entrance to David Way cave with placement of suitably sized rock to prevent access.
3. Zone 3: Maintain revetments #47 and 48 east of Lighthouse Point, retaining structure placement and repair as contained in the Plan.
4. Zone 1-4: Implement parking management strategies, including but not limited to time limited parking, additional ADA access parking, and metered parking at strategic locations. The intent of these parking management strategies is to provide more equitable parking solutions to ensure short duration visitor parking becomes available at prime locations throughout the day.

### 8.1.7 Major Projects

Major projects are those that are not contained in the Plan or, if described herein, still need full design and/or engineering studies that have not yet been performed before the project can be implemented. These major projects are subject to the City's normal Coastal Development Permit approval process. Projects in this category include the design upgrade and installation of retaining walls to replace failed, non-engineered structures at armoring sites #4, 5, 6, and 9 in Zone 1, the design of the seawall at Mitchell's Cove in Zone 2, and the filling of sea caves #13 C, D, and E in Zone 1.

### 8.1.8 Permit Procedures

An application for a coastal permit shall be reviewed in conjunction with whatever other permits are required for the project in the underlying zone. Uses requiring only a coastal development permit shall be acted upon by the zoning administrator. Where a coastal development permit is combined with another permit, the approving body for the coastal development permit shall be the same as that for the permit required for the underlying zoning district. A public hearing shall be held in all cases, except for accessory dwelling units and any other permits subject to staff level ministerial approval under State law.

### **8.1.9 Challenges to Determination of Coastal Permit Requirement, Exclusion, or Applicable Process**

In the case of disputes over the City of Santa Cruz's determination of coastal development permit requirement, exclusion, or applicable hearing and appeals procedures, the planning director shall request an opinion of the Executive Director of the Coastal Commission. Local acceptance for filing and/or processing of the permit application shall cease until the Department of Planning and Community Development receives the determination of appropriate process from the Executive Director of the Coastal Commission.

### **8.1.10 Exception**

Nothing in this part shall prevent demolition or the strengthening or restoring to a safe condition of any building or structure declared unsafe by the City Building Official or Fire Marshal.

### **8.1.11 Coastal Access**

Access easements may be required to create and/or maintain existing public access to the coastline or in accordance with Local Coastal Plan policy.

### **8.1.12 Findings Required**

The hearing body must find that the development is consistent with the General Plan, the Local Coastal Land Use Plan and the Local Coastal Implementation Program and will:

1. Maintain views between the sea and the first public roadway parallel to the sea;
2. Protect vegetation, natural habitats and natural resources consistent with the Local Coastal Land Use Plan;
3. Be consistent with any applicable design plans and/or area plans incorporated into the Local Coastal Land Use Plan;
4. Maintain public access to the coast along any coastline as set forth in the Local Coastal Land Use Plan;
5. Be consistent with the Local Coastal Land Use Plan goal of providing visitor-serving needs as appropriate;
6. Be consistent with the Local Coastal Land Use Plan goal of encouraging coastal development uses as appropriate.

### **8.1.13 Notice of Final Action**

Within seven calendar days of the final local action on a coastal permit, the City shall provide notice of its action by first class mail to the Coastal Commission and to any persons who

specifically requested notice of such final action by submitting a self-addressed, stamped envelope to the department of planning and community development. Such notice shall include conditions of approval and written findings and the procedures for appeal of the local decision to the Coastal Commission. Appealable coastal development permits shall not be deemed complete and a final action taken until all local rights of appeal have been exhausted.

## 8.2. Coastal Commission Review of Projects

The Coastal Commission shall review coastal development permit applications for projects contained in the West Cliff Drive Adaptation and Management Public Works Plan (Plan) that have been authorized by the City for consistency with the Plan in accordance with the procedures of this section.

### 8.2.1. Submittal of Project Application

Within ten days of receipt of the project application, City determination, and all applicable supporting information for a proposed project, the Executive Director of the Coastal Commission shall review the submittal and shall determine whether additional information is necessary to determine if the proposed project is consistent with the Plan, and if additional information is deemed necessary, shall request such information from the Public Works Director, the Planning Director, or the director of the department submitting the application. The project submittal shall be deemed filed as follows:

1. If the Executive Director does not respond to the project submittal or any subsequent information submittal within ten days following its receipt, the application shall be deemed filed on the tenth day following the Executive Director's receipt of the application or the subsequent information submittal, or
2. The application shall be deemed filed when all necessary information requested has been received by the Executive Director.

In the event of disagreement concerning the need for additional information or the adequacy of the subsequent information submitted to enable the Commission to determine consistency with the Plan, the Executive Director or Public Works Director may submit the disagreement to the Commission for resolution. The Executive Director shall schedule the matter for hearing and resolution at the next Commission meeting or as soon thereafter as practicable, but in no event later than sixty (60) calendar days after the Executive Director's receipt of written notice by the Public Works Director that the City disagrees that the Executive Director's request for information is necessary to determine if the proposed development is consistent with the Plan (the "Hearing Deadline").

The matter shall be scheduled and heard by the Commission in accordance, to the extent practicable, with the procedures set forth in 14 California Code of Regulations Section 13056(d).

### 8.2.2. Coastal Commission Hearing Deadline

If the Commission fails to act upon the project submittal on or before the Hearing Deadline, the noticed project shall be deemed consistent with the certified Plan. The Hearing Deadline may be extended if, on or before the Hearing Deadline, the Public Works Director waives the City's right to a hearing within thirty working days, and agrees to an extension to a date certain, no more than three months from the Hearing Deadline, to allow for Commission review of the proposed project at a later hearing.

### 8.2.3. Coastal Commission Review and Determination of Consistency with Plan

The Executive Director shall report in writing to the Commission the pendency of the proposed project for which a submittal has been deemed filed. The Coastal Commission shall review the proposed project at a scheduled public hearing prior to the Hearing Deadline.

If the Executive Director determines that one or more proposed project(s) is de minimis with respect to the purposes and provisions of the Plan, they may be scheduled for Commission review at one public hearing during which all such items may be taken up as a single matter pursuant to procedures comparable to the Commission's consent calendar procedures (California Code of Regulations, Title 14, Sections 13101 through 13103).

For all other proposed project(s), the Executive Director's report to the Commission shall include a description sufficient to allow the Commission to understand the location, nature, and extent of the proposed project(s), and a discussion and recommendation regarding the consistency of the proposed project with the Plan. On or before the Hearing Deadline the Commission, by a majority of its membership present, may take one of the following actions on a proposed project:

1. Determine that the proposed project is consistent with the Plan, or
2. Determine that conditions are required to render the proposed project consistent with the certified Plan and vote to impose any condition necessary to render the proposed project consistent with the Plan.

Following Commission action, the Executive Director shall inform the Public Works Director of the Commission's action and shall forward any conditions associated with it. If the Commission has voted to impose any condition necessary to render the project consistent with the Plan,



project shall not be undertaken until the conditions have been incorporated into the project.

Coastal Commission review of a proposed project shall be deemed complete on either:

1. The date of a Commission action determining that the proposed project is consistent with the Plan (with or without conditions to render it consistent); or
2. If the Commission has failed to act on the proposed project by the Hearing Deadline, the date of the Hearing Deadline.
3. Upon completion of Commission review, the City may undertake the project provided that any conditions imposed by the Commission to render the development consistent with the Plan have been incorporated into the project.

### 8.3. Amendment of Project Authorizations

Authorization for projects that have been deemed consistent with the Plan by the City and/or the Coastal Commission may be amended in the same manner specified by this Plan for the initial review of proposed project. A project that requires amendment of a pre-plan certification Commission action and that is not subject to the Coastal Commission's retained permit jurisdiction and/or other retained review authority (see Section 8.5) shall be pursued through the Coastal Commission directly, unless the Executive Director, in consultation with the Public Works Director, or the Commission determines that de novo review under Plan procedures is more appropriate. The determination shall be made on the basis of the extent to which the proposed change significantly alters the effect of terms and/or conditions of the original approval. In either case, the standard of review is the Plan.

### 8.4. Effective Date and Expiration Date of Project Authorizations; Extension of Authorizations

#### 8.4.1. Effective Date of Project Authorizations

Unless expressly stated otherwise in the approval documents, the effective date of a Project authorization shall be the date the Coastal Commission's review of the proposed project is deemed complete pursuant to Section 8.2.3.

#### 8.4.2. Expiration Date of Project Authorizations

Unless explicitly stated otherwise in the approval documents, the expiration date of a project authorization pursuant to this Plan shall be three years following its effective date. Thereafter, development of the project may not commence unless the authorization has been extended as provided herein pursuant to Section 8.4.3, or a new authorization and review by the

Commission has been completed in accordance with Plan provisions for initial review of proposed development.

#### 8.4.3. Extension of Project Authorizations

The expiration date of a project authorization may be extended for a period not to exceed one year if the Public Works Director determines that there are no changed circumstances that may affect the project's consistency with the Plan. In such a case, before the expiration of the authorization, the Public Works Director shall submit to the Executive Director notice of intent to extend authorization of the project together with supporting information sufficient for the Executive Director to determine whether there are changed circumstances that may affect the development's consistency with the Plan, including any modified and/or new materials making up the supporting information. The submittal shall stay the expiration of the authorization and the start of construction.

If the Executive Director determines that the extension is consistent with the Plan, the City shall post notice of the determination consistent with the City's posting requirements and the Executive Director shall mail the notice to all persons and agencies on the original mailing list for the project and to all persons and agencies known by the Executive Director to be interested in the proposed extension. The notice shall include a summary of the extension approval process and information on contacting the City and the Coastal Commission concerning the proposed extension. If no written objection is received at the Commission office within 10 working days of posting and mailing notice, the determination of consistency shall be conclusive.

If the Executive Director determines that due to changed circumstances the project may not be consistent with the Plan, the proposed extension shall be reported to the Commission at a noticed public hearing. The report shall include any pertinent changes in circumstances relating to the proposed extension. If three or more commissioners object to the extension on grounds the project may not be consistent with the Plan, the matter shall be set for hearing as though it were a new application submittal, including that the City shall post notice and shall provide the Executive Director with supporting information in the manner prescribed for new proposed projects.

Successive extensions of an authorization may not exceed one year each.

#### 8.5. Coastal Commission's Permit Jurisdiction

After certification of the Plan, the Coastal Commission retains permit jurisdiction over projects on tidelands, submerged lands, and public trust lands, whether filled or unfilled, on and adjacent to West Cliff Drive (see "Coastal Commission Retained Jurisdiction Area" in Figure 8-1). Under the Federal Coastal Zone Management Act, the Commission also retains federal consistency review authority over federal activities and federal permitted activities on or

adjacent to West Cliff Drive. The Plan shall provide non-binding guidance for such permit and federal consistency review by the Commission.

The Commission also retains permit jurisdiction outside of the retained jurisdiction area over projects that were approved by Commission action before the date of Plan certification. Any proposal to expand such existing project shall be subject to the project review procedures of the Plan. For any proposal to modify such existing project, the determination of whether to treat the proposal as an amendment to the Commission authorization or as a new project subject to Plan review shall be made on a case-by-case basis as provided in Section 8.3 (Amendment of Project Authorizations).

## 8.6. Monitoring of Projects

The City shall be responsible for ensuring that all terms, conditions, and mitigations associated with authorized projects, including but not limited to mitigation measures and CEQA/NEPA requirements, are fulfilled. Project managers and other City personnel assigned responsibility to implement and/or monitor authorized projects shall contact the Public Works Director annually by the end of each calendar year to provide information regarding compliance with the terms and conditions of each Plan authorization that year and continuing obligations from authorizations in previous years.

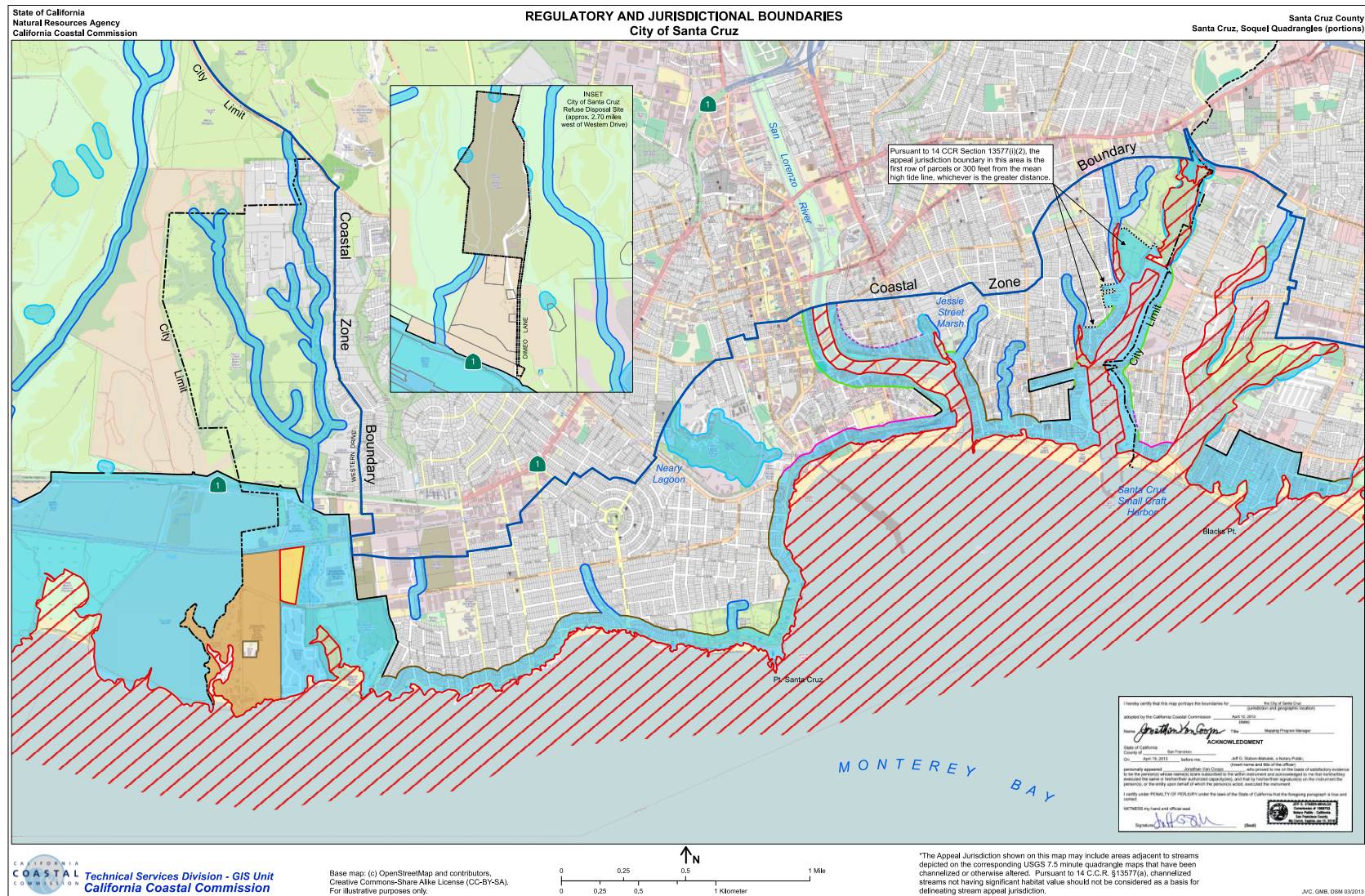


Figure 8-1. Coastal Commission Retained Jurisdiction Area



The Public Works Director shall verify that all terms and conditions have been timely fulfilled and shall update each project's list of conditions and mitigations with compliance information on a yearly basis.

The Director shall include within on-going project monitoring programs of the City an annual written Plan monitoring report that includes a cumulative and calendar year summary of: Plan-authorized project compliance; projects excluded or exempt from coastal development permits by virtue of Sections 8.1.2, 8.1.4 and 8.1.5; emergency authorizations pursuant to Section 8.8; enforcement undertaken pursuant to Section 8.7; Plan-required biannual monitoring reports (e.g., triggers); status of Plan-required improvements and other city commitments; and any comments received on Plan implementation. The Director shall maintain a record of these annual summary reports in the Director's office, and they shall be available for public review. The Director shall submit a copy of each annual report to the Executive Director within ten days of its completion. Completion of projects and the set of annual summary reports shall constitute an Implementation Program, which shall be revisited at the next iteration of Plan preparation.

## 8.7. Enforcement

In addition to all other available remedies, the provisions of the Plan and the Coastal Act shall be enforceable pursuant to Chapter 9 of California Public Resources Code Division 20. Any person who performs or undertakes projects on West Cliff Drive that are (a) in violation of the Plan, (b) inconsistent with any pre-Plan Coastal Commission authorization (including coastal development permit approval), and/or (c) inconsistent with any Plan project authorization may, in addition to any other penalties or remedies, be civilly liable in accordance with the provisions of Public Resources Code Sections 30820, 30821.6 and 30822.

The City shall ensure that projects implemented on West Cliff Drive are consistent with the Plan and the terms and conditions of project authorizations pursuant to the Plan. The Public Works Director shall investigate in a reasonable timeframe any allegations regarding projects being undertaken inconsistent with the provisions of the Plan and/or project authorizations, and shall attempt to resolve any such inconsistencies. The Executive Director and/or Coastal Commission may also enforce the terms of the Plan and the Coastal Act.

## 8.8. Emergency Authorizations

### 8.8.1. Definition of Emergency

For the purpose of this Section the term "emergency" means: a sudden unexpected occurrence demanding immediate action to prevent or mitigate loss or damage to life, health, property, or essential public services.

## **8.8.2. Emergency Project in Areas Outside of the Coastal Commission's Retained Jurisdiction**

### **A. City Manager's Authority**

Where immediate action by the City is required to protect life and property of the City from imminent danger, or to restore, repair, or maintain City property, utilities, or services destroyed, damaged, or interrupted by natural disaster, serious accident, or in other cases of an emergency, the City Manager may authorize an emergency project on West Cliff Drive outside of the Coastal Commission's retained jurisdiction area (see Figure 8-1) in compliance with this Section. Emergency work within areas subject to the Coastal Commission's permit jurisdiction is addressed in Subsection 8.8.3 below.

### **B. Extreme Emergency Requiring Immediate Action**

If an emergency is so extreme that it does not allow time for the written requests, authorizations, and coordination described in this section, the City and persons undertaking any emergency project shall adhere as closely as reasonably possible to the written request, authorization, and coordination portions of these procedures. If an emergency is so extreme that it does not allow time for the written requests (Section 8.8.2.C), authorizations (Sections 8.8.2.D, 8.8.2.E, 8.8.2.F, and 8.8.3), and coordination (Sections 8.8.2.D and 8.8.2.E) described in this section, the City and persons undertaking any emergency project shall adhere as closely as reasonably possible to the written request, authorization, and coordination portions of these procedures. In all cases, compliance with Section 8.8.2.E is required.

### **C. Request for Emergency Project Authorization**

A request for an emergency project authorization shall be filed with the City Manager in writing if time allows, or in person, by email, or by telephone if time does not allow. In such a case, the written request and authorization shall be provided as described in subsection 8.8.2.B, above. The request shall include, at a minimum:

1. The nature and location of the emergency;
2. The cause of the emergency, insofar as this can be established;
3. The remedial, protective, and/or preventative development proposed to address the emergency, including an evaluation of potential alternatives if time allows; and
4. The circumstances associated with the emergency that justify the emergency project proposed, including the probable consequences of failing to act.

### **D. City Manager's Responsibilities**

Prior to authorizing an emergency project, and to the extent time allows, the City Manager or his/her designee shall:

1. Verify the facts associated with an emergency authorization request, including the existence and nature of the emergency;
2. Coordinate with Planning staff in the Central Coast District office of the California Coastal Commission as to the nature of the emergency and the scope of the emergency project proposed; and
3. Provide public notice of the emergency project, with the extent and type of notice determined on the basis of the nature of emergency.

#### **E. Findings Required for Authorization of Emergency Project**

The City Manager may authorize an emergency project on West Cliff Drive if he/she first finds that:

1. Immediate action by the City is required to protect life and property of the City from imminent danger, or to restore, repair, or maintain City property, utilities, or services destroyed, damaged, or interrupted by natural disaster, serious accident, or in other cases of emergency;
2. The emergency requires action more quickly than could occur through the Plan's normal project review procedures, and the emergency project can and will be completed within 30 days unless otherwise specified in the emergency authorization;
3. Public comment on the proposed emergency project has been reviewed, if time allows;
4. The City Manager has coordinated with Planning staff in the Central Coast District office of the California Coastal Commission and/or the Executive Director pursuant to Plan Subsection 8.8.2.D;
5. The emergency project proposed is the minimum necessary to address the emergency and, is the least environmentally damaging temporary alternative for addressing the emergency; and;
6. The emergency project proposed would be consistent with the Plan and/or would not impede attainment of Plan requirements following completion of the emergency project.

#### **F. Form of Emergency Project Authorization**

The emergency project authorization shall be a written document and, at a minimum, shall include:

1. The date of issuance;
2. The scope of project to be performed;
3. The timeframe for completion of the emergency project (not to exceed 30 days);
4. Terms and conditions of the authorization;
5. A provision stating that any projects or structures constructed pursuant to an emergency authorization shall be considered temporary until authorized by the regular Plan development authorization processes, and that issuance of an emergency authorization shall not constitute an entitlement to the erection of permanent projects or structures; and

6. A provision stating that the project authorized through the emergency process must be removed and the affected area restored if a Project authorization has not been received within six months of authorization of the emergency project (or within one year if a Plan amendment is also required). If it is not so authorized, the emergency project authorized, or the unauthorized portion of the project, shall be removed and the affected area restored.

#### **G. Notice of Emergency Project Authorization**

No later than three days after the occurrence of the disaster or the discovery of the danger, the City Manager shall provide the Executive Director of the Coastal Commission with at least telephonic or email notice of the type and location of the emergency action taken. As soon as possible and no later than 7 days after the emergency, the City Manager shall submit a written Notice of Emergency Project Authorization to the Executive Director. The Notice shall include information documenting compliance with this section, including the written emergency authorization. The notice is informational only.

#### **8.8.3. Emergency Project in Areas within the Coastal Commission's Retained Jurisdiction**

In the event of an emergency necessitating an emergency project on land on which the Coastal Commission retains jurisdiction (see Plan Section 8.7 and Figure 8-1) the procedures of this subsection shall apply.

The Public Works Director shall apply for an emergency permit to the Executive Director, by letter if time allows, and by telephone, email, or in person if time does not allow. All processing of the proposed emergency permit shall be in accordance with 14 Cal. Code of Regulations Sections 13136-13143.

Where immediate action by the City is required to protect life and public property from imminent danger or to restore, repair, or maintain public works, utilities, or services damaged or interrupted by natural disaster or other emergency, the requirement for obtaining an emergency permit may be waived, in accordance with Section 30611 of the Coastal Act; provided that the City shall comply with the requirements of Section 30611. The City shall notify the Executive Director of the type and location of the emergency work within three days of the disaster or discovery of the danger, whichever comes first. This subsection does not authorize erection of any permanent structure valued at more than \$25,000. Within seven days of acting, the City shall notify the Executive Director in writing of the reasons why the action was taken and provide verification of compliance with the expenditure limits. The City's submittal to the Executive Director shall be reported to the Commission and otherwise processed in accordance with 14 Cal. Code of Regulations Section 13144.



Section 30610(c)(e) has since been modified and should now read 30610(c)(f).

See Procedural memo #37 (dated 8/15/97) regarding emergency exemption projects (Firestone bill).

## REPAIR, MAINTENANCE AND UTILITY HOOK-UP EXCLUSIONS FROM PERMIT REQUIREMENTS

(Adopted by the California Coastal Commission on September 5, 1978)

NOTE: This guideline applies only to exclusions established in subsections (c) and (e) of Section 30610. For other exceptions to the permit requirements, see Section 13250 of the Commission Regulations (additions to existing single-family houses), Sections 13200 through 13210 (vested rights), Sections 13211-13213 (permits granted under the 1972 Coastal Act), Sections 13215-13235 (urban land), Sections 13240-13249 (categories of development), Sections 13136-13144 (emergency permits) and Sections 13145-13154.5 (administrative permits).

### I. General Provisions.

Section 30610 of the Coastal Act states in part:

...no coastal development permit shall be required for...(c) Repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of such repair or maintenance activities; provided, however, that if the Commission determines that certain extraordinary methods of repair and maintenance that involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained under this chapter. (e) The installation, testing, and placement in service or the replacement of any necessary utility connection between an existing service facility and any development approved pursuant to this division; provided, that the Commission may, where necessary, require reasonable conditions to mitigate any adverse impacts on coastal resources, including scenic resources.

This guideline is intended to detail the types of development activities the Commission considers repair, maintenance or utility hook-ups related to the on-going work of various types of public and private agencies. Such lists obviously cannot be exhaustive and the exclusions also apply to activities comparable to those listed. Where a proposed activity is not included in this guideline, the Regional Commission Executive Director, after consultation with the State Commission Executive Director, if necessary, will determine whether a permit is required.

The standards for these exclusions are stated in Section 30610 of the Coastal Act: they do not relate to the environmental impact of the proposed activity. The repair and maintenance exclusion is intended to allow continuation of existing developments and activities which began before the effective date of the Coastal Act. The utility hook-up exclusion exempts utilities from obtaining permits for work to serve developments because Commission review of such work is included in the review of the development itself.

### II. Description of Activities Excluded.

The following construction activities comparable to those listed do not require a coastal development permit except as specified below:

A. Roads. No permit is required for repair and maintenance of existing public roads including landscaping, signalization, lighting, signing, resurfacing,

installation or expansion of retaining walls, safety barriers and railings and other comparable development within the existing right-of-way as specified below. Maintenance activities are generally those necessary to preserve the highway facility as it was constructed, including: construction of temporary detours, removal of slides and slip cuts, restoration and repair of drainage appurtenances, slope protection devices, installation of minor drainage facilities for preservation of the roadway or adjacent properties, restoration, repair and modifying for public safety bridges and other highway structures, restoring pavement and base to original condition by replacement, resurfacing, or pavement grooving. A permit is required for excavation or disposal of fill outside of the roadway prism. The following maintenance and alteration programs of the State Department of Transportation, or their equivalent conducted by local road departments, which do not result in an addition to or enlargement or expansion of the existing public road facility itself, do not require a permit except as noted: (1) Flexible Roadbed Program; (2) Rigid Roadbed Program; (3) Roadside Maintenance Program; (4) Roadway Litter and Debris Program; (5) Vegetation Control Program; (6) Pavement Delineation Program; (7) Sign Program; (8) Electrical Program; (9) Traffic Safety Devices Program; (10) Public Service Facility Program except that a permit is required for construction of new facilities; (11) Landscape Program; (12) Bridge and Pump Maintenance Program; (13) Tubes, Tunnel and Ferry Maintenance Program; (14) Bridge Painting Program; (15) Miscellaneous safety projects, provided there is not expansion in the roadway or number of traffic lanes; (16) Major damage maintenance, repair and restoration; (17) Comparable Minor Alterations.

(NOTE: See Appendix I for more detailed description of activities included in these programs.)

B. Public Utilities.

1. Natural Gas, Chilled Water and Steam Facilities.

a. Service Connections. Install, test and place in service the necessary piping and related components to provide natural gas, chilled water and/or steam service to development either exempted or approved under the Coastal Act, including:

(1) Extend underground gas, chilled water and/or steam mains, except in marshes, streams or rivers, from terminus of existing main piping to proper location in front of customer's property. Break and remove pavement as necessary, open trench or bore, for installation of main piping, install mains and appurtenances, pressure test for leakage, backfill open cuts, purge air from piping and introduce gas, chilled water and/or steam into newly installed piping. Restore pavement as necessary. Provide for cathodic protection as necessary.

(2) Extend underground gas, chilled water and/or steam service piping from the main locations, except in marshes, streams or rivers, to the meter location on the customer's property. Construction activities are similar to those in Item (1) above.

(3) Construct and install the meter set assembly, generally above ground, on the customer's property, including installation of associated valves, pressure regulator, meter and necessary piping to connect the gas, chilled water

and/or steam service to the customer's piping system.

(4) When necessary, install gas, chilled water and/or steam pressure regulation equipment and related components, to control pressure where the source of the supply is at a higher pressure than the pressure in the district distribution main system. Construction includes necessary excavation, installation of piping, valves, regulators, below ground vaults and related components.

(5) Install necessary cathodic protection facilities for main and service extensions to new and existing customers.

b. Distribution and Transmission Facilities.

(1) Operate, inspect and maintain distribution and transmission mains, services, meter set assemblies and district regulator stations. Conduct leakage surveys, repair leaks, handle emergency or hazardous incidents, maintain supply pressure, inspect and adjust pressure regulators, operate valves, locate and mark facilities to help prevent damage to them and to provide for public safety.

(2) Install, replace, alter, relocate or remove piping and cathodic protection facilities as necessary due to corrosion, interference with other underground or surface construction, franchise requirements, mechanical damage, reinforcement to existing distribution systems to provide for increased usage (provided such usage is to provide service to development either exempted or approved under the Coastal Act). Isolation of piping segments or systems to provide emergency control and the restoration of service to a customer.

c. Production and Storage Facilities. Perform necessary maintenance, replacement, repair, relocation, abandonment and removal work to gas storage facilities, chilled water and/or steam plant facilities, mechanical equipment including prime movers and pumping equipment, chilled water and/or steam production facilities, gas and oil processing facilities, pollution control facilities, cooling towers, electric equipment, controls, gas injection and withdrawal wells, and other miscellaneous plant and pipeline structures. Installation of any required new safety devices and pollution control facilities within existing structures or equipment or where land coverage, height, or bulk of existing structures will not be increased.

d. Miscellaneous. Perform necessary maintenance, repair, replacement, relocation, abandonment and removal work to pipeline roads, rights-of-way, fences and gates, sprinkler systems, landscaping, odorizing stations, telemetry equipment, lighting facilities, mechanical and electrical equipment, cathodic protection facilities and environmental control equipment.

e. Grading and Clearing. Maintenance activities shall not extend to the construction of any new roads to the site of the work. A permit is required for grading an undisturbed area of greater than 500 sq. ft., removal of trees exceeding 12 inches dbh or clearing more than 500 sq. ft. of brush or other vegetation unless the Executive Director of the Regional Commission determines the activity does not involve the removal of major vegetation.

2. Electric Utilities.

a. Generation Stations, Substations, Fuel Handling, Transportation

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and Storage Facilities and Equivalent Facilities. A coastal permit is not required for repairs, maintenance, and minor alterations which do not increase the capacity of the facility or work required to supply increased demand of existing customer's facilities in order to maintain the existing standard of service. A coastal permit is not required for installation of any required new safety devices and pollution control facilities within existing structures of equipment or where land coverage, height or bulk of existing structures will not be increased.

b. Transmission and Distribution and Communication Facilities. A coastal permit is not required to maintain, replace, or modify existing overhead facilities, including the addition of equipment and wires to existing poles or other structures, right-of-way maintenance, and minor pole and equipment relocations. A coastal permit is not required to install, test and place in service power line extension facilities and supply points specifically required to provide service to development permitted or exempted under the Coastal Act, or work required to supply increased demand of existing customers' facilities in order to maintain the existing standard of service.

A coastal permit is not required to install, test, place in service, maintain, replace, modify or relocate underground facilities or to convert existing overhead facilities to underground facilities provided that work is limited to public road or railroad rights-of-way or public utility easements (P.U.E.).

c. Services. Electrical service and metering facilities may be installed and placed in service to any development permitted or exempted under the Coastal Act. A coastal permit is not required to maintain, replace, or relocate service or metering facilities for developments permitted or exempted under the Coastal Act.

d. Grading, Clearing and Removal of Vegetation. Excluded activities shall not extend to the construction of any new road to the site of the work. In cases involving removal of trees exceeding 12 inches dbh, grading of any undisturbed area of greater than 500 sq. ft. or clearing of more than 500 sq. ft. of brush or other vegetation, the utility shall consult with the Executive Director of the Regional Commission to determine whether the project involves removal of major vegetation such that a permit is required. A coastal permit is not required for removal of minor vegetation for maintenance purposes (tree trimming, etc.) for safety clearances.

e. Definitions.

(1) Line Extension. All facilities for permanent service excluding transformers, services and meters, required to extend electric service from the utility's existing permanent facilities to one or more supply points.

(2) Service. A single set of conductors and related facilities required to deliver electric energy from a supply point to the customer's facilities.

(3) Supply Point. Any transformer, pole, manhole, pull box or other such facilities at which the utility connects one or more sets of service conductors to the utility's permanent electric facilities.

3. Telephone. No permit or conditions are required for the activities of a telephone company that come within the following areas:

a. Repair and maintenance of existing damaged or faulty poles, wires, cables, terminals, load cases, guys and conduits, including the necessary related facilities, to restore service or prevent service outages.



b. Placement of existing telephone facilities underground, provided such undergrounding shall be limited to public road or railroad rights-of-way or public utility easements (P.U.E.) and provided there is no removal of major vegetation and the site is restored as close as reasonably possible to its original condition.

c. Placement of additional aerial facilities on existing poles.

d. Removal of existing poles and facilities thereon, where new, replacing facilities have been placed underground.

e. Performance of work in connection with or placement of facilities to expand service to existing customers or to serve new customers, including placement of underground service connections or aerial service connections from existing poles with any necessary clearance poles.

f. Removal of minor vegetation for maintenance purposes (tree trimming, etc.).

g. Maintenance activities shall not extend to the construction of any new roads to the site of the work. A permit is required for grading an undisturbed area of greater than 500 sq. ft., removal of trees exceeding 12 inches dbh or clearing more than 500 sq. ft. of brush or other vegetation unless the Executive Director of the Regional Commission determines the activity does not involve the removal of major vegetation.

4. Others, including Water, Sewer, Flood Control, City and County Public Works, Cable T.V. No permit is required for repair or maintenance of existing facilities that do not alter the service capacity, installation of new or increased service to development permitted or exempted under the Coastal Act, placement of additional facilities on existing poles, or placement of existing facilities underground, provided such undergrounding shall be limited to public road or railroad rights-of-way or public utility easements (P.U.E.) and provided there is no removal of major vegetation and the site is restored as close as reasonably possible to its original condition. A permit is required for installation of service to vacant parcels or installation of capacity beyond that needed to serve developments permitted or exempted under the Coastal Act.

Maintenance activities shall not extend to the construction of any new roads to the site of the work. A permit is required for grading an undisturbed area of greater than 500 sq. ft., removal of trees exceeding 12 inches dbh or clearing more than 500 sq. ft. of brush or other vegetation unless the Executive Director of the Regional Commission determines the activity does not involve the removal of major vegetation. No permit is required for removal of minor vegetation (e.g., tree trimming) where it interferes with service pipes or lines.

C. Parks. No permit is required for routine maintenance of existing public parks including repair or modification of existing public facilities where the level or type of public use or the size of structures will not be altered.

D. Industrial Facilities. No permit is required for routine repair, maintenance and minor alterations to existing facilities, necessary for on-going production that do not expand the area or operation of the existing plant. No permit is required for minor modifications of existing structures required by governmental safety and environmental regulations, where necessary to maintain existing production capacity, where located within existing structures, and where height or bulk of existing structures will not be altered.

E. Other Structures. For routine repair and maintenance of existing structures or facilities not specifically enumerated above, no permit is required provided that the level or type of use or size of the structure is not altered. (NOTE: See Section 13250 of the Commission Regulations for exclusions or additions to existing single-family houses.)

F. Dredging and Beach Alteration. (NOTE: Maintenance dredging of navigation channels is exempted by Section 30610 (b). Other dredging and sand movement projects, where part of an established program may be exempt from the permit requirements of the Coastal Act by reason of vested rights, where such rights have been reviewed and acknowledged by the Regional Commission. Contact the Regional Commission office for information and application forms.)

#### APPENDIX I

Detailed description of activities included in road maintenance programs for which no coastal development permit is required.

1. Flexible Roadbed Program. This program covers the restoration and repair of both surface and base within the previously paved portion of the roadway. This includes previously paved asphalt concrete shoulders two feet or greater in width where the shoulder is designated by traffic marking, pavement delineation or traffic use. Paved shoulders less than two feet in width will be considered as included in the traveled way lanes.

2. Roadbed, Rigid. The Rigid Roadbed Program covers the restoration and repair of both surface and base within that paved portion of the roadway used for the movement of vehicles. This includes asphaltic concrete or oiled shoulders two feet or greater in width. Paved shoulders less than two feet in width will be considered as included in the traveled way lanes. This program does not include roadbed widening projects.

3. Roadside Maintenance Program. This program includes the repair, replacement, and cleaning of ditches, culverts, underdrains, horizontal drains and miscellaneous headwalls and debris racks. Also included are fence repairs, roadside section restoration (e.g., drift removal, bench cleaning, slide removal, and fill slope replacement). In addition, repairs or replacement of retaining walls, installation of slope protection devices, minor drainage facilities, sidewalks and curbs, bins, cattle guards and other such structures where there is no increase in size (or adding to what exists) is included in this program. This program shall not include seawalls or other shoreline protective works, activities subject to review under Section 1601 of the Fish and Game Code, or excavation or disposal of fill outside of the roadway prism.

4. Roadway Litter and Debris Program. This program includes all work concerning roadbed and roadside cleanup operations to insure that the highway presents a neat, clean and attractive appearance.

5. Vegetation Control Program. Vegetation control refers to the maintenance treatment of all vegetative material growing native within the highway rights-of-way. Included is cutting and trimming by hand and mechanical means.

6. Pavement Delineation Program. The pavement delineation program involves all work necessary to place and maintain distinctive roadway markings on the traveled way. This includes layout, removal of old stripe, painting of new or existing stripe including striping for bike lanes, installation and/or removal of raised pavement markers including cleaning of such markers and the use of thermoplastic, tape or raised bars for pavement markings. Changing of striping for more lanes is not included in this program.

7. Sign Program. The sign program includes all work performed on existing signs for the purpose of warning, regulating or guiding traffic including bicycle traffic using bike lanes. The work consists of manufacture, assembly and installation of new signs to replace existing signs and the repair, cleaning and painting of signs.

8. Electrical Program. This program includes all work performed on in-place highway electrical facilities used to control traffic with signal systems, provide safety and sign lighting, illuminate maintenance building and grounds, generate standby power, operate bridges, pumps and automatic watering systems. Certain navigational lighting installed on bridges and bridge fenders or piling are included in this program.

9. Traffic Safety Devices Program. Work performed under this program includes replacement of guide posts, markers, skid resistant grooves, and also replacement, cleaning and/or painting of guard rails. The repair of median barrier cable chain link fence and portland cement concrete walls; the repair and maintenance of energy dissipators such as water type bumpers, sand traps or other devices installed for the purpose of absorbing vehicle energy are included in this program.

10. Public Service Facility Program. Public Service Facilities consist of roadside rests, vista points, map stops, historical monuments, roadside fountain areas and vehicle inspection stops. Work to be performed under this program consists of a wide variety of custodial maintenance in connection with existing restrooms, fountains and picnic areas.

11. Landscape Program. This program refers to the treatment maintenance and replacement of all vegetative material planted within the State Highway right-of-way. Work includes watering, fertilizing, plant replacement, weed control by hand and mechanical means and tree trimming.

12. Bridge and Pump Maintenance Program. The Bridge and Pump Maintenance Program includes work performed on all structures which provide for passage of highway traffic over, through or under obstacles and/or qualify for bridge numbers as assigned by the Division of Structures.

13. Tubes, Tunnel and Ferry Maintenance Program. The Tubes, Tunnel and Ferry Maintenance Program includes maintenance and repair of tunnels, tubes, ferries and docks or slips. Tunnel or tube maintenance includes washing, cleaning, tile repair and the maintenance of electro-mechanical equipment. Tunnel structural repairs will be performed under this program when covered by approved Division of Structures reports of work needed.

14. Bridge Painting Program. This program involves bridge maintenance painting performed in conformance with the requirements of air pollution control and water quality control agencies having jurisdiction.

15. Miscellaneous Safety Projects. Elimination of hazards within the operating areas or the operating right-of-way or projects modifying existing features such as curbs, dikes, headwalls, slopes, ditches, drop inlets, signals and lighting, etc., within the right-of-way to improve roadside safety.

16. Major Damage Maintenance, Repair and Restoration. Provides temporary road openings and related maintenance and returns highway facilities to serviceable states as rapidly as possible following major damage from storms; earthquakes; tidal waves; ship, train or vehicle collisions; gasoline truck fires; aircraft crashes, and all other kinds of physical violence. (NOTE: These items may be developments rather than repair or maintenance activities, but would be subject to the emergency permit provisions of the Coastal Act. Inquiries should be directed to the Regional Commission staff if at all possible, prior to commencement of construction.)

17. Miscellaneous Alterations.

a. Installation, modification or removal of regulatory, warning or informational signs, according to the standards of the State Department of Transportation Uniform Sign Chart.

b. Traffic channelization - improvements to local service and safety by delineation of traffic routes through the use of curbs, dikes, striping, etc., including turn pockets, where construction is performed by State Department of Transportation Maintenance Department or equivalent activities by local road departments.

c. Maintenance of existing bicycle facilities.

d. Modification of traffic control systems and devices including addition of new elements such as signs, signals, controllers, and lighting.

e. Devices such as glare screen, median barrier, fencing, guard rail safety barriers, energy attenuators, guide posts, markers, safety cable, ladders, lighting, hoists, paving grooving.

f. Alteration or widening of existing grade separation structure where the primary function and utility remains unaltered.

g. Minor operational improvements such as median and side ditch drainage facilities, where not subject to review under Section 1601 of the Fish and Game Code or involving excavation or disposal of fill outside of the roadway prism.

h. Modification, upgrading, alteration, relocation, or removal of railroad grade crossings, railroad grade crossing protection, and the construction of bus and truck stop lanes at railroad grade crossings.



## 9. Capital Improvement Program

The City's Public Works Department will combine and sequence the implementation short term projects described in Chapters 4 and 5 as noted in the table below through FY 2033. The zone by zone and corridor wide projects were grouped together by type (e.g., revetment stabilization, armoring, cave stabilization, etc.). Together these projects are estimated to exceed \$18.8 million. Select projects will be integrated into the City's next Capital Improvements Program (CIP) budget (FY22 – FY 24), as primarily unfunded projects. Key projects will be integrated into the Local Hazard Mitigation Plan's next revision in 2023 to make them eligible for Federal funding. Budget estimates and project funding estimates will be refined in planning and/or design for each project. The City's Parks and Recreation Department's maintenance and minor projects, e.g., habitat restoration and overlook enhancements, can be carried out under project authorizations specified in this Plan Chapter 8. However, such enhancements can also be coupled with minor or major Public Works CIP projects, and a notation of such is indicated in the PW CIP Table below.

The City annually assesses which CIP projects budgeted support the implementation of the Climate Adaptation Plan (2018) and will specifically note those that implement this Plan. This information becomes part of each year's draft budget introduction. The City is developing the funding strategy to implement the Plan's CIP, which will consist of grants, revenue measures and philanthropy, as part of the Interim Recovery Plan (adopted in November, 2020) implementation. A summary of funding sources identified by the consultant team to be evaluated in this context is contained in Appendix A4.

### **Parks and Recreation CIP Project**

FY 23 West Cliff Drive Restoration and Landscaping Design Standards Development (\$60,000)

### **Other Plans and Programs**

1. Upon adoption of this Plan, the City will develop a funding strategy for the CIP projects identified through FY33. Led by the City Manager's Office, this funding strategy will include grants, revenue and philanthropy and has been adopted as part of the City's Interim Recovery Plan implementation (February 23, 2020).
2. The City will refine and develop a Monitoring Triggers Program in the first CIP cycle, led by the City Manager's Office. Funding is currently pending to assist with that effort.
3. The City will annually inspect the coastline, reviewing areas of erosion and hot spot concern, and the conditions of facilities. The City will report to the Coastal Commission biannually on the status of Plan implementation and any changes to conditions.
4. The City will amend its LCP to reflect sea level rise policies and other policies as recommended by the Plan. This work is underway by the City's Planning Department and anticipated to be adopted by end of calendar year 2021.
5. The City will complete a Corridor-wide Master Signage Plan and Design Standards.

**Table 9-1 Public Works CIP Project Descriptions, Cost Estimates and Sequencing**

| Public Works Project                     | PW CIP Section       | Description / Funding Sources  | Total Project Budget Estimate | FY22 – FY24 Estimate | FY25 - FY27 Estimate | FY28- FY30 Estimate | FY 31 – FY 33 Estimate |
|--|----------------------|--|-------------------------------|----------------------|----------------------|---------------------|------------------------|
| West Cliff Drive Revetment Stabilization | general/<br>unfunded | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and construction of repairs to coastal revetment (riprap) infrastructure at various locations along West Cliff Drive identified as approaching its useful life and has been prioritized for repair (e.g., design and construction of riprap east of Lighthouse Point and between Almar and Columbia Avenue) as well a blocking the sea cave with riprap at David Way. The project will likely be funded through a combination of grant funding to be pursued, e.g., State grants, FEMA BRIC, State Shoreline Erosion Control Grant Program for Funding in Fiscal Year 2022-23, and pre/post mitigation funding (currently unfunded). | <b>\$7,000,000</b>            | \$2,500,000          | \$1,500,000          | \$1,500,000         | \$1,500,000            |
| West Cliff Drive Armoring                | General/<br>unfunded | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and construction of a seawall to replace revetment (Zone 2), a replacement seawall at West Its Beach and Upgrade Armoring at Chico/Auburn and Stockton. The project will likely be funded through a combination of grant funding to be pursued, e.g., State grants, FEMA BRIC, State Shoreline Erosion Control Grant Program for Funding in Fiscal Year 2022-23, and pre/post mitigation funding (currently unfunded). A portion of work at Chico/Auburn is already funded   | <b>\$3,950,000</b>            | \$450,000            | \$400,000            | \$2,700,000         | \$400,000              |
| West Cliff Drive Sea Cave Stabilization  | General/<br>unfunded | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and fill a sea cave at Stockton Ave. The project will likely be funded through a combination of grant funding to be pursued, e.g., State grants, FEMA BRIC, State Shoreline Erosion Control Grant Program for Funding in Fiscal Year 2022-23, and pre/post mitigation funding (currently unfunded).  | <b>\$1,500,000</b>            | \$0                  | \$350,000            | \$1,150,000         | \$0                    |

| Public Works Project  | PW CIP Section            | Description / Funding Sources   | Total Project Budget Estimate | FY22 – FY24 Estimate | FY25 - FY27 Estimate | FY28- FY30 Estimate | FY 31 – FY 33 Estimate |
|---|---------------------------|---|-------------------------------|----------------------|----------------------|---------------------|------------------------|
| Pyramid Beach Stormwater Outfall Upgrade                            | General/ unfunded         | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and construction of repairs and aesthetic enhancements to the stormwater outfall above Pyramid Beach to improve the views from adjacent scenic overlooks. The project will likely be funded through a combination of general fund, private funding and grants funding to be pursued (currently unfunded). This project can also be combined with other larger CIP projects along West Cliff Drive.  | \$350,000                     | \$0                  | \$350,000            | \$0                 | \$0                    |
| West Cliff Drive Transportation and Signage Improvements (unfunded) | General/ possible gas tax | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and construction of corridor-wide transportation striping, signage (including trail signage) and other ancillary improvements . The project will likely be funded through a combination of gas tax funds and federal and state grants to be pursued. This project can also be combined with other CIP projects along West Cliff Drive.  | \$3,750,000                   | \$0                  | \$750,000            |                     | \$3,000,000            |
| West Cliff Drive Stair Access Improvements (access #2, 4 and 7)     | General/ partially funded | Adopted in the West Cliff Drive Public Works Plan, this project includes the design and construction replacing three coastal access stairwells (referenced in the Plan and associated studies as access points 2, 4 and 7). The project will likely be funded through General Funds.  | \$450,000                     | \$150,000            | \$150,000            | \$150,000           |                        |
| West Cliff Drive Stormwater Outfall Pipe Televising & Repair        | gas tax/ partially funded | Adopted through the West Cliff Drive Public Works Plan, this project involves televising all West Cliff Drive Stormwater Outfalls and pipes, prioritizing those requiring replacement and replace primarily Corrugated Metal Pipe (CMP) storm drain pipe, which has a useful life of approximately 50 years. There are several of these storm drains corridor-wide where the pipe has corroded and collapsed, necessitating replacement with plastic pipe which has a longer useful life. Engineering and Operations staff identify the highest priority locations using the Plan as a guide. Project funding will come from PW stormwater maintenance and a combination of gas tax funds and federal and state grants to be pursued. | \$1,200,000                   | \$300,000            | \$300,000            | \$300,000           | \$300,000              |

| Public Works Project                  | PW CIP Section    | Description / Funding Sources  | Total Project Budget Estimate | FY22 – FY24 Estimate | FY25 - FY27 Estimate | FY28- FY30 Estimate | FY 31 – FY 33 Estimate |
|---------------------------------------|-------------------|--|-------------------------------|----------------------|----------------------|---------------------|------------------------|
| Bethany Curve Restroom (general fund) | General /unfunded | Adopted in the West Cliff Drive Public Works Plan, this project involves the installation of a portable restroom with enclosure designed to blend into the surroundings at a site within the inland side of West Cliff Drive in the Bethany Curve open space. Funded through General Fund (currently unfunded).  | \$100,000                     | \$15,000             | \$85,000             | \$0                 | \$0                    |
| Coastal Sand Management Study         | General/ unfunded | Adopted in the West Cliff Drive Public Works Plan, this project involves completing a study to evaluate the potential for using sand management techniques to replenish sand in downcoast beaches and identify next steps and funding streams for feasible options. This project is currently unfunded but it is anticipated that Prop 1 funding via OPC, Coastal Conservancy or another state agency will be pursued. | \$500,000                     | \$0                  | \$500,000            | \$0                 | \$0                    |
|                                       |                   |  | \$18,800,000                  | \$3,415,000          | \$4,385,000          | \$5,800,000         | \$5,200,000            |
|                                       |                   |  | Total WCD PWP Budget Estimate | FY22 – FY24 Estimate | FY25 - FY27 Estimate | FY28- FY30 Estimate | FY 31 – FY 33 Estimate |



# APPENDICES

## Appendix A1. Existing Conditions

Chapter 3 summarizes the key findings of the [Existing Conditions and Future Vulnerability Assessment completed in November 2019](#) and references the following technical appendices included in the full document:

- Appendix 1. Existing Coastal Armoring Inventory
- Appendix 2. Coastal Armoring Engineering Findings
- Appendix 3. History of Coastal Armoring (including permit information)
- Appendix 4. Areas of Erosion Concern Inventory
- Appendix 5. Transportation Counts
- Appendix 6. Future Cliff Erosion Model Comparison
- Appendix 7. Historical Erosion Rates Calculated from Aerial Photography

## Appendix A2. Projections & Analysis of Future Conditions

There are two primary analytic sources for determining project climate change hazards along West Cliff Drive. The primary analytical source for projected bluff and cliff erosion on West Cliff Drive is [the Existing Conditions and Future Vulnerability Assessment](#) completed by Integral Consulting as part of the West Cliff Drive Adaptation and Management Plan project. Integral Consulting also prepared a Future Cliff Erosion Model Comparison Memo that compares available tools (including the ESA coastal climate hazard layers, USGS CosMos and localized estimation techniques).

A secondary analytic source for assessing coastal flooding impacts to Natural Bridges State Beach intersecting the west end of the corridor. Central Coast Wetlands Group (CCWG) conducted the complementary study to the West Cliff Drive Adaptation and Management Plan project evaluating sea level rise policies appropriate to support beach access and protection. CCWG referenced the 2017 coastal climate change vulnerability analysis conducted by CCWG for the City of Santa Cruz for the [2018 Climate Adaptation Plan Update](#). This analysis used the Coastal Resilience hazard model developed by Environmental Science Associates (ESA) and funded by the State Coastal Conservancy<sup>4</sup> to project the separate and combined spatial and temporal extent for rising tide, erosion and coastal storm flooding. An important limitation of the original ESA hazard layers is that they do not account for coastal armoring. To address this, CCWG modified the hazard layers to account for reductions in potential hazards provided by current coastal protection infrastructure. This refinement of this coastal hazard analysis helped to better understand the future risks Santa Cruz may face from each individual coastal hazard process.

### **West Cliff Projected Cliff Erosion Hazards**

Accelerating Historical Erosion Rates Using Future Increases in King Tide Elevations.

Integral developed a tidal response model for the purposes of projecting future cliff erosion hazard areas along West Cliff Drive. The tidal response model, like CoSMoS and Coastal Resilience, is based on the theory that with future sea level rise, there will be greater duration of water levels impacting the coastal cliffs in the future than presently exists, thus future cliff erosion will be proportional to the amount of increase in the duration of water levels.

The model concept is that while future wave runup is uncertain, erosion typically is associated with higher tide water levels. The highest water levels of the year known as king tides or perigean tides, which occur when the moon and sun are in alignment and the earth's orbit and tilt are closest to the sun (typically in the late fall and winter). This causes the highest tides of the year in the winter when wave energy tends to be highest. The relative changes in the duration of high tide levels above a Year 2000 MLLW were used to accelerate the detailed historical erosion rates. MLLW was chosen as the tide range based on the geomorphic observation related to the formation of undercuts, sea caves and cavities that naturally form in the bedrock at the base of the bluff from abrasion by turbulent beach sediments and wave impact forces.

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<sup>4</sup> The Coastal Resilience model developed by ESA in 2014 mapped hazard zones at various sea level rise scenarios for each of the individual coastal hazards (rising tides, coastal storm flooding, and coastal erosion). The Coastal Resilience hazard layers are available for viewing through the online mapping viewer at [www.coastalresilience.org](http://www.coastalresilience.org).

The tidal model identified the existing king tide elevation in feet MLLW from current tide data at the Monterey tide gauge and compared it to current common extreme beach scour levels along West Cliff Drive observed to be at an elevation of approximately 0 feet MLLW using the current 2018 MLLW tidal datum. Using the future sea level rise projections from OPC (2018), predictions of future king tides elevations, were added to the current 2018 MLLW tidal datum, and made for each decade between now and 2100. For each decade between now and 2100 the tidal response model uses the proportion of the vertical distance between:

1. Current extreme beach scour levels along West Cliff Drive (0.0 MLLW) and the current king tide level (+7.2 feet MLLW) using the 2018 MLLW datum
2. Current extreme beach scour levels along West Cliff Drive (0.0 MLLW) and the future king tide level for each decade until 2100 (sea level rise +6.9 feet) using the 2018 MLLW datum to be proportional to:
3. The historical coastal cliff erosion rate as measured in the time period between 1956 and 2018
4. Accelerated the future coastal cliff erosion rate for each decade until 2100

Finally, using the future coastal cliff erosion rate for each decade until 2100, each decade's accelerated erosion rate was multiplied by 10 years to yield a erosion cliff distance (top edge of 2018 cliff landward retreat distance) for each decade. Summing the distances for each decade allows the position of the edge of the cliff to be projected and mapped at the end of any decade between now and 2100. For the future vulnerability assessment, the City requested the use of 2030, 2060, and 2100 as the dates of future projected cliff erosion hazards. The results of this analysis are summarized in **Error! Reference source not found.**, and are depicted on the maps of West Cliff Drive shown as **Error! Reference source not found.** to **Error! Reference source not found.**.

### Scenarios for Future Vulnerability Assessment

Sea Level Rise Scenarios are discussed in the [Existing Conditions and Future Vulnerability](#) assessment. The future vulnerability is reported for results for each time horizon and sea level rise projection. For comparison, linear projection of the existing coastal erosion rates is included along with the projections of the median and medium-high risk sea level rise scenarios. The discussion of the future vulnerability and maps of vulnerability focused on the medium-high risk aversion scenario in accordance with State guidance. These scenarios should provide the City with more confidence in the short and medium near-term adaptation approaches and necessary planning steps to implement this Plan.

### Projected Cliff Erosion Hazard Distances from a 2018 Cliff Edge for Each of the Scenarios

Observed erosion distances from 1956 to 2018 used to develop the historical erosion rates shown for comparison.

| Historical Erosion Rate<br>1956-2018<br>(inches/year) <sup>5</sup> | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|--|--------|--------|--------|--------|
|  | 1.1    | 3.8    | 2.7    | 0.7    |

#### Linear Extrapolation

#### Cliff erosion distances (feet)

| Date      | # of years | SLR<br>(feet) | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|-----------|------------|---------------|--------|--------|--------|--------|
| 1956-2018 | 62         | 0.3           | 5.7    | 19.6   | 14.0   | 3.6    |
| 2018-2030 | 12         | 0.1           | 1.1    | 3.8    | 2.7    | 0.7    |
| 2030-2060 | 42         | 0.2           | 3.9    | 13.3   | 9.5    | 2.5    |
| 2060-2100 | 82         | 0.4           | 7.5    | 26.0   | 18.5   | 4.8    |

#### Median (50%)

#### Cliff erosion distances (feet)

| Date      | # of years | SLR<br>(feet) | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|-----------|------------|---------------|--------|--------|--------|--------|
| 1956-2018 | 62         | 0.3           | 5.7    | 19.6   | 14.0   | 3.6    |
| 2018-2030 | 12         | 0.4           | 1.2    | 4.0    | 2.9    | 0.7    |
| 2030-2060 | 42         | 1.0           | 4.2    | 14.6   | 10.4   | 2.7    |
| 2060-2100 | 82         | 2.3           | 8.8    | 30.4   | 21.6   | 5.6    |

#### Medium High (0.5%)

#### Cliff erosion distances (feet)

| Date      | # of years | SLR<br>(feet) | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|-----------|------------|---------------|--------|--------|--------|--------|
| 1956-2018 | 62         | 0.3           | 5.7    | 19.6   | 14.0   | 3.6    |
| 2018-2030 | 12         | 0.8           | 1.2    | 4.2    | 3.0    | 0.8    |
| 2030-2060 | 42         | 2.6           | 4.7    | 16.2   | 11.5   | 3.0    |
| 2060-2100 | 82         | 6.9           | 10.9   | 37.8   | 26.8   | 7.0    |

Given the uncertainty, monitoring of the bluff edge position along West Cliff Drive for a minimum of the next 30 years, will enable validation the sea level rise projections and the coastal erosion projections of this or any other model. Aerial drone survey techniques with overlaid geo-rectified aerial photography may be useful in this regard. The City is working with USGS, NOAA, the County of Santa Cruz, and the Santa Cruz Harbor District to evaluate installing and maintain a tide gauge that digitally records sea level. This tide gauge can be used to verify actual measured future sea level rise amounts in relation to the continental mass that includes West Cliff Drive to determine the local relative sea level rise rates compared to elsewhere in California as well as global sea level rise.

<sup>5</sup> Historical erosion rates reported in Table above in inches/year.





Projected linear cliff erosion hazards for Zones 1 & 2. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.1 feet in 2030, 0.2 feet in 2060, and 0.4 feet in 2100





Projected linear cliff erosion hazards for Zones 3 & 4. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.1 feet in 2030, 0.2 feet in 2060, and 0.4 feet in 2100





Projected median risk sea level rise (50% probability) cliff erosion hazards for Zones 1 & 2. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.4 feet in 2030, 1.0 feet in 2060, and 2.3 feet in 2100





Projected median risk sea level rise (50% probability) cliff erosion hazards for Zones 3 & 4. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.4 feet in 2030, 1.0 feet in 2060, and 2.3 feet in 2100





Projected medium-high risk sea level rise (0.5% probability) cliff erosion hazards for Zones 1 & 2. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.8 feet in 2030, 2.6 feet in 2060, and 6.9 feet in 2100





Projected medium-high risk sea level rise (0.5% probability) cliff erosion hazards for Zones 3 & 4. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.8 feet in 2030, 2.6 feet in 2060, and 6.9 feet in 2100



## Coastal Climate Change Hazards and Projected Impacts at Beaches

The 2018 Climate Adaptation Plan Update's sea level rise vulnerability analysis evaluates the impacts of each individual coastal climate change hazard process (rising tides, coastal storm flooding, and erosion) for time horizons 2010 (existing), 2030 (.3ft SLR), 2060 (2.4 ft SLR), and 2100 (5.2 ft SLR) on beach resources, specifically Natural Bridges. Definitions of each of these hazards are discussed below. More information about the method used and the 2017 SLR assessment can be found in the City of Santa Cruz 2018 Climate Adaptation Plan Update.

### Rising Tides

These hazard zones show the area and depth of inundation caused simply by rising tides and ground water levels (not considering storms, erosion, or river discharge). The water level mapped in these inundation areas is the Extreme Monthly High Water (EMHW) level, which is the high water level reached approximately once a month.

### Coastal Storm Flooding

The coastal storm flooding hazard zones depict the projected flooding caused by future coastal storms. The processes that drive these hazards include (1) storm surge (a rise in the ocean water level caused by waves and pressure changes during a storm), (2) wave overtopping (waves running up over the beach and flowing into low-lying areas, calculated using the maximum historical wave conditions), and (3) additional flooding caused when rising sea level exacerbate storm surge and wave overtopping. These hazard zones also take into account areas that are projected to erode, sometimes leading to additional flooding through new hydraulic connections between the ocean and low-lying areas.



### Coastal Erosion

The coastal erosion hazard layers represent future cliff and dune (sandy beach) erosion hazard zones, incorporating site-specific historic trends in erosion, additional erosion caused by accelerating sea level rise and (in the case of the storm erosion hazard zones) the potential erosion impact of a large storm wave event. The inland extent of the



hazard zones represents projections of the future crest of the dunes, or future potential cliff edge, for a given sea level rise scenario and planning horizon. The extents of these hazard zones were modified by CCWG to take into account existing coastal armoring through the year 2030.

### Natural Bridges State Beach Projected Coastal Hazards

The projected coastal hazard zones for Natural Bridges Beach for rising tides, coastal storm flooding, and bluff erosion can be found in , , and **Error! Reference source not found.** below. Natural Bridges State Beach is owned and operated by California Department of State Parks, a key stakeholder in the project. Any projects involving the intersection of West Cliff Drive with the Park will require close coordination with State Parks.

- Coastal Flooding (CF): By 2030 all of the beach is projected to be inundated during large storm events
- Rising Tides (RT): By 2030 beach width may be reduced by 10%, by 2100 the beach width may be reduced by 30-50%.
- Bluff Erosion (ER): Erosion is projected to impact coastal access ways and habitat areas as early as 2030.

A summary of assets that are projected to be impacted by future coastal hazards is shown in **Error! Reference source not found.**.

Natural Bridges State Beach is a large beach area at the west end of the City that provides beach access to many residents and visitors. The eastern bluff and adjacent parking and access road are vulnerable to coastal erosion and sea level rise is projected to flood large portions of the beach. Back bluff erosion may lead to loss of parking and picnic areas and may impact coastal habitat areas including Moore Creek lagoon.

#### Assets projected to be impacted by coastal hazards at Natural Bridges Beach.

*Severity characterized as Low-short term impacts with minimal rebuild required, Moderate-some infrastructure replacement required, High- significant impact to infrastructure requiring significant replacement.*

| Asset                 | Hazard | Time horizon | Severity |
|-----------------------|--------|--------------|----------|
| Access Driveway       | CF     | 2030         | Moderate |
|                       | ER     | 2060         | Severe   |
| Habitat: Intertidal   | CF     | 2030         | Moderate |
|                       | ER     | 2030         | Moderate |
| Habitat: Lagoon       | CF     | 2030         | Low      |
|                       | ER     | 2060         | Moderate |
|                       | RT     | 2060         | Severe   |
| Habitat: Nesting bird | ER     | 2030         | Moderate |





### Natural Bridges State Beach: Rising Tides Hazard Zones



Rising tides hazard zones at Natural Bridges Beach for time horizons 2030 (.3 ft SLR), 2060 (2.4 ft SLR), and 2100 (5.2 ft SLR).

### Natural Bridges State Beach: Coastal Storm Flooding Hazard Zones



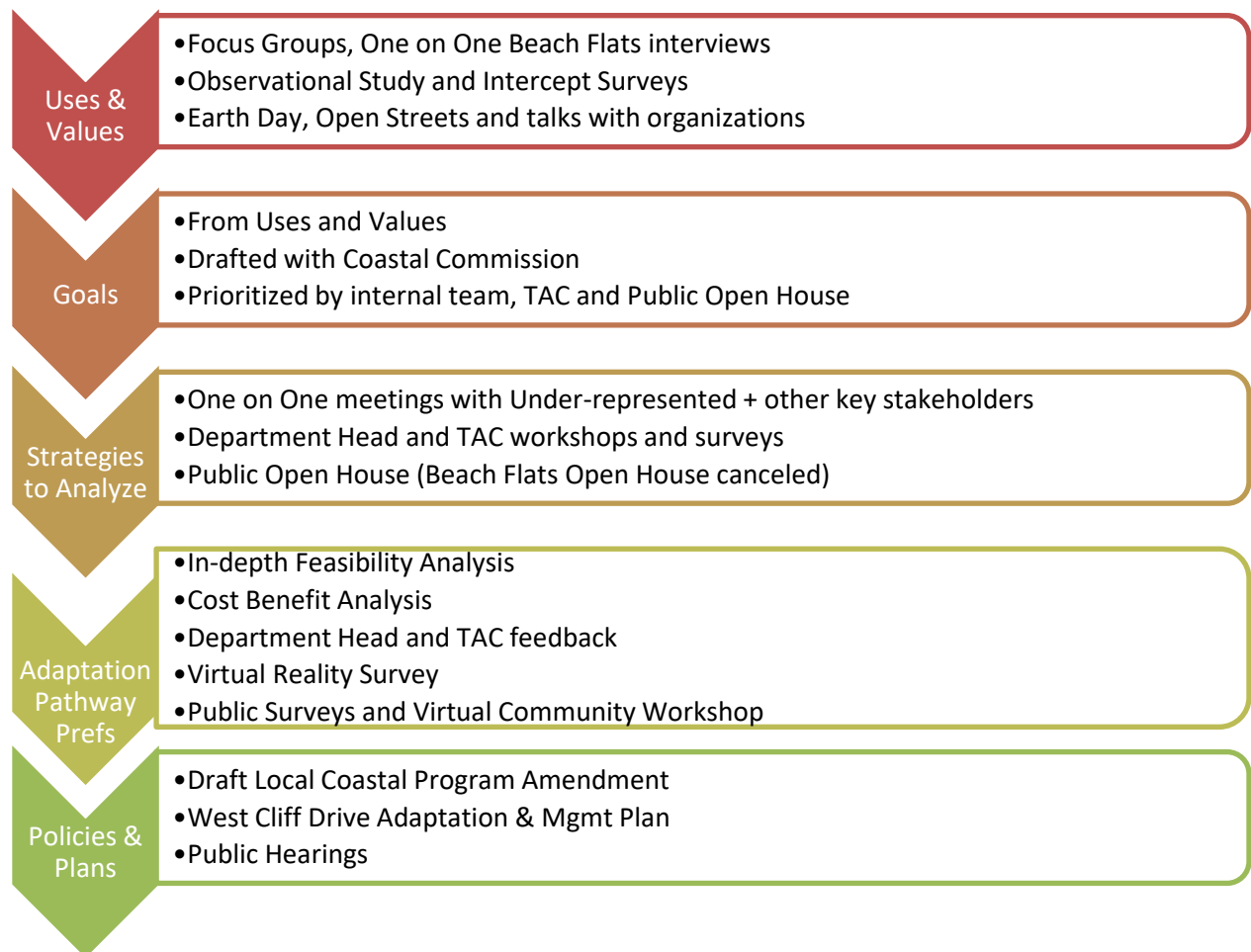
Coastal storm flooding hazard zones at Natural Bridges Beach for time horizons 2030 (.3 ft SLR), 2060 (2.4 ft SLR), and 2100 (5.2 ft SLR).

## Natural Bridges State Beach: Erosion Hazard Zones



Coastal erosion hazard zones at Natural Bridges Beach for time horizons 2030 (.3 ft SLR), 2060 (2.4 ft SLR), and 2100 (5.2 ft SLR). Existing armoring is accounted for (restricting erosion) through 2030 but assumed to fail to restrict erosion past that time horizon.

## Appendix A3. Coastal Adaptation Pathways Determination Process



The full [Adaptation Alternatives Analysis](#) process and findings developed for the West Cliff Drive Adaptation and Management Plan project is available at the project website. The full [Synthesis Summary of Outreach and Engagement](#) for the project and the complementary LCP Amendment project are available at the project website. This appendix excerpts sections from both documents.

### A3.1. Determining Adaptations to Analyze and Cost Benefit Analysis

Over the short term, priorities were determined based on the existing conditions report, which included mapped areas of erosion concern, coastal structures with less than a 10-year lifespan based on engineering evaluation, and areas identified as High Risk (short term erosion likely to impact West Cliff Drive or the Recreational Trail). To reduce uncertainties and evaluate adaptation strategies in enough detail to support the development of a West Cliff Drive Adaptation and Management Plan, a prioritized subset of feasible adaptation strategies over time for each of the West Cliff Drive zones was required.



Longer term, adaptation priorities for further analysis based on projections of future coastal erosion, community priorities and regulatory requirements to maintain coastal recreation and resources along the West Cliff Drive corridor were also required.

An extensive outreach and engagement effort was conducted in late 2019 and early 2020, targeting various focus groups, TAC, City leadership, historically underrepresented groups, and the community at large. This process prioritized key objectives, evaluation criteria and ultimately provided a community focused list of up to three short and long term coastal and transportation adaptation alternatives for each West Cliff Drive zone. Both short term (<10 years) and longer term preferred adaption strategies were identified that will be considered in future conceptual design and cost–benefit analysis tasks. Results from these future tasks will support the completion of the West Cliff Drive Adaptation and Management Plan and identify monitoring triggers to support development of adaptation pathways.

A social vulnerability assessment completed as part of related ongoing coastal management and climate change studies, has identified specific shortcomings in existing facilities and amenities used by historically underrepresented groups for each of the zones found along West Cliff Drive (Table 3-7). Zone 3 provides the best suite of amenities to all historically underrepresented groups. Shortcomings in existing amenities should be considered in development of preferred adaptation strategies for all zones, but particularly those that don't currently provide a good level of access to all groups.

**Overall level of service and access to underrepresented community populations by Zone**  
(adapted from City of Santa Cruz Social Vulnerability Assessment 2020).

|                                    | Underrepresented Group   | Zone 1 | Zone 2 | Zone 3 | Zone 4 |
|------------------------------------|--------------------------|--------|--------|--------|--------|
|                                    | Elderly                  |        |        |        |        |
|                                    | Youth                    |        |        |        |        |
|                                    | People with Disabilities |        |        |        |        |
|                                    | Low Income residents     |        |        |        |        |
|                                    | Tribal                   |        |        |        |        |
|                                    | Homeless                 |        |        |        |        |
|                                    | LGBTQ+                   |        |        |        |        |
|                                    | Fishers                  |        |        |        |        |
| Level of Service Provided to Group |                          |        |        |        |        |
| High                               | Moderate                 | Low    |        |        |        |

The following sections identify prioritized coastal and transportation adaptation alternatives for the short and long term in each zone along West Cliff Drive for future analysis as indicated by various stakeholder groups. A fuller summary of the stakeholder engagement process and

outcomes are summarized at the [Engagement Synthesis document](#) completed for the complementary beaches focused project.

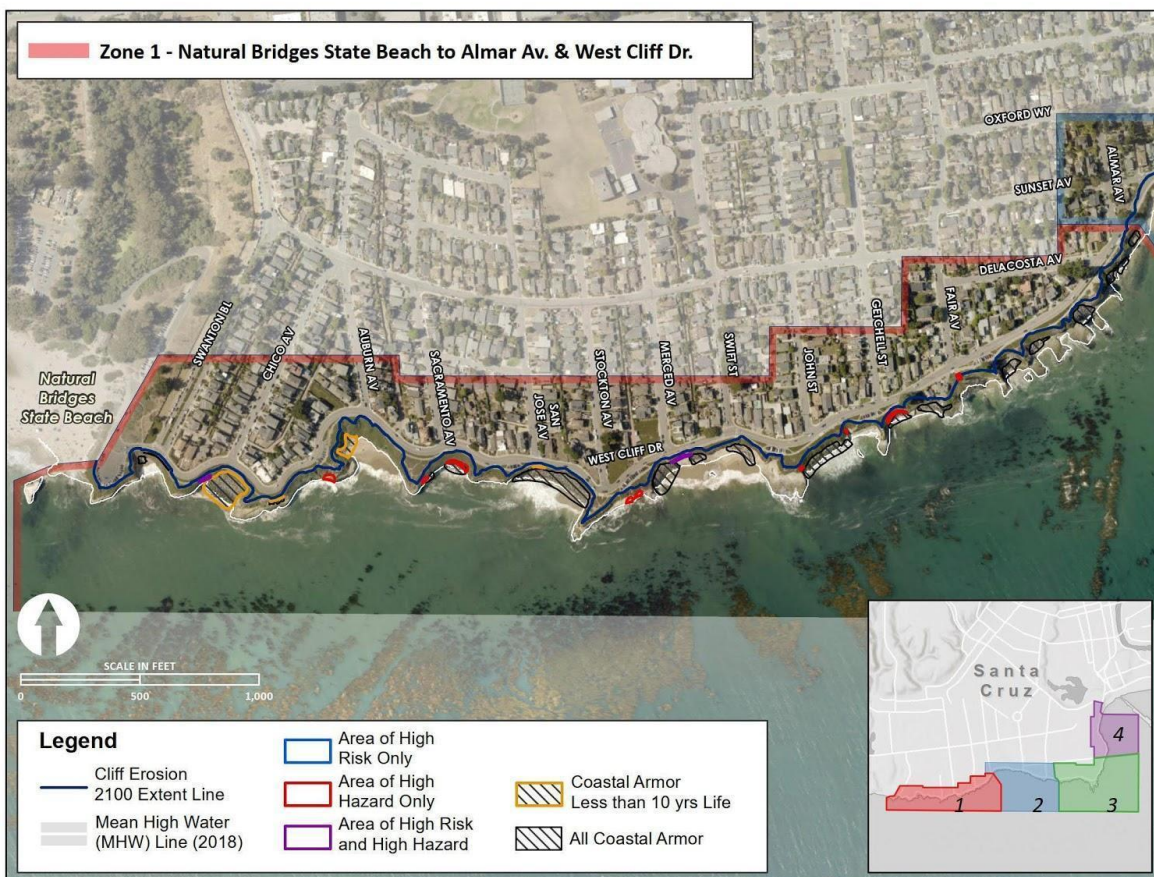
### **Zone 1—Natural Bridges Overlook to Almar Avenue**

Through the TAC and City department head process priorities were determined for short term coastal and transportation preferences and long term coastal adaptation and transportation preferences . The preferences in the short term included restoration of the perched wetland near Auburn Avenue; repair, replacement, and addition of revetments; and sand placement on pyramid beach. The preferences for long term coastal adaptation included managed retreat, construction of soil nail walls, and restoration of the perched wetland at Auburn Avenue.

These various strategies were presented at a community open house along with supporting materials such as maps and diagrams, and community members were encouraged to engage in dialogue with members of the team, city department heads, and other members of the public, many of whom reside along or within a few blocks of West Cliff Drive. Following these interactions, members of the public were asked to prioritize their preferred adaptation alternatives for both the short term and long term.

Based on those survey responses, the most highly prioritized short term coastal adaptation strategy was to maintain revetments, with more than 60 percent of respondents choosing this option, and the most highly prioritized long term coastal adaptation strategy was managed retreat, with close to 50 percent choosing this option. The most highly prioritized short and long term transportation adaptation priority was identified as converting West Cliff Drive to one-way traffic while maintaining the recreation trail, with close to 50 percent choosing this option over both the short and long terms. Over the long term, the community placed a high priority on maintaining the Recreation Trail for this section, with one-third of respondents identifying relocating traffic in order to keep the Recreation Trail as a priority. This left

approximately 18 percent of respondents prioritizing vehicular traffic over the trail.



### Priority areas for adaptation and management in Zone 1.

Longer term, projections of future coastal erosion, as well as already mapped areas of erosion concern are likely to cause additional disruption to the West Cliff Drive corridor. In addition, impacts associated with previously made adaptation decisions about protecting with revetments will degrade coastal access, beach recreation, and surf recreation. Based on community input, TAC guidance, and City leadership priorities, short to long term adaptation for the coast and transportation corridor are identified in the table below.

**Prioritized short term and long term adaptation approaches for detailed conceptual design  
and cost benefit analysis in Zone 1**

| Zone 1   | Cost           |                    | Effectiveness<br>Certainty | Secondary Impacts         |                      |             | Lifespan |
|--|----------------|--------------------|----------------------------|---------------------------|----------------------|-------------|----------|
|  | <i>Upfront</i> | <i>Maintenance</i> |                            | <i>Beach,<br/>Coastal</i> | <i>Rec<br/>Trail</i> | <i>Road</i> |          |
| <b>Short term adaptation</b>                   |                |                    |                            |                           |                      |             |          |
| Maintain or upgrade<br>revetments              | \$\$           | \$                 | High                       | -                         | =                    | =           | Medium   |
| Sand placement program<br>Pyramid Beach        | \$             | \$                 | Low                        | +                         | ?                    | ?           | Short    |
| Seawalls on cliffs<br>providing lateral access | \$\$\$         | \$                 | High                       | -                         | -                    | =           | Medium   |
| <b>Short term<br/>transportation</b>           |                |                    |                            |                           |                      |             |          |
| Maintain two-way with<br>Rec Trail - Elevate   | \$\$\$         | \$                 | Low                        | -                         | -                    | =           | Short    |
| One-way with Rec Trail                         | \$\$           | \$                 | High                       | +                         | +                    | -           | Medium   |
| Relocate traffic keep Rec<br>Trail             | \$\$\$         | \$                 | High                       | +                         | +                    | -           | Long     |
| <b>Long term adaptation</b>                    |                |                    |                            |                           |                      |             |          |
| Soil nail wall                                 | \$\$\$         |                    | High                       | -                         | =                    | =           | Medium   |
| Managed Retreat                                | \$             | \$                 | High                       | +                         | =                    | -           | Long     |
| Sand placement on<br>Pyramid Beach             | \$             | \$                 | Low                        | +                         | ?                    | ?           | Short    |
| <b>Long term<br/>transportation</b>            |                |                    |                            |                           |                      |             |          |
| Maintain two-way                               | \$\$\$         | \$\$\$             | Low                        | -                         | -                    | =           | Short    |
| One-way with Rec Trail                         | \$             | \$                 | High                       | +                         | +                    | -           | Medium   |
| Relocate traffic keep Rec<br>Trail             | \$             | \$                 | High                       | +                         | +                    | -           | Long     |

**Upfront Cost:** relative construction cost (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Maintenance Cost:** relative cost associated with the lifespan of the project (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Certainty of Success:** certainty that measure will function as intended for its projected lifespan (High, Medium, Low)

**Secondary Impacts:** consequences associated with the adaptation that could affect the beach or coastal resources, coastal access, or parking and roads. Plus (+) refers to an improvement from existing conditions, Minus (-) refers to a deterioration from existing conditions, Equal (=) refers to a similar to existing condition

**Lifespan:** relative length of time the adaptation strategy functions (Short is <10 years, Medium is up to 30 years, and Long is 30+ years)

**Zone 2—Almar Avenue to Lighthouse Field State Beach**

Through the TAC and City department head process priorities were determined for short term coastal and transportation preferences, and long term coastal adaptation and transportation



preferences. The preferences in the short term included cave fills, sand nourishment, groin construction, and habitat restoration. The preferences for long term coastal adaptation included retreating West Cliff Drive to one way or partial one way, elevating the bridge over Bethany Curve, construction of soil nail walls, and habitat restoration. These various strategies were presented at a community open house, and members of the public were asked to prioritize their preferred adaptation alternatives for both the short term and long term .

Community workshop priority adaptation responses for Zone 2 resembled those of Zone 1, with the highest priority short term coastal adaptation strategy placed on maintaining revetments, with 40 percent choosing this option, and in the long term, managed retreat, with close to 60 percent choosing this option. The most highly prioritized short and long term transportation priority was identified as converting West Cliff Drive to one-way traffic while maintaining the recreation trail, with 55 percent choosing this option in the short term, and 45 percent choosing this for the long term. Similar to other zones, over the long term the community placed an extremely high priority on maintaining the recreation trail for this section, with 40 percent of respondents identifying relocating traffic in order to keep the recreation trail as a priority. This left approximately 15 percent of respondents prioritizing vehicular traffic over the trail.



### Priority areas for adaptation and management in Zone 2.

Longer term, projections of future coastal erosion, as well as existing mapped areas of erosion concern are likely to cause multiple disruptions to the West Cliff Drive corridor. In addition, erosion impacts could affect a critical wastewater pump station, as well as a low lying bridge near Woodrow Avenue at the mouth of the Bethany Curve Creek, which follows the alignment of the Ben Lomond Fault. This area already experiences substantial wave overtopping during high wave/high tide events, not currently documented by the City.

Continuing impacts associated with prior management decisions to protect with revetments will degrade coastal access, beach recreation, and surf recreation. Based on community input, TAC guidance, and City leadership priorities and all the other technical work, short and long term adaptation for the coast and transportation corridor are identified in the table below.

**Prioritized short term and long term adaptation approaches for detailed conceptual design and cost benefit analysis in Zone 2**

| Zone 2                           | Cost           |                    | Certainty | Secondary Impacts     |                  |             | Lifespan |
|----------------------------------|----------------|--------------------|-----------|-----------------------|------------------|-------------|----------|
|                                  | <i>Upfront</i> | <i>Maintenance</i> |           | <i>Beach, Coastal</i> | <i>Rec Trail</i> | <i>Road</i> |          |
| <b>Short term adaptation</b>     |                |                    |           |                       |                  |             |          |
| Cave fill + Soil Nail Wall       | \$\$\$+        | ?                  | High      | -                     | =                | =           | Medium   |
| Sand management                  | \$             | \$                 | Low       | +                     | ?                | ?           | Short    |
| Maintain revetments              | \$\$           | \$                 | Medium    | -                     | =                | =           | Medium   |
| <b>Short term transportation</b> |                |                    |           |                       |                  |             |          |
| Maintain two-way                 | \$             | \$\$\$             | Low       | -                     | -                | =           | Short    |
| One way with Rec Trail           | \$\$           | \$                 | High      | +                     | +                | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$\$\$         | \$                 | High      | +                     | +                | -           | Long     |
| <b>Long term adaptation</b>      |                |                    |           |                       |                  |             |          |
| Sand management                  | \$             | \$                 | Low       | +                     | ?                | =           | Short    |
| Groin                            | \$\$\$         | \$                 | Medium    | +                     | ?                | -           | Medium   |
| Managed Retreat                  | \$             | \$                 | High      | +                     | -                | -           | Long     |
| <b>Long term transportation</b>  |                |                    |           |                       |                  |             |          |
| Maintain two-way                 | \$\$\$         | \$\$\$             | Low       | -                     | -                | =           | Short    |
| One-way with Rec Trail           | \$             | \$                 | Medium    | +                     | +                | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$             | \$                 | High      | +                     | +                | -           | Long     |

**Upfront Cost:** relative construction cost (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Maintenance Cost:** relative cost associated with the lifespan of the project (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Certainty of Success:** certainty that measure will function as intended for its projected lifespan (High, Medium, Low)

**Secondary Impacts:** consequences associated with the adaptation that could affect the beach or coastal resources, coastal access, or parking and roads. Plus (+) refers to an improvement from existing conditions, Minus (-) refers to a deterioration from existing conditions, Equal (=) refers to a similar to existing condition

**Lifespan:** relative length of time the adaptation strategy functions (Short is <10 years, Medium is up to 30 years, and Long is 30+ years)

### **Zone 3—Lighthouse State Beach to Pelton Avenue at the Surfer Statue**

Through the TAC and City department head process, priorities were determined for short term coastal and transportation preferences and long term coastal adaptation and transportation preferences. The preferences in the short term included a one-way road restriction along West Cliff Drive and to retreat the lighthouse inland or to the historical location at Lighthouse Field. The preferences for long term coastal adaptation included to retreat West Cliff Drive into Lighthouse Field or merge into Pelton Avenue and maintain bike and pedestrian access along

coast, move parking from the ocean side of West Cliff Drive at lighthouse point to the other side of road, and retreat the lighthouse further inland.

These various strategies were presented at a community open house, and members of the public were asked to prioritize their preferred adaptation alternatives for both the short term and long term. This non-residential zone varied from the other three zones as a short term preference was placed on managed retreat rather than maintaining revetments. The most highly prioritized short and long term coastal adaptation strategy was managed retreat, with more than 45 percent prioritizing this option in the short term, and more than 80 percent prioritizing this in the long term. This represents a 20–30 percent higher favorability towards managed retreat in the long term over other zones. The most highly prioritized short and long term transportation priority was identified as converting West Cliff Drive to one-way traffic while maintaining the recreation trail, with close to 60 percent choosing this option in the short term, and more than 50 percent choosing this for the long term. Similar to other zones, over the long term, the community placed an extremely high priority on maintaining the recreation trail for this section, with 35 percent of respondents identifying relocating traffic in order to keep the Recreation Trail as a priority. This left approximately 12 percent of respondents prioritizing vehicular traffic over the trail. This zone represents the area with the highest community priority placed on managed retreat strategies and maintaining the recreation trail over vehicular traffic.





### Priority areas for adaptation and management in Zone 3.

Longer term, projections of future coastal erosion as well as already mapped areas of erosion concern are likely to cause multiple disruptions to the West Cliff Drive corridor including loss of public parking. In addition, erosion impacts could affect a cultural landmark in the Mark Abbott Memorial Lighthouse.

Continuing impacts associated with protecting with revetments are likely to impact and potentially destroy the world famous surf spot known as Steamer Lane. Based on community input, TAC guidance, and City leadership priorities, and the technical work, short and long term adaptation for the coast and transportation corridor are identified in the table below.

**Prioritized short term and long term adaptation approaches for detailed conceptual design  
and cost benefit analysis in Zone 3**

| Zone 3                           | Cost           |                    | Certainty | Secondary Impacts         |                      |             | Lifespan |
|----------------------------------|----------------|--------------------|-----------|---------------------------|----------------------|-------------|----------|
|                                  | <i>Upfront</i> | <i>Maintenance</i> |           | <i>Beach,<br/>Coastal</i> | <i>Rec<br/>Trail</i> | <i>Road</i> |          |
| <b>Short term adaptation</b>     |                |                    |           |                           |                      |             |          |
| Cave fill                        | \$\$\$+        | ?                  | High      | -                         | =                    | =           | Medium   |
| Maintain revetments              | \$\$           | \$                 | Medium    | -                         | =                    | =           | Medium   |
| Managed Retreat                  | \$             | \$                 | High      | +                         | +                    | -           | Long     |
| <b>Short term transportation</b> |                |                    |           |                           |                      |             |          |
| Maintain two-way                 | \$             | \$\$\$             | Low       | -                         | -                    | =           | Short    |
| One way with Rec Trail           | \$\$           | \$                 | High      | +                         | +                    | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$\$\$         | \$                 | High      | +                         | +                    | -           | Long     |
| <b>Long term adaptation</b>      |                |                    |           |                           |                      |             |          |
| Managed Retreat                  | \$             | \$                 | High      | +                         | +                    | -           | Long     |
| <b>Long term transportation</b>  |                |                    |           |                           |                      |             |          |
| Maintain two-way                 | \$\$\$         | \$\$\$             | Low       | -                         | -                    | =           | Short    |
| One way with Rec Trail           | \$\$           | \$                 | Medium    | +                         | +                    | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$\$           | \$                 | High      | +                         | +                    | -           | Long     |

**Upfront Cost:** relative construction cost (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Maintenance Cost:** relative cost associated with the lifespan of the project (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Certainty of Success:** certainty that measure will function as intended for its projected lifespan (High, Medium, Low)

**Secondary Impacts:** consequences associated with the adaptation that could affect the beach or coastal resources, coastal access, or parking and roads. Plus (+) refers to an improvement from existing conditions, Minus (-) refers to a deterioration from existing conditions, Equal (=) refers to a similar to existing condition

**Lifespan:** relative length of time the adaptation strategy functions (Short is <10 years, Medium is up to 30 years, and Long is 30+ years)

#### **Zone 4—Pelton Avenue and the Surfer Statue to Bay Avenue**

Zone 4 of West Cliff Drive contains three different coastal armoring structures and four areas of erosion concern. Within the short term of the next 10 years, three areas of erosion concern were identified as high risk so when erosion does occur, it will likely impact the Recreational Trail, parking and/or West Cliff Drive. These locations are all associated with sea caves, with only one of them identified as a high hazard likely to fail in the short term. Presently, none of these coastal armoring structures are projected to fail nor require attention. This area however does have the highest traffic and Recreational Trail usage of the West Cliff Drive Corridor.

Through the TAC and City department head process priorities were determined for short term coastal and transportation preferences and long term coastal adaptation and transportation preferences. The preferences in the short term included cave fills and to repair, replace, and add revetments. The preferences for long term coastal adaptation included to retreat West Cliff Drive and convert to one-way to prioritize the bike and pedestrian travel, and sea wall armoring strategies such as soil nail walls.

These various strategies were presented at a community open house, and members of the public were asked to prioritize their preferred adaptation alternatives for both the short term and long term. The most highly prioritized short term coastal adaptation strategy was to maintain revetments, with close to 50 percent choosing this option, and the most highly prioritized long term coastal adaptation strategy was managed retreat, with 55 percent choosing this option. Construction of soil nail walls was also a high priority in the long term, with the remaining 45% of respondents choosing this option. The most highly prioritized short and long term transportation adaptation priority was identified as converting West Cliff Drive to one-way traffic while maintaining the recreation trail, with 55 percent choosing this option in the short term, and 40 percent choosing this in the long term. Similar to all other zones, over the long term the community placed an extremely high priority on maintaining the recreation trail for this section, with 40 percent of respondents identifying relocating traffic in order to keep the recreation trail as a priority. This left approximately 15 percent of respondents prioritizing vehicular traffic over the trail.



#### Priority areas for adaptation and management in Zone 4.

Longer term, projections of future coastal erosion, as well as already mapped areas of erosion concern are likely to cause multiple disruptions to the West Cliff Drive corridor including loss of public parking.

Continuing impacts associated with previously made adaptation decisions about protecting with revetments are likely to impact beach recreation and potentially degrade one of the key beginner surf spots, due to increased interaction of waves with the existing revetments at Cowells. Based on community input, TAC guidance, and City leadership priorities, short and long term adaptation for the coast and transportation corridor are identified the table below.



**Prioritized short term and long term adaptation approaches for detailed conceptual design and cost benefit analysis in Zone 4**

| Zone 4                           | Cost           |                    | Certainty | Secondary Impacts     |                  |             | Lifespan |
|----------------------------------|----------------|--------------------|-----------|-----------------------|------------------|-------------|----------|
|                                  | <i>Upfront</i> | <i>Maintenance</i> |           | <i>Beach, Coastal</i> | <i>Rec Trail</i> | <i>Road</i> |          |
| <b>Short term adaptation</b>     |                |                    |           |                       |                  |             |          |
| Cave Fill                        | \$\$\$+        | ?                  | High      | -                     | =                | =           | Medium   |
| Maintain revetments              | \$\$           | \$                 | Medium    | -                     | =                | =           | Medium   |
| Soil Nail Walls                  | \$\$\$         | ?                  | High      | -                     | =                | =           | Medium   |
| <b>Short term transportation</b> |                |                    |           |                       |                  |             |          |
| Maintain two-way                 | \$             | \$\$\$             | Low       | -                     | -                | =           | Short    |
| One way with Rec Trail           | \$\$           | \$                 | High      | +                     | +                | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$\$\$         | \$                 | High      | +                     | +                | -           | Long     |
| <b>Long term adaptation</b>      |                |                    |           |                       |                  |             |          |
| Soil Nail Walls                  | \$\$\$         | ?                  | Medium    | -                     | =                | =           | Medium   |
| Managed Retreat                  | \$             | \$                 | High      | +                     | +                | -           | Long     |
| <b>Long term transportation</b>  |                |                    |           |                       |                  |             |          |
| Maintain two-way                 | \$\$\$         | \$\$\$             | Low       | -                     | -                | =           | Short    |
| One-way with Rec Trail           | \$\$           | \$                 | Medium    | +                     | +                | -           | Medium   |
| Relocate traffic keep Rec Trail  | \$             | \$                 | High      | +                     | +                | -           | Long     |

**Upfront Cost:** relative construction cost (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Maintenance Cost:** relative cost associated with the lifespan of the project (\$\$\$ = High, \$\$ = Medium, \$=Low)

**Certainty of Success:** certainty that measure will function as intended for its projected lifespan (High, Medium, Low)

**Secondary Impacts:** consequences associated with the adaptation that could affect the beach or coastal resources, coastal access, or parking and roads. Plus (+) refers to an improvement from existing conditions, Minus (-) refers to a deterioration from existing conditions, Equal (=) refers to a similar to existing condition

**Lifespan:** relative length of time the adaptation strategy functions (Short is <10 years, Medium is up to 30 years, and Long is 30+ years)

### A3.2. West Cliff Drive Benefit Cost Analysis

The purpose of the benefit cost analysis was to compare the economic benefits and costs of choosing to adopt coastal adaptation strategies aimed at managing coastal erosion and sea level rise to the benefits and costs of a future in which the City continues with a business as usual practice of responding to erosion in an emergency response mode. The benefit cost analysis is designed to help decide *whether* to adapt and if so, *the best way* to adapt. Economically worthwhile projects have benefits greater than costs, considering the differences in timing of spending and receipt of benefits and the uncertainties surrounding the extent and rate of sea level rise. The measure used is the *net present value*. Four different adaptation strategies were selected for analysis based on community input and grant funder requirements.

- Business -as-Usual - No actions are taken beyond routine maintenance and irregular emergency repairs. This strategy represents current conditions and practices and its benefits and costs are the base case to which the other adaptation strategies are compared.
- Managed Retreat - Existing armoring structures are removed thus restoring natural erosion and shoreline processes. Recreational Trail and West Cliff Drive realign in response to erosion.
- Recreation Focused Strategy - A combination of sand management, reduction in coastal armoring footprints through upgraded armoring from revetments to vertical seawall/soil nail walls and sand retention structures along with structural adaptation such as bluff top seawalls with terrace access and cave fills in high hazard areas.
- Protection Focused Strategy - Projects that focus on erosion prevention of the cliffs such as expanding existing revetments, construction of new seawalls, filling of sea caves, and construction of artificial bedrock.

#### Key inputs and assumptions

- Costs were defined as expenditures (construction and maintenance costs). Benefits are defined as gains in the economic value to users of West Cliff Drive for recreation – Recreational Trail, beach and surfing primarily. These values were measured from a willingness to pay survey of over 900 visitors to West Cliff Drive in 2019 and 2020. The analysis used a Monte Carlo technique that calculates both the benefits and costs of adaptation approaches based on triggering actions at specific changes in sea levels as well as the probability of success. Three sea level rise scenarios were examined representing a short, medium, and long term. These sea level rise trigger scenarios are based on current State guidance and analyze the full range of potential sea level rise scenarios to identify future probabilities of adaptation success.
- 

#### Key Findings from the Analysis

- The City must decide whether to spend less on adaptation every year (totaling more in the long-term) on a business as usual approach (emergency responses to protect West Cliff Drive) and lose the coastal recreation, or does the City invest more sooner (totaling less over time) to improve recreation and maintain this higher value farther into the future. This crucial community decision will determine how the City approaches creating a funding plan to implement this vision.
- The Recreation Focused Strategy is the economically optimal strategy that combines adaptive actions that provide erosion protection to the shoreline with enhancements to surf and shoreline recreational use. This strategy has the highest net present value and the greatest probability of having positive net benefits across all possible sea levels.
- The business as usual approach is the most expensive adaptation strategy. Investing in any other adaptation strategy saves money and West Cliff Drive resources in the future.

There is almost no chance that the business as usual approach will yield a positive net present value compared with any of the other adaptation options in the future.

- All adaptation strategies have higher positive net present values if investments are made before sea levels have increased by about two feet, most likely to occur around 2050.
- Managed retreat has a positive net present value if undertaken soon but the values diminish to negative if delayed too long.
- The timing of investment decisions to implement adaptation strategies is critical when calculating future net present values because sooner adaptation implementation invests quickly in long-term coastal resiliency and limits costly investments over time in emergency response business as usual actions.

### A3.3. Adaptation Pathway Preferences for Policies and Projects

The Team identified adaptation pathway preferences from prior engagement, an in-depth feasibility analysis and, and meetings and workshops with Department Heads, the TAC and key stakeholders. At this stage of the initiative, the community was engaged through Online Storymaps and Community Surveys as well as with a virtual reality application available at the City's library, online and via mobile devices.

In late summer 2020, the City developed a series of eight informational ArcGIS “storymaps” based on four shoreline zones. The storymaps were intended to inform the community on the coastal vulnerabilities and gain further feedback on feasible adaptation pathways and strategies for West Cliff Drive and four adjacent beaches, including Natural Bridges State Beach, Main & Cowell Beaches, and Seabright State Beach. There was an additional storymap on West Cliff Drive Transportation strategies. Each storymap included an integrated survey for community members to express their views on the adaptation pathways and provide additional input. The storymaps and surveys were developed in English and Spanish, and advertised through the City's social media accounts, website, newsletters, and flyers. There were over 1,000 ArcGIS views of the storymaps and approximately 395 survey responses.

Each “storymap” is an overview of the coastal vulnerabilities and feedback mechanism for the feasible adaptation pathways for seven coastal locations in Santa Cruz and one is on the Transportation strategies for West Cliff Drive. Community members were asked to read through each storymap that provided details of the existing conditions, a glossary of terms, an overview of the feasible adaptation pathways. Adaptation pathways are strategies that will help alleviate degradation issues associated with Santa Cruz's coast. Adaptation pathways were developed, for short-term, midterm, and long-term action that, if implemented, will build coastal resilience.

Each storymap included a brief survey to gather community input about the adaptation pathways for each coastal section. The survey asked respondents to identify where they lived in the community, to rank their top considerations for adaptation for each coastal section, and to

indicate their preferred “adaptation pathways” (defined earlier in this document) through star rating on a 5-star scale (a higher number of stars indicated a greater level of agreement) or by picking between options if more than one adaptation option existed. Survey respondents could also share additional comments and feedback at the end of the survey.

Through these visualizations, respondents were able to obtain information about the timeline of the pathway, the triggers to initiate a strategy, the strategy itself, and the cost of the measures. Respondents were able to self-select which locations for which they reviewed storymaps and completed surveys.

### **Survey Preferences by Coastal Location**

The following is a brief summary of the survey results for each storymap. There were different numbers of respondents for each survey, and no responses on the Spanish language surveys despite extended and targeted promotion to Latinx and Beach Flats residents. Overall, community members from the West Side neighborhoods contributed a majority of the survey responses. While the overall number of views of the storymaps were high, the relatively low response rates for each location, and the lack of response from all neighborhoods, and on all questions means that these findings are more anecdotal than absolute. The City has reopened the storymaps and surveys and is putting focused effort on reaching Beach Flats residents into Fall 2020.

#### **West Cliff Zone 1: Pyramid Beach**

There were 28 total responses to the West Cliff Zone 1 survey. The top three considerations that were important to the survey respondents were:

- 1) Maximize habitat improvement
- 2) High certainty of success in minimizing erosion/flooding
- 3) Longevity of strategy

The pathway preferred by the community respondents and TAC is Pathway 1. Pathway 1 involves upgrading stormwater infrastructure, repairing existing armoring, and/or implementing a sand management strategy and beach nourishment strategy in the short term. In the medium term, it involved filling caves and upgrading armoring to a soil nail wall. In the long term, it includes removing revetment/armoring and implementing a managed retreat strategy.

#### **West Cliff Zone 2: Mitchell’s Cove**

There were 39 total responses for the Mitchell’s Cove survey. The top three considerations that are important to the survey respondents were:

- Maintain access to beach and other amenities
- Maximize habitat improvement
- Maximize space for bike and pedestrian infrastructure



There two suggested pathways that were considered by the community include:

- Pathway 1 Short term: The near-term pathway of implementing a sand management strategy and upgrading stormwater infrastructure was the preferred pathway by the community
- Pathway 1 Mid and Long term: The mid and long-term pathway with the highest rating was to upgrade the revetment to soil nail wall and cave fill, although there was also support for removing the armor and implementing retreat in the community input. The TAC favored this pathway and strongly supported upgrading revetment to soil nail wall and filling the caves.

### **West Cliff Zone 3: Lighthouse**

There were 33 total respondents for the Lighthouse survey. The top three considerations for adaptation include:

- Minimize impacts to surfing quality
- Maintain access to beach and other amenities
- Maximize space for the bike and pedestrian infrastructure

There two suggested pathways that were recommended by the community include:

- Pathway 1, Short Term: Sand Management from Pyramid Beach. This adaptation pathway means implementing a sand management strategy in the short term by allowing sand deposited at Pyramid Beach to migrate down coast and deposit on its beach.
- Pathway 1, Mid to Long Term: Upgrading armoring (soil nail and cave fill) and removing armoring and implementing a managed retreat strategy was the favored pathway of the community respondents.

The TAC consensus opinion favored the option to upgrade the armor in one high hazard area and in another high hazard area in this zone, remove the armor in the mid to long term for managed retreat.

### **West Cliff Zone 4: Pelton to Bay**

There were 33 respondents to the survey. The top three considerations for adaptation include:

- Maximize habitat improvement
- Minimize impacts to surfing quality
- Maintain access to beach and other amenities

The three suggested pathways that were recommended by the community include:

- Pathway 1, Short Term: Sand Management. This pathway means implementing a sand management strategy by allowing sand deposited at Pyramid Beach to migrate down coast and depository on West Cliff beaches.

- Pathway 1, Mid to Long Term: Fill Caves was the favored pathway by both the community and the TAC. This pathway means filling caves once a minimum ceiling thickness is reached.
- Pathway 1, Long Term: Remove Armoring and Implement Retreat.

These pathways provide two possible medium to longer-term adaptation solutions which would involve moving a bike/pedestrian path or going to one lane of traffic, and there was support from respondents and the TAC.

### **Natural Bridges**

There were 72 total respondents for the Natural Bridges survey. The top three community considerations for adaptation include:

- Maximize habitat improvement
- Longevity of strategy
- Maintain access to the beach and other amenities

Only one path was presented for consideration

- Pathway 1, Short to Midterm: Creating a Living Shoreline, which would involve creating vegetated structures.
- Pathway 1, Long Term: Managed Retreat Strategy would implement a managed retreat strategy, which would realign parking access and facilities.

The TAC was in consensus agreement with Pathway 1 as well.

### **West Cliff Transportation**

There were 127 total respondents for the West Cliff Transportation survey. The top three considerations for adaptation include:

- Maintain and improve bike and pedestrian space
- Address stormwater runoff
- Maximize habitat improvement

The three suggested pathways that considered by the community include:

- Short Term Strategy: Current Configuration with Enhancements.
- Mid-Term Strategy: One-way with Enhanced Bicycle Facility.
- Long-term Strategy, Reconfiguration West Cliff Drive in the case of a disaster closing West Cliff Drive: The preferred pathway (37.5% of 127 respondents) was the Reconfiguration of Monterey Street to Liberty Street. However, it was found after the surveys that Monterey Street is not a viable connector due to many transportation corridor issues and should not have been offered as an option. One fifth of the respondents preferred rerouting from Pelton Avenue to Woodrow Avenue to Delaware.

## Appendix A4. Funding Options Summary

The adaptation of West Cliff Drive needed to preserve the recreational opportunities and value to the local community will be expensive. This is especially significant given this infrastructure project concerns a specific neighborhood within the city, rather than the city as a whole. Adaptation generally falls into *retreat*, *accommodate*, *armoring*, or a mixed strategy of management. It is likely the City of Santa Cruz will need to retreat and alter West Cliff Drive, including significant streetscape modifications to preserve the recreational access and utility of the Recreational Trail, however, some mixed management may also be possible. Regardless of which adaptation strategy the City of Santa Cruz chooses, the capital costs of adaptation on West Cliff Drive will be significant. Some of this cost may be paid for with State funding (discussed below). However, it is likely that the City will need to independently fund a significant portion of these expenditures. This discussion of financing is designed to help the City and other stakeholders pursue financing strategies that are equitable and efficient.

### A4.1. Funding Options at the State and Federal Level

Adaptation planning is a challenging undertaking and the City cannot adapt to sea level rise on its own. A successful adaptation plan requires regional dialog and state and federal partnerships to identify, fund, and implement solutions. Challenges include acquiring the necessary funding for adaptation strategies, communicating the need for adaptation to elected officials and staff, and gaining commitment and support from federal and state government agencies to address the realities of local adaptation challenges. Specifically, for West Cliff Drive, outside funding will require a creative approach, leveraging the area's cultural and recreation significance, and the need to maintain coastal infrastructure against increased threats from sea-level rise, coastal erosion, and coastal storms.

The City has, and will continue to partner with local stakeholders and groups such as Groundswell Coastal Ecology as well as partial co-landowner of the corridor, California State Parks, to advance the planning and implementation called out in the Plan. The City has several grant proposals pending to carry out next step work. The projects specified in this Plan will require a combination of grants and outside funding as well as the City's identification of revenue and/or internal funding. An assessment of potential funding opportunities that follows will be refined in a near term next step project to Plan adoption.

### Grants and Outside Funds

#### ***Hazard Mitigation and Pre-Disaster Assistance (FEMA Programs)***

There is overlap between LCP planning and Local Hazard Mitigation Plan (LHMP) as both address a potential range of hazards in a given City. California Governor's Office of Emergency Services' (Cal OES) Hazard Mitigation Planning Division and FEMA's Hazard Mitigation Assistance grant programs provide significant opportunities to adapt by reducing or eliminating potential losses to the City's assets through hazard mitigation planning and project grant funding. Much of the funding of specific projects must be tied to an approved LHMP.

The City has already included sea level rise and climate change related hazards to its LHMP in order to make adaptation projects eligible for federal funding. Currently, Cal OES and FEMA have three grant programs: Hazard Mitigation Grant Program, Pre-Disaster Mitigation, and Flood Mitigation Assistance. The total value in each of the grants vary annually based on federal funding authorization, but typically each is in the 10s to 100s of million dollars. This funding may be most appropriate for larger scale projects, e.g., zone 2 sea wall project and/or living shoreline construction.

### ***Cultural, Community and Natural Resources Grant Program – Proposition 68***

Following passage of the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act of 2018 (Proposition 68), \$40 million has been appropriated to the California Natural Resources Agency for competitive grant funds that protect, restore, and enhance California’s cultural, community, and natural resources. Funding under this program is available to local agencies and other eligible applicants for projects qualifying under a number of categories including resource protection, enhancement of park, water, and natural resources, and improvement of community and cultural venues or visitor centers. This funding source may be most appropriate for habitat and landscaping projects completed independent or in combination with other larger scale corridor projects.

### ***California Department of Transportation Grant Program***

Further grant funding through the Caltrans Sustainable Transportation Grant Program is available, including the “**Sustainable Communities Grants** (\$29.5 million awarded in 2020) to encourage local and regional planning that furthers state goals, including, but not limited to, the goals and best practices cited in the Regional Transportation Plan Guidelines adopted by the California Transportation Commission<sup>6</sup>.” This source might be tapped for near term improvements for corridor safety.

### ***Opportunities through California State Parks’ Office of Grants and Local Services (OGALS) Programs***

OGALS administers grants annually for park and recreation needs. Since 2000, OGALS has awarded nearly \$3 billion in grants for local park projects. In June 2017, \$16 million in grants were awarded through OGALS from the 2002 Resources Bond Act (Proposition 40) for 25 local park projects<sup>7</sup>.

### ***California Natural Resources Agency Urban Greening Grants***

The California Natural Resources Agency’s Urban Greening Program funds green infrastructure projects that improve access to greenspace with climate adaptation co-benefits. These projects

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<sup>6</sup> <https://dot.ca.gov/programs/transportation-planning/regional-planning/sustainable-transportation-planning-grants>

<sup>7</sup> <https://resilientca.org/topics/investing-in-adaptation/>



can include expansion of neighborhood parks and community space and greening of public lands and structures such as schoolyards. Through California Climate Investments, \$26,000,000 is available for Round Two of the program.

### ***California Coastal Conservancy Climate Ready Grant Program***

Part of the focus of this program is on coastal resource protection and community preparation for the impacts of climate change. The Coastal Conservancy funds projects covering a wide range of preparedness activities which may be applicable to West Cliff Drive adaption including development, and implementation of adaptation strategies, science-based scenario planning. The focus of the Grants is increasing the “availability of beaches, parks and trails for the public, protect and restore natural lands and wildlife habitat, preserve working lands, and increase community resilience to the impacts of climate change,<sup>8</sup>” and West Cliff Drive could potentially satisfy multiple aims, garnering the project a higher priority.

### ***Pilot Projects***

A recent report<sup>9</sup> by the State of California’s Legislative Analysts’ Office (LAO) indicates that adaptation efforts will need to be financed primarily at the local level, as is the case with most capital improvement projects. However, the report notes that the California Coastal Conservancy and other State Agencies do have funding for pilot demonstration projects related to adaptation. Given the high-profile nature of West Cliff Drive and the world-class surfing, West Cliff Drive may be a perfect setting for an adaptation program focused on recreation and coastal access. Specific access, habitat restoration and landscaping projects may be well suited for these funders.

## **Fee Options**

A usage or user fee on West Cliff Drive, such as a toll or entry ticket, would allow the city to raise funds without imposing a tax on local residents. Yet there are equity concerns with such an option. Given the popularity of the area, there may be several other options for fee generation including (for example): fees on bike shares such as “Jump,” increased vendor license fees to sell along West Cliff Drive, and parking fees (discussed in detail below).

However, the use of fees as a revenue source needs to be considered with caution. Although West Cliff Drive is a popular recreation and sightseeing spot, a user fee may result in reduced access and could be regressive. It would also likely reduce access for low-income visitors and disadvantaged local populations and runs counter to the California Coastal Act’s mandate of universal access. Depending on the nature of the fee, programs may require approval of the California Coastal Commission.

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<sup>8</sup> [Ssc.ca.gov/grants/](https://www.ssc.ca.gov/grants/)

<sup>9</sup> See *Preparing for Rising Seas: How the State Can Help Support Local Coastal Adaptation Efforts*, California’s Legislative Analysts Office (LAO), December 2019.p. 33.

**Impact Mitigation Fees or In Lieu Fees** - Sand Mitigation and Public Recreational Impact Fees  
Impact mitigation or in lieu fees are another way to generate monies for adaptation measure implementation. Certain structured fees could be established to generate revenues for:  
1) covering the necessary planning of, technical studies for, design of, and implementation of adaptation strategies, or 2) developing an emergency cleanup fund to be able to respond quickly and opportunistically following disasters. Disasters, through a different lens, are opportunities to implement changes.

There are currently two structured fees that the CCC uses to address the impacts of shoreline protection – a Sand Mitigation Fee and a Public Recreation fee. The Sand Mitigation Fee is a fee intended to mitigate for the loss of sand supply and loss of recreational beaches in front of structures. The Public Recreation Fee addresses impacts to the loss of public recreation based upon the loss of beach area physically occupied by the coastal structure. An additional fee for ecosystem damages is under consideration by the CCC, which could assess a fee based on the cost of restoration or replacement value of the damaged habitat.

**Sand Mitigation Fee:** Such a fee would mitigate for actual loss of beach quality sand which would otherwise have been deposited on the beach. For all development involving the construction of a bluff retention device, a Sand Mitigation Fee could be collected by the City to be used for sediment management purposes. The fee could be deposited in an interest-bearing account designated by the City in lieu of providing sand directly to replace the sand that would be lost due to the impacts of any protective structure. Consideration of sand volumes lost over time should factor into whether actual sand placement is preferred or whether the volume/\$ should be retained until a substantial volume can be contributed. The methodology used to determine the appropriate mitigation fee has been approved by the CCC in past cases. The funds should solely be used to implement projects which provide sand to the City's beaches, not to fund other public operations, maintenance, or planning studies. However, in the case of implementation of this Plan, the City would be paying into the fund, so there would be no net new revenue achieved.

**Public Recreation Fee:** Similar to the methodology used by the CCC for the Sand Mitigation Fee, the CCC has used a methodology for calculating a statewide public recreation fee. The City could include such a methodology in the CLUP/General Plan Update and develop administrative processes consistent with CCC guidance, including development of impact mitigation fees for public access and recreation, proposing a public recreation/access project in lieu of payment of Public Recreation Fees to provide a direct recreation and/or access benefit to the general public, and project prioritizations. However, given that most of the West Cliff Drive corridor is publicly owned by the City and California State Parks, the in lieu fee program may not generate significant levels of funding.

### Parking Fees and Fines

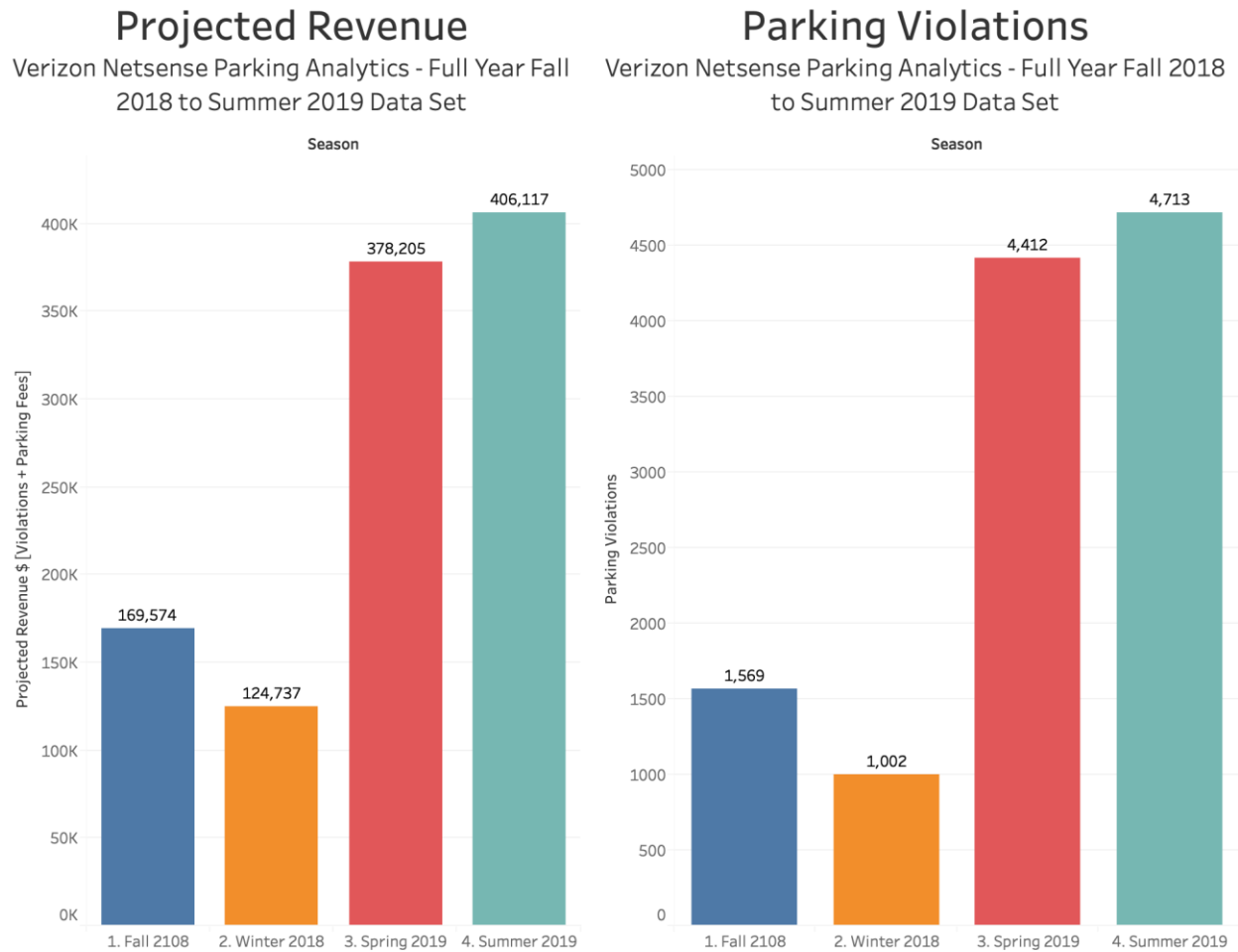
The City of Santa Cruz's 2030 General plan includes an emphasis on parking, especially for the "Seabright Area." While increasing parking options near West Cliff Drive will improve access and recreation in the area, parking may also offer an alternative revenue source. If the city were to charge for parking, they could raise substantial revenues both in parking fees and parking violation fines. It is common for coastal cities to charge for parking—especially for parking lots. Table A4-1 below shows the parking fees for lots near the beach in a sampling of coastal communities. A parking fee program could also be implemented such as that by the County of Santa Cruz, which requires a resident permit/pass as well as a daily visitor pass. One additional benefit of such a program would be to address one of the conflicts identified along West Cliff --the long-term parking of individuals.

**Table A4-1 Coastal parking fees in a sample of California beach towns.**

| Location                         | Parking Fee                                       |
|----------------------------------|---|
| Laguna Beach                     | \$1.50 to \$2.50/hr                               |
| Leadbetter Beach (Santa Barbara) | \$2/hr  |
| Huntington Beach                 | \$2/hr, \$15/day                                  |
| Oceanside                        | \$3 to \$4/hr                                     |
| Venice Beach                     | Depends on time of day, \$5 to \$15 for 3hr block |

Information obtained from the tourism website for each community. Fees for lots tend to be higher.

The City of Santa Cruz conducted a study of the Cowell's Overlook Parking Lot (COPL), an 18 space parking lot overlooking Cowell's Beach. The COPL has a high turnover rate and is in high demand, with over 100,000 "parking events" each year. As expected, demand for this lot peaks in the summer and during the day, there is demand year round. The study included an analysis of potential revenue generation based on a \$1/hour fee and projected citations (see A4-1 for citation projected). This study estimated revenues over \$1 million annually. Furthermore, as evidenced by Table A4-1 above, a \$1/hr fee is low compared to other coastal communities. If the City opted for a higher fee, closer to the rate at Leadbetter or Huntington Beaches, annual revenues could be increased further, providing a substantial contribution to the funds for adapting this popular recreation area to climate change and rising seas.



**Figure A4-1 Projected Revenue based on \$1/hour fee & projected parking citations (2019 COPL study).**

While parking fees would generate significant revenues that could aid in funding necessary adaption along West Cliff Drive, there are important considerations. Primarily, parking fees (like other forms of user fees) may result in reduced access for low-income groups who are more sensitive to additional costs. The Coastal Commission could determine that substantial changes to parking supply—including fees—may alter coastal access and violate the Coastal Act. However, given that many other coastal communities charge for parking in beach lots including State Parks, it is likely that a reasonable fee would be allowed, and would not substantially alter coastal access along West Cliff.

The City will conduct further analysis, using \$1/hour as an assumed starting point and monitoring use. The City will analyze parking fees on West Cliff Drive for further consideration upon adoption of the Plan.



### **Non-Local Toll for Driving West Cliff**

The City of Santa Cruz could help fund necessary improvements to West Cliff Drive by potentially making the route a “scenic toll road.” There are a few scenic toll roads in the United States, including the “17 Mile Drive” in Pebble Beach, CA (\$10.50/vehicle)<sup>10</sup> which runs along a pristine coastline, and the Pike’s Peak Scenic Road in Colorado (\$15/person or \$50/vehicle)<sup>11</sup>. The tolls help pay for the cost of maintaining the road and protecting against geological hazards. At West Cliff Drive, the toll could be much lower, perhaps \$2-\$5/vehicle, as not to discourage visitors entirely. For locals in the neighborhood the city could either issue an annual pass waiving the toll, or include the cost of the pass in annual taxes, allowing for assessment of those most impacted by road improvements, rather than the City’s residents overall. Designating West Cliff Drive a toll road may decrease traffic, improving the safety of the road for bikers and trail users. The toll may, however, negatively impact coastal access and like other forms of fees, require the approval and oversight of the California Coastal Commission to ensure its permitted. It is unclear, however how a non-local toll road would be implemented.

### **Local Taxes and Financing Options**

While there are many opportunities for Federal and State funding to support adaption efforts, the City of Santa Cruz will likely be required to independently fund or finance a portion of the project cost. The LAO report indicates that many projects will be financed at the local level, although currently 45% of adaption funding has come from the State, particularly due to local challenges in planning for, prioritizing, and raising funds for adaptation<sup>12</sup>. The report argues that the state does not have the fiscal resources to fund most of the coastal adaptation activities that ultimately will be needed to prepare for SLR, meaning that “local governments have the primary responsibility for planning, authorizing, maintaining, and operating their local infrastructure, and they—and their residents—correspondingly should pay the cost associated with those activities, including how their infrastructure may need to be modified for SLR.” While State dollars can serve as “seed money” and help support initial stages, it will likely be a combination of State and local funds. It is also likely that early adopters could receive State funds for “pilot projects” while late adopters may have to foot a higher portion of the adaptation costs.

Local responsibility for funding and/or financing includes the various fees mentions above. However, it also may include taxes designed to increase revenues for adaption, and various forms of bonds. This section discusses the City’s finances in general and the unique circumstances of West Cliff Drive to better illustrate the various tax options. Bonds are included

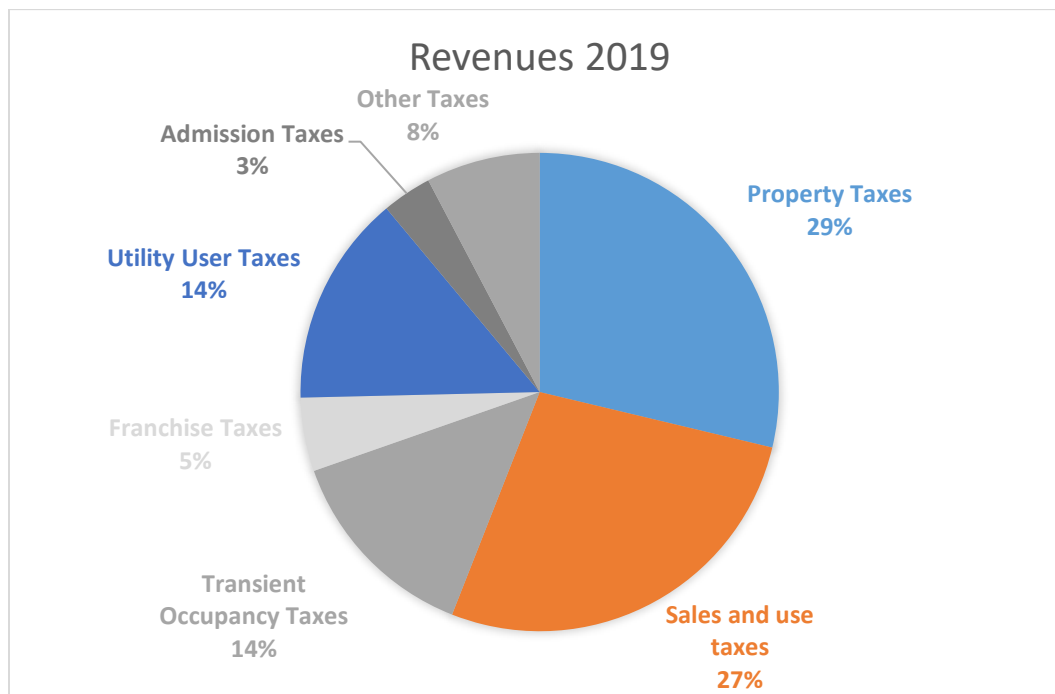
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<sup>10</sup> <https://www.pebblebeach.com/17-mile-drive/>

<sup>11</sup> <https://www.visitcos.com/things-to-do/outdoors/scenic-drives/pikes-peak-highway/>

<sup>12</sup> See Preparing for Rising Seas: How the State Can Help Support Local Coastal Adaptation Efforts, California’s Legislative Analysts Office (LAO), December 2019.

in this discussion because unlike grants or outside funding, the City will be responsible to eventually fulfill the financial obligation and thus indirectly finance the project.

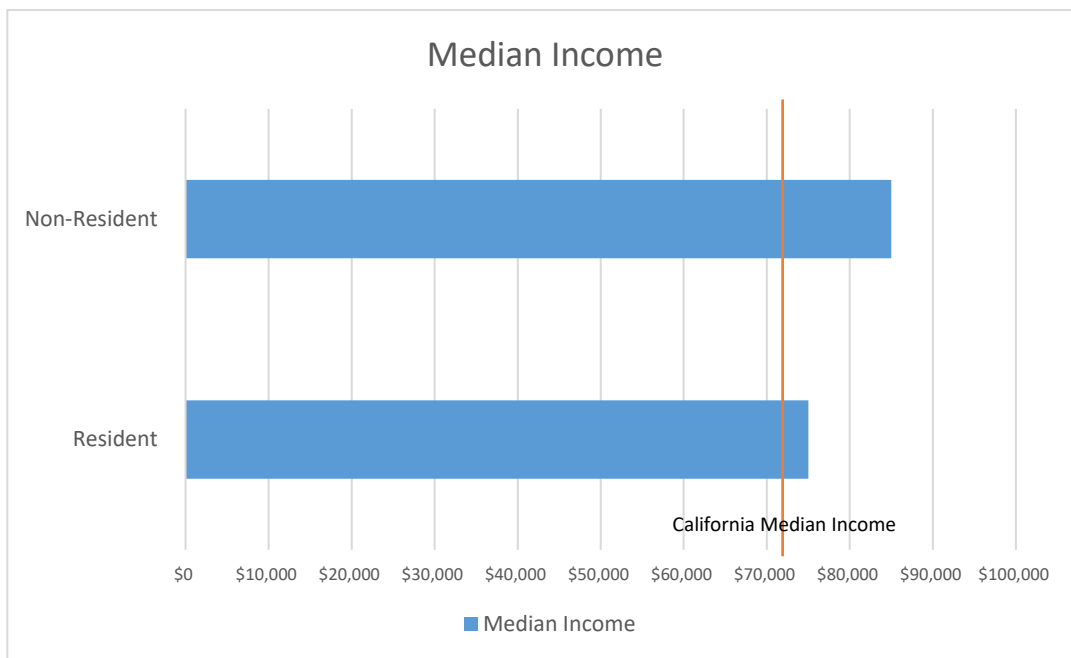


**Figure A4-1: Breakdown of Tax Revenues by Type (Source: City of Santa Cruz CAFR, 2019)**

Figure A4-1 above breaks down City Tax Revenues for the 2018-2019 Fiscal Year, the latest fully audited data available.<sup>13</sup> As indicated in Figure A3, the City revenues are generated primarily from two sources: property taxes (29%) and sales and use taxes (27%). Two other significant sources of revenue are utility users taxes and transient occupancy taxes.

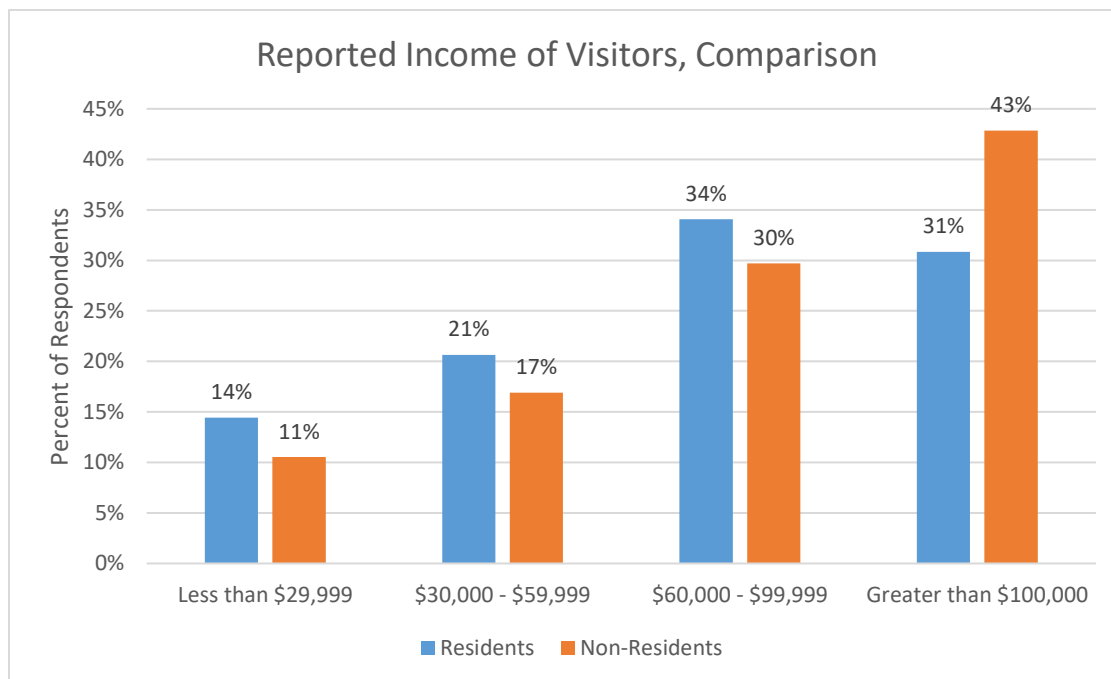
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<sup>13</sup> See CAFR <https://www.cityofsantacruz.com/home/showdocument?id=78889>



**Figure A4-2: Median Income of Survey Respondents on West Cliff Drive compared to California Median Income**

To aid our analysis of the options available to increase revenues and fund adaptation project along West Cliff Drive, we examined the incomes of visitors (both local and non-resident). In our surveys of West Cliff Drive, we found visitors to West Cliff Drive, both residents and non-residents of the city of Santa Cruz, have higher median incomes than the median for the state of California. Figure A4-3 compares the reported incomes of respondents to the California median income. In addition, many have much higher incomes than the State median income, as shown by the majority of visitors (43%) earning over \$100,000 a year (see Figure A4-4 below).



**Figure A3-4: Comparing the distribution of reported income between Residents and Non-Residents shows many earn more than \$100,000 a year, including the majority of non-residents**

### Bond Financing

As noted above, any bond financing along West Cliff Drive will likely need to be funded by tax revenues, since access is free and thus non-revenue generating. However, given the large capital expenses required, these tax revenues will likely also require bond financing to pay for the large up-front expenses involved in adaptation.

In the absence of a State grant, Santa Cruz will need to determine the funding and financing of adaptation at West Cliff Drive. Often large capital investment projects, such as the road modification proposed at West Cliff Drive, are funded at least in part via bond financing. However, these bonds will need to be repaid, and for that the city will need to raise revenues on the order of \$5 to \$20 million. The main challenge with bond financing is ensuring there is robust underlying funding<sup>14</sup>. Funding is subject to voter approval<sup>15</sup>. Different types of bonds require different funding strategies, outlined below.

### Municipal GO Bonds (General Obligation)

General Obligation bonds are issued by the local government or the state. Locally issued GO bonds are often applicable to adaptation projects but are subject to 2/3 voter approval because funding is tied to increased property taxes. The ad valorem increase in property taxes can—with supermajority approval—exceed the 1% cap set by Proposition 13. This is often necessary

<sup>14</sup> AECOM, “Paying for Climate Adaptation in California: A Primer for Practitioners.” (October 2018). Resources Legacy Fund.

<sup>15</sup> Keenan, Jesse M. *Climate Adaptation Finance and Investment in California*. Taylor & Francis, 2019.



in order to raise the kind of funding needed for resilience and adaptation projects. State issued GO bonds can be funded out of the General Fund and only require 50% voter approval. The general fund is often drawn from sales taxes and fees.

### **Revenue Bonds**

Revenue bonds are generally not subject to voter approval, as they derive their funding from the revenue associated with a project. However, in the case of adaptation to West Cliff Drive, there is no plan for the project itself to generate revenue. Imposing a toll or fee would create revenue, however, it would also reduce access to the coast and therefore violate the California Coastal Act.

### **California Infrastructure and Economic Development Bank Financing**

The California Infrastructure and Economic Development Bank (IBank) was created in 1994 to finance public infrastructure and private development that promote a healthy climate for jobs, contribute to a strong economy, and improve the quality of life in California communities. IBank has broad authority to issue tax-exempt and taxable revenue bonds, provide financing to public agencies, provide credit enhancements, acquire or lease facilities, and leverage state and federal funds. IBank's current programs include the Infrastructure State Revolving Fund Loan Program, California Lending for Energy and Environmental Needs Center, Small Business Finance Center, and the Bond Financing Program.<sup>2</sup>

### **Property Taxes**

In California, unlike many other states, property taxes, though collected at the county level, are distributed via the State Board of Equalization back to local governments. While property taxes constitute a significant portion of city and county revenues, the ability to increase property taxes is limited. In 1996, California voters approved Proposition 218, "The Right to Vote on Taxes Act," which "substantially expanded restrictions on local government revenue-raising including taxes, assessments and property related fees" (League of California Cities 2019). Furthermore, these property tax increases must go to support "the acquisition or improvement of real property" (California City Finance, 2019). This means that the uses of collected taxes are limited to the state's purchase of property or improvements to structures on government property. Prop 213 requires a two-thirds majority for all property tax supported bond measures, except for school districts, which have a lower threshold of 55%. The two-thirds supermajority requirement put a damper on bond measures, and less than half of bond measures requiring a two-thirds vote have passed since 2001, whereas 84% of measures requiring a 55% measure (for schools) have passed. Since the 55% measures include schools, their high success rate may also be related to continued local support for schools. Overall, the limitations on property taxes have reduced the state's ability to collect them and thereby reduced the budget. However, since most of the West Cliff Drive corridor is publicly owned and heavily used by residents this remains a viable option.

In addition to property tax levies to support school or other bond issues, California law also supports a number of special property tax districts or property tax levies generally on new or substantially improved property. The State of California provides many options, many oriented to improving underfinanced business districts or enabling the development of new properties. Given the residential nature of West Cliff Drive, the City could consider the formation of a Community Facilities District (CFD). In a CFD, a property tax levy is placed upon homeowners in a defined geographic boundary, thus the increase in property tax would not be placed on the entire city, but the homes in proximity to West Cliff Drive. The funds from this tax could be used for infrastructure improvements and public services including the adaptation of the road. However, the special tax is subject to the approval of 2/3 of voters within the CFD. Often, CFDs are placed on new development because of this voting requirement, however, for a project with the necessary political will, a CFD could be used with existing properties.

In the case of West Cliff Drive, the substantial public benefit from the preservation of the existing roadway or public recreation opportunities largely eliminates a Geological Hazard Abatement District, an alternative form of special tax district, from funding consideration. While GHADs have lower approval requirements, they primarily function to preserve private property rather than public areas.<sup>16</sup>

### **Second Home Taxes**

There has been recent pressure in California to pass Assembly Bill 1905<sup>17</sup> which would allow taxation (and reduce the tax breaks) for owners of multiple homes. In Santa Cruz County, there are over 5,000 homes classified by the Census as “occasional use,” essentially vacation homes and second homes. These properties make up 43.6% of the total vacancies in the County<sup>18</sup>. Presently, there is not only no additional tax on second homes but rather significant tax breaks in the form of write offs for those able to afford multiple properties.

While the current bill is focused on homelessness, in Santa Cruz and other coastal communities it may be time to look at second homeowners as a source of revenues to preserve the communities they vacation to, and the resources that make those homes valuable. This would promote greater equity, as second homes in California are seen to come with tax *benefits*, rather than additional burdens, in the form of tax deductions<sup>19</sup>.

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<sup>16</sup> CA Pub Res Code §26566 limits GHADs to “improvements” to private properties within the district boundaries

<sup>17</sup> Brinklow, Adam. “Bay Area mayors want to tax second homes to pay for homeless relief” SF Curbed, March 9 2020.

<sup>18</sup> American Community Survey (ACS) 2018

<https://data.census.gov/cedsci/table?q=santa%20cruz%20vacancy&tid=ACSDT1Y2018.B25004&hidePreview=true>

<sup>19</sup> Brinklow, Adam. “Bay Area mayors want to tax second homes to pay for homeless relief” SF Curbed, March 9 2020; <https://www.mercurynews.com/2017/03/19/california-lawmakers-eye-ending-tax-breaks-for-vacation-homes/>

There is not currently an established practice in California for assessing second homeowners additional taxes, however, with the predicted impacts of sea-level rise on coastal resources—where many vacation homes are—there is a growing need to consider this strategy. Furthermore, it may increase coastal access by incentivizing the conversion of these “occasional use” properties from private vacation home to vacation rentals, enabling more people to visit the coast.

### **Sales taxes**

As with property taxes, under California law (Proposition 218), sales taxes are collected by the State. The majority of sales tax revenues go to the State. However, cities and counties are allowed to raise sales taxes (e.g., by 0.25%) and keep those additional proceeds for local spending. If these funds are used for general (funds) purposes, then only a 50% (majority) vote is required. However, if the funds are to be used for a special purpose or a special district is created, then a 2/3 majority is required.

In addition to the political hurdles, the fact that West Cliff Drive is a largely residential area with few sales taxes may make it difficult to justify raising sales taxes. The City may consider raising sales taxes for general funds, which only requires a simple majority (50%) to approve. However, since any increases in funds would go to general revenue, there is no guarantee these funds would be used for West Cliff Drive, or even climate adaptation. As noted above, sales taxes are also regressive—the burden falls harder on lower income households. In addition, sales tax revenues vary with economic activity (sales). Given these constraints, the feasibility of using sales taxes to fund this particular project seems low.

### **Transient Occupancy Taxes (TOTs)**

Transient Occupancy Taxes (TOTs) are another method for the City to raise revenue at the local level. Unlike property tax increases, TOT increases are often a popular ballot measure as they shift the burden of payment from locals (voters) to visitors. They’re also progressive, unlike sales taxes. Finally, TOTs can help fund tourism generating projects such as coastal adaptation, as the coast and beaches are the major driver of tourism to Santa Cruz. The city has several options to increase their TOT collection: increase the rate itself, build hotels, or increase the number of Short-Term rentals operating in the City.

The City of Santa Cruz increased their transient occupancy tax (TOT) rate from 10% to 11% in 2012<sup>20</sup>. This measure passed with 82.23% of the vote, demonstrating the relative ease of increasing TOTs in comparison to other taxes. According to the 2019 CAFR for the City of Santa Cruz, the 2012 increase raised revenues by \$0.8 million the first year, and since then revenues have risen from \$5.6 million in 2013 to almost \$11 million in 2019. In 2019, TOTs made up 14% of the City’s revenues<sup>21</sup>. Even with this increase, the City’s TOT rate is lower than many popular

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<sup>20</sup> Santa Cruz CAFR 2019, page iv.

<sup>21</sup> Ibid 15

coastal destinations, for example; Santa Barbara (12%), Los Angeles (14%), San Francisco (14%), Malibu (12%). Santa Cruz could increase their rate to a similar 12% level.

Building more hotels could also increase TOTs. According to the CAFR, the City's plan is to "aggressively pursue the construction of major chain hotels with expectations to increase the hotel tax base<sup>22</sup>." However, relying on hotel construction may be problematic for several reasons. First, the hotel industry was hardest hit by the economic impact of the COVID-19 pandemic—with losses in over 50% of average rates and occupancy levels far below a typical summer season<sup>23</sup>. These losses are likely to reduce the willingness and ability of hotel chains to invest in new development. Secondly, new development is not the most cost effective or efficient way to increase TOTs. Construction takes time and significant investment and may not have community support. Furthermore, development in the coastal zone is subject to the review and approval of the California Coastal Commission. Not only can this create delays, but the Commission and the Coastal Act itself are cautious about new development in the fragile coastal zone and the impacts it may have. Additionally, they may impose mitigation that can increase the costs of building a new hotel.

Given the potential barriers to the construction new hotels, the City may wish to examine a third method of increasing their TOT revenues: increasing the number of Short-Term Rentals in Santa Cruz. While Santa Cruz's regulations on operating Short-Term Rentals (STRs) are straightforward and fair, with basic guidelines on occupancy and guest behavior, their policy strictly limits the number of rentals allowed to operate in the City. Currently, the City of Santa Cruz's permit quota limits the number of Short-Term Rentals to 250<sup>24</sup>. This includes both hosted and non-hosted STRs<sup>25</sup> of all types. 250 STRs represents just over 1% of the total housing units in the City of Santa Cruz<sup>26</sup>.

This strict cap may lead to push back from the California Coastal Commission. Oxnard's attempt to impose a 5% density limit on STRs was rejected this year (5% of Oxnard's 54,851 units would be over 2,700 STRs<sup>27</sup>). The Commission proposed a 10% allowance in the beachfront zone<sup>28</sup>. If Santa Cruz wishes to raise TOTs without new development or reliance on major chain hotels, they could similarly increase the number of STRs allowed in the coastal zone, such as along

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<sup>22</sup> *ibid* iv

<sup>23</sup> August data from STR: <https://str.com/data-insights-blog/coronavirus-hotel-industry-data-news>

<sup>24</sup> <https://www.cityofsantacruz.com/government/city-departments/planning-and-community-development/short-term-rentals>

<sup>25</sup> The City defines a "hosted" short-term rental as one in which the owner lives in the dwelling at least six months out of the year. In a "non-hosted" rental, owners live elsewhere more than six months out of the year.

<sup>26</sup> City of Santa Cruz "2015-2023 Housing Element" report data from Department of Finance

<sup>27</sup> City of Oxnard "2013-2021 Housing Element" report

<sup>28</sup> <https://www.vcstar.com/story/news/local/2020/07/15/oxnard-vacation-airbnb-rental-ordinance-rejected-coastal-commission/5410414002/>



West Cliff Drive. This may help avoid push back from not only the Coastal Commission, but also private legal action. In 2019, a similarly strict Short-Term Rental policy in Santa Barbara was rejected in court due to the impact the policy would have on access to the coast, potentially violating the California Coastal Act<sup>29</sup>. Increasing the number of STRs near the coast would help promote access and offer the City a relatively easy method of raising TOT revenues. Many cities have less strict limits in the coastal zone, such as Carlsbad, who allow STRs in commercial zones and throughout the coastal zone, but not in residential areas further inland.

In summary, the City has multiple options for increasing TOT revenues. They can increase their TOT rate through a ballot measure, promote hotel construction, and increase their STR allowance. These options are not mutually exclusive, and the city could choose to enact all of these policies.

### **User Fees and Utility User taxes**

The City of Santa Cruz also receives significant revenues from utility user taxes (UUTs). UUTs are taxes placed on utilities such as electricity, gas, water and sewer as well as some cellular telephone calls. As with sales taxes, Proposition 218 governs UUTs, with special districts requiring a supermajority. According to California City Finance, the majority of measures designed to increase UUTs from 2002-2016 failed; most of the measures that passed kept rates the same, modernized (with respect to cell phone rates) or reduced rates.<sup>30</sup> Given the difficulty in raising UUTs, their regressive nature, and the fact that West Cliff Drive is a residential neighborhood, UUTs are likely not a good option for financing adaptation on West Cliff Drive. Increasing UUTs to pay for damage to existing utility distribution networks (e.g., gas pipelines along an eroded coast) might make sense.

### **Infrastructure Financing Districts**

As of September 2014, California law allows cities and other entities to create enhanced infrastructure financing districts. This allows incremental property tax revenues to be devoted to a specified purpose such as a fund for cleanup, infrastructure, parks and open space, transportation, or other things that could be applied to a variety of adaptation approaches. With the passage of Assembly Bill 313 and Senate Bill 628, the requirements for establishing these districts have been streamlined. The intent of these bills was to fill the local funding void left by the dissolution of the redevelopment agencies. Basically, the City would establish an Economic Infrastructure Financing District, develop a business plan with priority projects (e.g., infrastructure, adaptation, etc.), and then draw funds from changes in local tax revenues occurring as part of a redevelopment or rezone or apply for grant funds.<sup>1</sup>

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<sup>29</sup> *Kracke v. City of Santa Barbara* (2019)

<sup>30</sup> See Utility User Facts, California City Finance.com. January 2017. <http://www.californiacityfinance.com/UUTfacts17.pdf>.

### Criteria for Selecting a Financing Strategy

*When providing a Public Good, any Financing Scheme should consider who uses the good and their ability to pay.*

One of the most basic principles of the Public Finance literature is the ability to pay principle—taxes levied on those most likely to use the (public) good and those who can afford it the most.<sup>31</sup> In many sense, these public finance schemes try to mimic private finance schemes. Currently, West Cliff Drive is an open access corridor available to all which has resulted in abuse of parking and recreational amenities by out of town visitors and transient populations. However, improvements and adaptation to West Cliff Drive must be financed somehow. Our survey data indicates that the majority of the users (57%) are residents of the City of Santa Cruz. This result, paired with the data on incomes of residents, suggests that a recreational fee such as a tax on bike or surfboard rentals, a tax on local residents, a parking permit program, and some day use parking might be feasible.

*Any financing strategy should be equitable.*

One of the most important considerations for any tax scheme is equity. Many public finance economists favor “progressive” taxes, which tax households with higher income or wealth at a higher rate (percentage of wealth or income paid).<sup>32</sup> A progressive income tax, which taxes households with higher incomes at higher rates, is a good example of a tax system that has vertical equity. However, few smaller cities in California use income taxes to collect revenues.

Although many people consider property taxes to be progressive, most empirical studies indicate that property taxes, in general, are regressive—poor households pay a larger share for their income (through rent) on property taxes than wealthy households. However, if one is considering incremental property tax financing, one also needs to consider the demographics of the area. West Cliff Drive is an affluent area with high property values and adding additional property tax levies would tend to fall on more affluent households.

A property tax in this area though could in fact be progressive. The alternative of increasing sales taxes and utility users fees and other taxes on general consumption would be highly regressive since low-income households spend a higher amount of their income on goods (consumption) that are taxed by sales taxes, utility taxes and other users taxes and fees.<sup>33</sup> This type of approach may increase the burden on disadvantaged populations in the community. Although most States, including California, exempt food and rent from sales tax, California sales taxes also excludes services, which increases the taxes regressive nature as the proportion of

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<sup>31</sup> Richard A. Musgrave, "Public Finance in a Democratic Society Volume III."

<sup>32</sup> Ibid.

<sup>33</sup> For example see, Chernick, Howard, and Andrew Reschovsky. "Yes! Consumption taxes are regressive." *Challenge* 43, no. 5 (2000): 60-91.

spending on services increases with income. Of the possible options, however, transient occupancy taxes are likely the most progressive since high-income households typically spend a larger portion of their budget on travel.<sup>34</sup>

*Any financing strategy should have community support.*

“A sustainable community selects mitigation strategies that evolve from full participation among all public and private stakeholders. The participatory process itself may be as important as the outcome.”<sup>35</sup>

No one likes taxes, and California has had a mixed history when it comes to taxes and tax reform. Any discussion of the strengths and weaknesses of Proposition 13 or California’s tax law in general is beyond the scope of this analysis. However, any financing scheme must be approved by voters. In California, these approvals generally require majority (50%) or supermajority (generally 2/3 of voters) to approve. While many tax increases in California cities have been approved, the types of taxes and situations favorable to approval depend on a number of factors. These will be discussed in more detail below for specific taxes. The approval requirement can often be a barrier to raising funds, however, if the City adopts an adaptation plan with wide public support this should aid in voter approval for local finance schemes.

*Any financing strategy should create incentives that are consistent with a community’s general adaptation strategy.*

One aspect of public finance that often is under appreciated is the *incentives* that these tax schemes create. For example, Wassmer<sup>36</sup> and others have found that cities reliant on sales taxes from retail will often encourage and promote policies, such as big-box stores, that protect their existing tax base. Similarly, cities reliant on property taxes (as most are) will have an incentive to maintain private property and cities reliant on transient occupancy taxes will try to preserve hotel or other TOT revenues that can lead to additional hotel development rather than much needed housing in Santa Cruz.

*Any financing strategy should be robust to economic and other shocks.*

As with any other entity, cities must rely on tax revenues to sustain their operations. A tax that is stable and predictable is preferable to a tax that varies. The most common source of

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<sup>34</sup> For example, see COMBS, J. PAUL, and BARRY W. ELLEDGE. "EFFECTS OF A ROOM TAX ON RESORT HOTEL/MOTELS." *National Tax Journal* 32, no. 2 (1979): 201-07. Accessed August 20, 2020. [www.jstor.org/stable/41862222](http://www.jstor.org/stable/41862222).

<sup>35</sup> Mileti, D. (1999) *Disasters by Design: A Reassessment of Natural Hazards in the United States* (Washington DC, Joseph Henry Press), p.6.

<sup>36</sup> Wassmer, Robert W. "Fiscalisation of Land Use, Urban Growth Boundaries and Non-central Retail Sprawl in the Western United States." *Urban Stud* 39, no. 8 (July 1, 2002): 1307-1327.

fluctuations in tax revenues is the business cycle—when economic activity is strong, tax revenues are high. On the other hand, when economic activity is weak these tax revenues dwindle. Robustness is particularly important if local bonds finance any project, since creditors require payment in order to avoid default, and therefore prefer stability.

Since property taxes are tied to assessed valuations which in California only changes at the point of real estate transfer, property taxes are the most stable and predictable source of revenue. Sales taxes and utility user taxes vary with consumption so will rise and fall with economic activity. Of the major sources of revenue, transient occupancy taxes (TOTs) are the generally the most subject to the business cycle since during recessions, households often cut back on travel expenses. The current COVID outbreak represents an extreme example, where travel expenditures dropped 50% between March 2020 and July 2020<sup>37</sup>.

Table A4-2 summarizes the funding options available to the City for consideration. If the City can find funding for a pilot project from a State Agency such as the California Coastal Conservancy, this might be the best option. However, going forward, the City will likely have to raise its own funding sources to finance some of its climate resilience. While a good deal of discussion of climate resilience financing focus on bonds, it is important to realize that bonds require an underlying revenue scheme, either from an operating business (e.g., a municipal utility) or a tax source.

In the case of West Cliff Drive, which is a largely residential neighborhood, parking fees or bike rentals are possible options. Both of these schemes essentially require users (most likely from out of town) to pay. Our survey indicates that visitors to West Cliff Drive have a higher median income, so these fees should generally be progressive. Passing a tax for this development is a greater hurdle. If the City decides to increase tax revenues, two tax schemes seem the most relevant. First, financing adaption through localized property tax revenues may make economic sense. Property taxes are stable. If one limited the property tax levy to the West Cliff Drive area, which is affluent, the tax would fall mostly on more of these households, who are also most likely visit West Cliff Drive. However, such a tax is unlikely to be politically feasible.

The other potential source of revenues is through transient occupancy taxes (TOTs). The City has seen a significant (almost three-fold) increase in these revenues over the past decade, but it's TOT rate, at 11% is lower than many other coastal cities and significantly lower than Los Angeles or San Francisco (14%). The City has also expressed an interest in attracting large chain hotels/motels, but given the current COVID outbreak and its ramifications, this goal may be difficult to attain. Finally, the City of Santa Cruz has a very tight cap on short-term rentals, allowing 250 in total. This amount to just over 1% of its housing stock, significantly lower than other cities, even those with tight restrictions. The California Coastal Commission has recently rejected the City of Oxnard's 5% cap—much higher than the City of Santa Cruz. The City might

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<sup>37</sup> August data from STR: <https://str.com/data-insights-blog/coronavirus-hotel-industry-data-news>



consider allowing more hosted rentals (where the owner also occupies the dwelling at least six months out of the year), which would increase tax revenues and access. Since STRs may be too expensive for some households, the City may want to consider requiring a certain percentage of STRs (e.g., 20%) go to underserved communities. Unfortunately, TOTs are also highly variable to economic and seasonal fluctuations. Therefore, an optimal scheme may use a mix of different revenue sources.

**Table A4-2: Advantages and Disadvantages of Funding Strategies for Plan Implementation**

| <b>Revenue Source</b>                              | <b>Equity Considerations</b>  | <b>Political Feasibility</b>                                  | <b>Other Factors</b>  |
|--|---|---|---|
| Parking Fees                                       | Would generally fall on visitors who have higher incomes  | Requires City Approval  | Parking places may disappear with retreat   |
| Fees on Bike or Surfboard Rentals                  | Would generally fall on visitors who have higher incomes  | Requires City Approval  | May discourage driving.   |
| Property Tax Increase                              | Regressive, though a special district in WCD would likely be more progressive                                   | Requires 2/3 Supermajority                                    | Stable revenue source, but political feasibility in doubt   |
| Sales Tax Increase                                 | Regressive  | Requires simple majority for City, 2/3 for special district   | Since there is little or no commerce in WCD, this option may not be feasible  |
| Transient Occupancy Tax (TT) Increase              | Progressive   | Most TOT measures pass  | Financing would be paid by nonresidents even though most WCD visitors are local   |
| Increase Hotels or other Short Term Accommodations | Increases Access, Accommodations may be unaffordable  | Residents may wish to restrict visitation or new construction | Santa Cruz's STR restrictions inconsistent with recent Coastal Commission Decisions; Building new hotels in coastal zone may be difficult |
| UUT Increase                                       | Regressive  | Requires simple majority for City, 2/3 for special district   | May be feasible for utility upgrade or preservation   |
| State Pilot Project                                | Current visitors skew towards higher incomes; Pilot project should encourage ACCESS for underserved communities | Requires Grant Funding from State Agency                      | Likely Best First Option, could be paired with increase in local funding or other matching  |

## Rosemary Balsley

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**From:** Philip Boutelle <philboutelle@gmail.com>  
**Sent:** Sunday, April 25, 2021 9:44 PM  
**To:** City Council  
**Subject:** 4/25/2021 Item 38. West Cliff Drive Adaptation

Mayor and Council,

I'm writing to provide comment and make a request about item 38, West Cliff Drive Adaptation and Management Plan: a Public Works Plan. Please adopt the plan as presented, but also direct staff to add *One-way Traffic with Enhanced Bicycling Facility (Alternative 2)* to the unfunded CIP list, and send Alternative 2 back to the Transportation and Public Works Commission (TPWC) for further consideration, via a public hearing, to gather community feedback on whether to prioritize this plan for early adoption.

The plan presented a very compelling option with Alternative 2, and we shouldn't have to wait until West Cliff Drive falls into the ocean before we pursue it further. This alternative would decrease conflicts between bikes and pedestrians, as well as between bikes/peds and cars, and was drafted to comply with Fire Department standards. One thing that became clear during the pandemic is that the existing multi-use path on West Cliff Drive is inadequate; it's just too narrow for everyone who wants to use it. Taking out a lane of traffic to make room for additional users is a reasonable next step for the users we have now.

Note that this plan is supported by multiple city policies (enhancing multi-modal access and safety is prioritized in the general plan, climate action plan, and vision zero policy). The TPWC has Alternative 2 under consideration on our draft Annual Work Plan, and the Public Works department has applied for a grant to fund enhanced bike/ped connections in between West Cliff and the Rail Trail, along Natural Bridges Drive and Swanton Boulevard. Even the Coastal Commission has been more supportive of enhanced bike/ped facilities for public access; if we can bring back a bikeshare program, this could make West Cliff a destination for people, without the need for their cars.

There will be reasonable neighborhood pushback about the traffic impacts. This can be adequately mitigated by making it less inviting to drive through the neighborhoods with traffic calming and street diversions. The circulation plan should focus on moving auto traffic back to Mission Street, again with traffic calming along the way. The point is, this is a solvable problem and shouldn't be enough to dismiss this concept; we need without community input and a detailed plan.

Thank you for considering this idea, and I hope that Alternative 2 can be back in front of the TPWC again soon for another look.

-Philip Boutelle  
Chair, Transportation and Public Works Commission

## Rosemary Balsley

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**From:** Charlie Vaske <charlie@seavaske.com>  
**Sent:** Monday, April 26, 2021 9:01 AM  
**To:** City Council  
**Cc:** Donna Meyers; Sonja Brunner; Sandy Brown; Justin Cummings; Renee Golder; Shebreh Kalantari-Johnson; Martine Watkins  
**Subject:** Westcliff adaptation plan: please accelerate Alternative 2, one-way traffic with enhanced bicycling facility

Dear Council members,

As a resident that frequently drives, walks, and bicycles on West Cliff Dr, I urge you to take this opportunity to make car traffic one-way, adapting one car-traffic lane for bicycles. This will greatly enhance the ability of all users of West Cliff Dr to enjoy it, with less conflict, and more safety. Enhancing multimodal access is crucial during the 2020s, as we have precious few years to drastically reduce emissions to respond to climate change.

Accelerating Alternative 2 for West Cliff Drive is an essential change that we must adopt to build a better future.

Kind regards,  
-Charlie

Charles Vaske  
104 Flower St  
Santa Cruz CA 95060

## **Rosemary Balsley**

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**From:** Kathy Haber <dannynor@cruzio.com>  
**Sent:** Monday, April 26, 2021 9:34 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Kathy Haber  
Santa Cruz city



## Rosemary Balsley

---

**From:** jfbergs <jfbergs@sbcglobal.net>  
**Sent:** Monday, April 26, 2021 9:35 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Joel Steinberg, MD

Sent via the Samsung Galaxy S8+, an AT&T 5G Evolution capable smartphone

**Rosemary Balsley**

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**From:** Jan Karwin <jankarwin@yahoo.com>  
**Sent:** Monday, April 26, 2021 9:39 AM  
**To:** City Council  
**Subject:** Safe West Cliff Drive

Dear Council Members,

I support the Transportation Commission Chair's request to hold a hearing on Alternative 2 of the West Cliff Drive Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Sincerely,

Jan Karwin  
Santa Cruz city resident

## **Rosemary Balsley**

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**From:** Susan Renison <passerinus@yahoo.com>  
**Sent:** Monday, April 26, 2021 9:40 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I strongly support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan.

The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Susan Renison  
209 Northrop Pl  
Santa Cruz, CA 95060

**Rosemary Balsley**

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**From:** Michele Jaeger <michele.a.jaeger@gmail.com>  
**Sent:** Monday, April 26, 2021 9:42 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Michele Jaeger, Santa Cruz



**Rosemary Balsley**

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**From:** Aviva Longinotti <avivalonginotti@gmail.com>  
**Sent:** Monday, April 26, 2021 9:42 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for pedestrians, bicyclists and cars.

The one way traffic on East Cliff seems to work well. Let's talk about it now instead of waiting until there is a tragic accident or the cliffs fall in sooner and more dramatically than expected.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Aviva

## Rosemary Balsley

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**From:** Doug Engfer <doug@engfer.org>  
**Sent:** Monday, April 26, 2021 9:46 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. I bike West Cliff at least once per week, avoiding the multi-use path in order to free it up for walkers, etc. The existing traffic lanes and parking patterns make cycling along West Cliff more dangerous than it needs to be. A single-traffic-lane vehicle pattern works Just Fine down at Pleasure Point; I'm sure it will work equally well here in Santa Cruz.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Doug Engfer

## **Rosemary Balsley**

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**From:** Sarah Rabkin <srabkin57@gmail.com>  
**Sent:** Monday, April 26, 2021 9:47 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Sarah Rabkin

**Rosemary Balsley**

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**From:** Curt Simmons <curtsimmons@hotmail.com>  
**Sent:** Monday, April 26, 2021 9:53 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Curt Simmons



## Rosemary Balsley

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**From:** Ron Munger <rmunger@TNC.ORG>  
**Sent:** Monday, April 26, 2021 9:56 AM  
**To:** City Council  
**Subject:** Please consider making West Cliff safer for pedestrians, bicyclists and other users

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Drive Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

I have a personal interest in the proposal to convert one of the two lanes of West Cliff Drive into a bicyclist lane. I bicycle along West Cliff almost every day to get exercise and fresh air as a break from working in my home office. One day last April I noticed there were just too many pedestrians using the path to bicycle there safely so I bicycled on the road, only to be toppled from my bike by a careless driver who opened his car door without looking. I suffered a concussion and was taken to Dominican for treatment. Ever since then I stick to bicycling on the path but find it increasingly difficult to do so safely due to the congestion of users.

I urge you, please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Ron Munger  
319 Gharkey Street  
831-421-9678

## Rosemary Balsley

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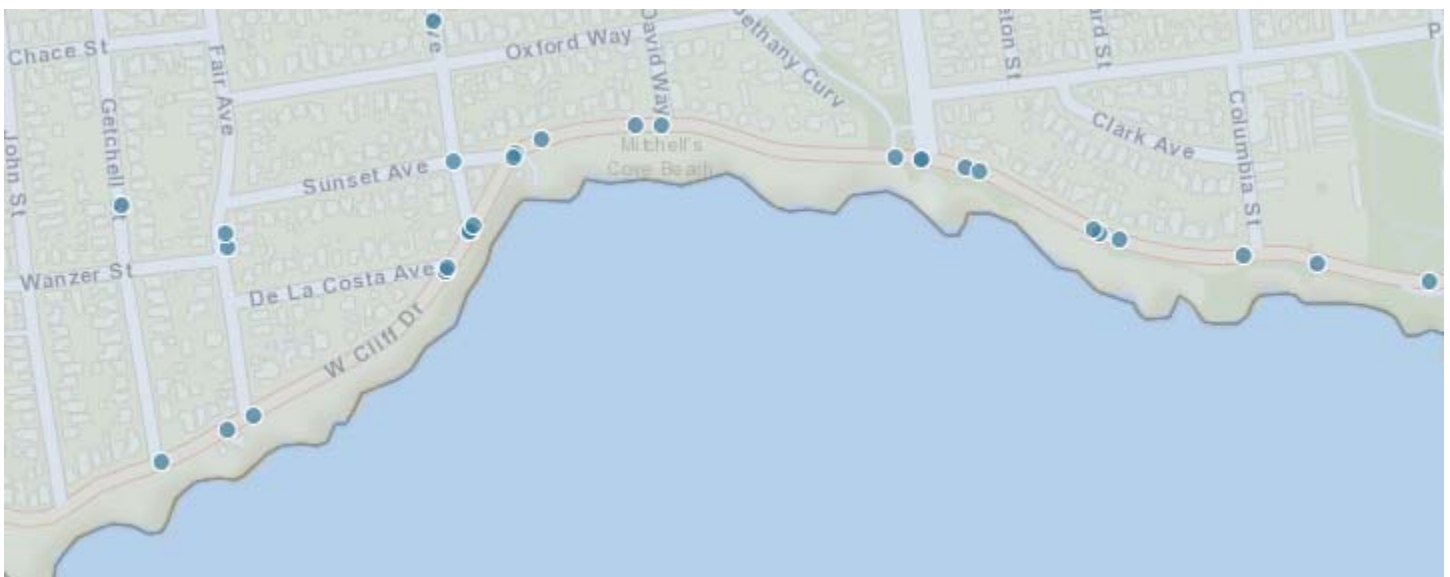
**From:** Rick Longinotti <longinotti@baymoon.com>  
**Sent:** Monday, April 26, 2021 9:59 AM  
**To:** City Council  
**Cc:** TPWC  
**Subject:** West Cliff Dr. Adaptation Plan

Dear Council Members,

West Cliff Dr. must be among the most popular recreations spots in our city. Unfortunately, the safety and comfort of walking on West Cliff is often diminished by the fact that bicyclists use the same path as pedestrians. Gratefully, we now have a plan for improving the enjoyment of West Cliff for the thousands of people who use it.

The image below represents collision data on W. Cliff from 2010-2020 from the TIMS mapping program. Early adoption of the Adaptation Plan's Alternative 2, with one vehicle lane and a dedicated lane for bicyclists will make the street safer for all users. Please ask the Transportation and Public Works Commission to hold a hearing on Alternative 2 for West Cliff Dr.

Thank you,  
Rick



## **Rosemary Balsley**

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**From:** phil rockey <philrockey@hotmail.com>  
**Sent:** Monday, April 26, 2021 10:06 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Phil and Marilyn Rockey

## Rosemary Balsley

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**From:** Janet Swann <janeteswann@gmail.com>  
**Sent:** Monday, April 26, 2021 10:08 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

Please direct the Commission to consider Alternative 2 for early adoption.

I have used West Cliff daily for over 35 years. I walk it and bike it and drive it. Every single time in each of these different modes I have had an "incident". Most have been annoying, some have been harrowing and a few have been near death while riding a bike on the street in tight traffic. I, in fact, have not ridden my bicycle on the path for many years but instead ride in the street which poses dangers due to the narrowness, the distraction of drivers taking in the view and the lack of room for bikes on the road. As a walker, I have had a bike or two bump into me, run me off the path, ring their bell or say "on your left" like I'm supposed to jump into the ice plants to give them right of way. (As a biker I know you are to slow and wait to pass pedestrians like you would slow as a vehicle driver and share the road with bikes but bikers often don't know the rules on the path.)

When the city talks about economic development it often focuses only on Pacific Mall and Canfield land. WestCliff is overlooked. But out-of-towners do flock here simply to walk Westcliff and enjoy the ocean too. Many will stay and eat dinner or take in a movie etc. Why not make the experience enjoyable for all by creating a bike lane, walking path and one-way car lane.

It's time.

Thank you,  
Janet Swann



## **Rosemary Balsley**

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**From:** Crystal Hawley <hawleyc48@gmail.com>  
**Sent:** Monday, April 26, 2021 10:09 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Christine Hawley

Sent from my iPhone

## Rosemary Balsley

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**From:** Ross Gibson <rossericgibson@comcast.net>  
**Sent:** Monday, April 26, 2021 10:09 AM  
**To:** City Council  
**Subject:** Keep West Cliff Drive as is

Dear Council Members

West Cliff Drive has a rich and diverse array of ways to enjoy it. The Bike/Pedestrian path is popular with walkers, joggers, skaters, baby strollers, and wheel chairs. Once on the path, there is no cross street between the wharf and Natural Bridges.

Often, the path is rather empty, making it easy for bicycles to use it. If crowds form, bicyclists like myself, leave the path and ride in the street. I don't find this a problem. Either traffic is sparse, making for easy travel, or cars are bumper to bumper slowing traffic, making it easy for bicycles.

The street called West Cliff Drive is a popular attraction for tourists and locals alike. It is a showplace for classical car clubs, motorcycle and scooter clubs, which only adds to the attractions of the West Cliff experience.

Having taken care of the disabled, and been associated with the Cabrillo College Stroke Center, I know how important having auto access to West Cliff Drive is for the disabled, as it is not always pleasant weather, or easy for some disabilities, to get out on the path, but the sights can still be enjoyed from a car. May people take the drive in both directions, because the views are different looking east, or looking west.

Because of the current vitality of West Cliff Drive, I prefer not to change its existing traffic patterns. I'm unaware of specific trouble spots, but if there are such, they should be dealt with individually, rather than resort to a complete make-over.

Best regards  
Ross Gibson

## **Rosemary Balsley**

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**From:** Terry Tiedeman <tat7776@outlook.com>  
**Sent:** Monday, April 26, 2021 10:14 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

## **Rosemary Balsley**

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**From:** Richard Stover <rjs@skyhighway.com>  
**Sent:** Monday, April 26, 2021 10:14 AM  
**To:** City Council  
**Subject:** Safe W. Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Richard Stover



## **Rosemary Balsley**

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**From:** DAVID LAUGHLIN <dlaughlin@ebold.com>  
**Sent:** Monday, April 26, 2021 10:19 AM  
**To:** City Council  
**Subject:** LANE REDUCTION

Hi Council members. Reducing the conflict between vehicles and walkers, joggers, bicyclists and every body else makes sense to me. It might also reduce the amount of traffic in other nearby areas. So why not act, even with temporary barriers to see how it works.

## **Rosemary Balsley**

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**From:** Paula Mack <mattsonc@cruzio.com>  
**Sent:** Monday, April 26, 2021 10:20 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you, Paula Mack

## Rosemary Balsley

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**From:** Richard Marlais <rmarlais@yahoo.com>  
**Sent:** Monday, April 26, 2021 10:20 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr....It's about time something be done for the safety of bicycles and pedestrians.

Dear Council Members, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Right now bicycles are being forced off of the path on to west cliff drive, slowing down auto traffic and endangering bicyclists.

Thank you,

Rick Marlais

## Rosemary Balsley

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**From:** Roscoe VanHorne <roscoeva@yahoo.com>  
**Sent:** Monday, April 26, 2021 10:33 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption. Thank you,

Roscoe VanHorne  
Cyclist & Pedestrian  
Ph (831) 336-9294  
Ben Lomond



## **Rosemary Balsley**

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**From:** doug rosener <dougplant0@gmail.com>  
**Sent:** Monday, April 26, 2021 10:33 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Doug Rosener

## Rosemary Balsley

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**From:** Jonathan Coleman <jtcoleman@gmail.com>  
**Sent:** Monday, April 26, 2021 10:35 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

During our discussion of this topic at the TPW Commission meeting I kept coming back to the irony that we are waiting for catastrophic climate changes to destroy part of West Cliff, rather than proactively designing our city to reduce the very greenhouse gases that are creating the catastrophe. I understand this is a political issue, and that it would be contentious. I hope that strong leadership from the council to take action to simultaneously fight climate change and improve one of our major tourist draws would mitigate some of the concerns.

Thank you,

Jonathan Coleman  
Transportation and Public Works Commissioner

## Rosemary Balsley

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**From:** Erica Stanojevic <ericast@gmail.com>  
**Sent:** Monday, April 26, 2021 10:42 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Erica Stanojevic

## Rosemary Balsley

---

**From:** Andrew Etringer <andrew.etringer@gmail.com>  
**Sent:** Monday, April 26, 2021 10:46 AM  
**To:** City Council  
**Subject:** West Cliff Dr. safety

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

I bicycle and run (in pre-COVID times) along West Cliff regularly. IMO there is not enough space for pedestrians currently, and the obvious solution is to limit car-traffic in some way. Having less cars using the road will benefit everyone (improved safety for all) and everything (better air quality, less noise pollution).

Thank you,

Andrew Etringer  
145 Dufour St.



**Rosemary Balsley**

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**From:** Mitchell lachman <shevat117@gmail.com>  
**Sent:** Monday, April 26, 2021 10:48 AM  
**To:** City Council  
**Subject:** West Cliff redo

I do not support a change to West Cliff road way, instead bulk head from ocean erosion. I dont want redirection of traffic.onto adjacent residential streets. That affects me and multitude of others- residents.

Good bye, Mitchell Lachman

**Rosemary Balsley**

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**From:** Joel Isaacson <emmaho@mac.com>  
**Sent:** Monday, April 26, 2021 11:11 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Joel Isaacson

Sent from my iPhone

## **Rosemary Balsley**

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**From:** Sheila Carrillo <escuelita@baymoon.com>  
**Sent:** Monday, April 26, 2021 11:24 AM  
**To:** City Council  
**Subject:** Hold hearing for Alternative 2 on Westcliff Dr.

I have long hoped for this kind of solution to biking and walking with safety in this most beautiful spot.

Thanks,

Sheila Carrillo  
City Resident

## Rosemary Balsley

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**From:** Marion Shonick <mshonick@cruzio.com>  
**Sent:** Monday, April 26, 2021 11:27 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

*Marion Shonick*  
*222 Sunset Ave.*  
*SC*



**Rosemary Balsley**

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**From:** Masao Drexel <masaodrexel@gmail.com>  
**Sent:** Monday, April 26, 2021 11:29 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Masao Drexel

## Rosemary Balsley

---

**From:** Don Monkerud <monkerud@cruzio.com>  
**Sent:** Monday, April 26, 2021 11:33 AM  
**To:** City Council  
**Subject:** Bikes on West Cliff

Dear City Council,

Every time I walk on West Cliff, I see bikes rocket past, even electric ones. I cringe that someone else is going to get hit, or me.

Please consider banning bikes from the sidewalks. Also electric bikes and those electric fat mobiles that tourist use so they don't have to walk.  
They are accidents waiting to happen.

I did yell at someone and they stopped and wanted to give me a problem. Now I'm afraid to say anything to them.

best, Don Monkerud

326 San Juan Ave.  
SC, 95062  
831.239.1688

Don Monkerud  
monkerud@cruzio.com  
www.DonMonkerud.com

## Rosemary Balsley

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**From:** Karen Warren <kcruz@cruzio.com>  
**Sent:** Monday, April 26, 2021 11:34 AM  
**To:** City Council  
**Subject:** safety on W. Cliff Dr.

Dear City Council Members,

I have been a Santa Cruz County resident for 50 years, and for the last decade I have been alarmed about the dangers of walking and cycling on W. Cliff Dr.

Walking and cycling on W. Cliff have been favorite recreational activities for me and my family. However, in the past few years, due to fear of broken bones from being hit by speeding cyclists, my 80-year-old parents had to stop walking on W. Cliff.

Many cyclists are now riding heavy, fast electric bikes, so I also avoid walking on W. Cliff.

Cycling on the path can be dangerous as well because unaware walkers will step into the path of a cyclist. Families with small children enjoy walking and both toddlers and cyclists could be injured by a child darting into the path of a bike.

Many other communities, such as Monterey/Pacific Grove) have separated paths for walking and cycling for the safety of all concerned.

Walkers should not be afraid to use this beautiful scenic path due to fear of injury from cyclists.

Please move quickly toward early adoption of the Adaptation Plan's Alternative 2, with one vehicle lane and a dedicated lane for bicyclists to make the street safer for all users. Please ask the Transportation and Public Works Commission to hold a hearing on Alternative 2 for West Cliff Dr.

Also, please add more bike lockers on W. Cliff so we can safely lock our bikes while enjoying the beaches.

thank you—

Karen Warren

134 Miles St., Santa Cruz, CA 95060

## Rosemary Balsley

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**From:** Prema Pam Keachie <izzle@att.net>  
**Sent:** Monday, April 26, 2021 11:45 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption. Thank you,

Pam Keachie, RN  
Capitola



## Rosemary Balsley

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**From:** Karen Kaplan <kaplank@hotmai.com>  
**Sent:** Monday, April 26, 2021 11:59 AM  
**To:** City Council; manu.koenig@co.santa-cruz.ca.us; Second District Supervisor Zach Friend  
-; Ryan Coonerty; Supervisor-Greg Caput; Supervisor - Bruce McPherson  
**Subject:** Pedestrian & Bicycle Safe West Cliff Drive, Santa Cruz

Dear Mayor, Santa Cruz City Council & Supervisors:

RE: Pedestrian & Bicycle Safe West Cliff Drive, Santa Cruz

Please design West Cliff Drive to be safer for pedestrians and bicyclists.

West Cliff Drive is the most popular and scenic recreation spot in our city and Santa Cruz County.

Pedestrians and bicyclists need separate paths, with a dedicated bicycle lane for safety.

Below is a map showing collision data on West Cliff Drive from 2010-2020.

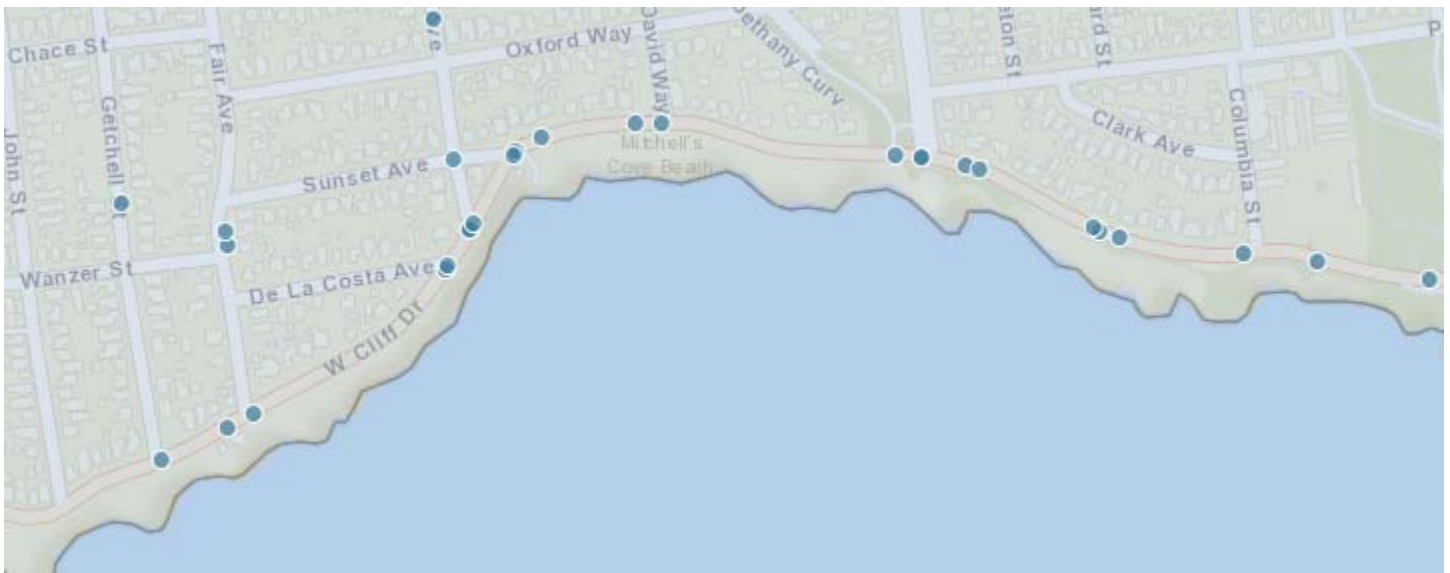
Please schedule a hearing with the Transportation and Public Works Commission ASAP.

Thank you for your immediate consideration, especially since the summer season will be here soon.

*Sincerely,*

*Karen Kaplan*

*Resident of Santa Cruz County Since 1974.*



**Rosemary Balsley**

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**From:** Connie <camt@cruzio.com>  
**Sent:** Monday, April 26, 2021 12:12 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Connie Wilson

Sent from my iPhone

## Rosemary Balsley

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**From:** cookconstr@cruzio.com  
**Sent:** Monday, April 26, 2021 12:23 PM  
**To:** City Council  
**Subject:** A Safer West Cliff Dr.

To: CityCouncil@cityofsantacruz.com  
Subject: Safe W. Cliff Dr.

Dear Council Members,

We need more safe places for active transport. Let's not wait any longer for this.  
I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.  
Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Bill Cook

## **Rosemary Balsley**

---

**From:** Sylvia Caras <Sylvia.Caras@gmail.com>  
**Sent:** Monday, April 26, 2021 12:24 PM  
**To:** City Council  
**Subject:** Pedestrian friendly West Cliff

Pls gather input via a public hearing of the Transportation Committee and the Public Works Committee about more pedestrian-friendly streets, starting with West Cliff Drive.

Sylvia Caras  
City of Santa Cruz



## Rosemary Balsley

---

**From:** katharine@cruzio.com  
**Sent:** Monday, April 26, 2021 12:25 PM  
**To:** City Council  
**Subject:** Safe W. Cliff Dr.

To: [CityCouncil@cityofsantacruz.com](mailto:CityCouncil@cityofsantacruz.com)

Subject: Safe W. Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Katharine Herndon  
Santa Cruz

**Rosemary Balsley**

---

**From:** lbeyea@cruzio.com  
**Sent:** Monday, April 26, 2021 12:45 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Len Beyea

## Rosemary Balsley

---

**From:** Dana Bagshaw <cdbagshaw@att.net>  
**Sent:** Monday, April 26, 2021 1:35 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption. Thank you,

Let's get bicycles off the sidewalk and into a bike lane in the street, with one-way traffic for cars.

Dana Bagshaw

## **Rosemary Balsley**

---

**From:** Grant <grrrant@cruzio.com>  
**Sent:** Monday, April 26, 2021 1:47 PM  
**To:** City Council  
**Subject:** Make West Cliff Drive Safer!

Dear Council Members,

As a cyclist, a pedestrian and a driver, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Grant Wilson  
832 Riverside Ave  
SC CA 95060



## Rosemary Balsley

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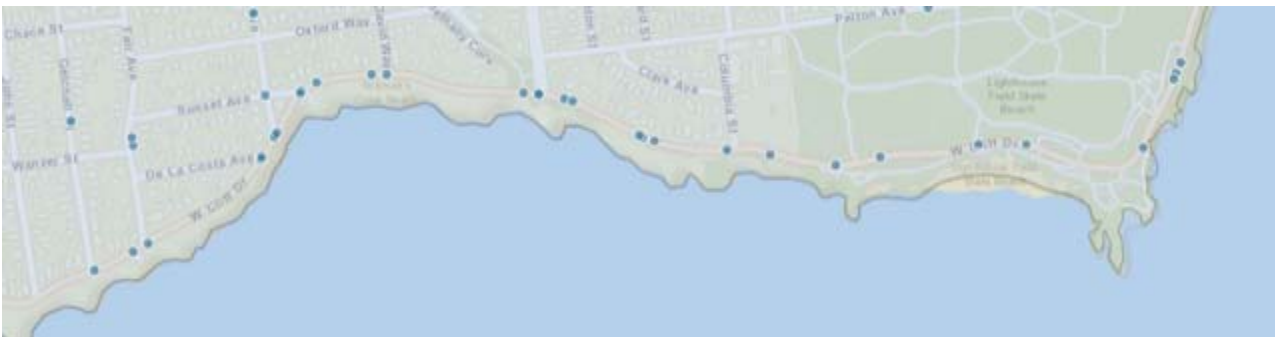
**From:** David Shaw <daveshawlistens@gmail.com>  
**Sent:** Monday, April 26, 2021 2:18 PM  
**To:** City Council  
**Subject:** Pedestrian-safe West Cliff Dr.

Dear Council Members,

West Cliff Dr. must be among the most popular recreations spots in our city. Unfortunately, the safety and comfort of walking on West Cliff is often diminished by the fact that bicyclists use the same path as pedestrians. Gratefully, we now have a plan for improving the enjoyment of West Cliff for the thousands of people who use it.

The image below represents collision data on W. Cliff from 2010-2020 from the TIMS mapping program. Early adoption of the Adaptation Plan's Alternative 2, with one vehicle lane and a dedicated lane for bicyclists will make the street safer for all users. Please ask the Transportation and Public Works Commission to hold a hearing on Alternative 2 for West Cliff Dr.

Thank you,  
David Shaw



## Rosemary Balsley

---

**From:** Nancy Maynard <mtnmom3@gmail.com>  
**Sent:** Monday, April 26, 2021 2:59 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr. Make it safe

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Nancy Maynard

**Rosemary Balsley**

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**From:** Penny Hargrove <phargrove82@gmail.com>  
**Sent:** Monday, April 26, 2021 3:01 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members, I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption. Thank you,

## **Rosemary Balsley**

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**From:** Justin Tucker <jrtucker@gmail.com>  
**Sent:** Monday, April 26, 2021 3:02 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Justin



**Rosemary Balsley**

---

**From:** Debbie Bulger <dfbulger@cruzio.com>  
**Sent:** Monday, April 26, 2021 3:17 PM  
**To:** City Council  
**Subject:** Pedestrian Safety on West Cliff Drive  
**Attachments:** Westcliff Drive.pdf

Please accept the attached letter to Councilmembers regarding pedestrian safety on West Cliff Drive

Thank you

# Mission: Pedestrian

An organization of neighbors and business people seeking to improve the pedestrian environment in Santa Cruz  
1603 King Street, Santa Cruz, CA 95060 [www.missionped.org](http://www.missionped.org)

April 26, 2021

Dear Councilmembers,

**Re: West Cliff Drive Adaptation Plan**

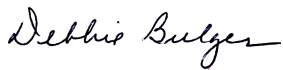
**Mission: Pedestrian supports designating West Cliff as one way with separate pedestrian and bike lanes.**

It is currently NOT SAFE to mix fast-moving bicycles with children, dog walkers, and other pedestrians on the crowded West Cliff Drive path. Elderly pedestrians especially find it very scary to have a bicyclist pass them with seemingly inches to spare at a high rate of speed. This is particularly disconcerting when the bicyclist passes from behind the pedestrian. Please provide a separate lane for bicycles.

**We urge you to support this active transportation project ASAP** without waiting for West Cliff to fall into the Bay.

Mission: Pedestrian is a Santa Cruz pedestrian advocacy group affiliated with California Walks and America Walks.

Sincerely yours,



Debbie Bulger, Coordinator for Mission: Pedestrian

## Mission: Pedestrian



## **Rosemary Balsley**

---

**From:** Devi Tong <deviram@yahoo.com>  
**Sent:** Monday, April 26, 2021 3:21 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Devi Tong RN

## Rosemary Balsley

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**From:** chatrabbi@aol.com  
**Sent:** Monday, April 26, 2021 3:53 PM  
**To:** City Council; manu.koenig@co.santa-cruz.ca.us; zach.friend@co.santa-cruz.ca.us; ryan.coonerty@co.santa-cruz.ca.us; greg.caput@co.santa-cruz.ca.us; bruce.mcpherson@santacruzcounty.us  
**Cc:** kaplanks@hotmail.com; micahposner@cruzio.com  
**Subject:** Re: Pedestrian & Bicycle Safe West Cliff Drive, Santa Cruz DE Posner

I totally agree with Karen's appeal and thank her for her making the appeal. Phil Posner.

-----Original Message-----

From: Karen Kaplan <kaplanks@hotmail.com>  
To: SC City Council <citycouncil@cityofsantacruz.com>; manu.koenig@co.santa-cruz.ca.us <manu.koenig@co.santa-cruz.ca.us>; Second District Supervisor Zach Friend - <zach.friend@co.santa-cruz.ca.us>; Ryan Coonerty <ryan.coonerty@co.santa-cruz.ca.us>; Supervisor-Greg Caput <greg.caput@co.santa-cruz.ca.us>; Supervisor - Bruce McPherson <bruce.mcpherson@santacruzcounty.us>  
Sent: Mon, Apr 26, 2021 11:58 am  
Subject: Pedestrian & Bicycle Safe West Cliff Drive, Santa Cruz

Dear Mayor, Santa Cruz City Council & Supervisors:  
RE: Pedestrian & Bicycle Safe West Cliff Drive, Santa Cruz

Please design West Cliff Drive to be safer for pedestrians and bicyclists.

West Cliff Drive is the most popular and scenic recreation spot in our city and Santa Cruz County.

Pedestrians and bicyclists need separate paths, with a dedicated bicycle lane for safety.

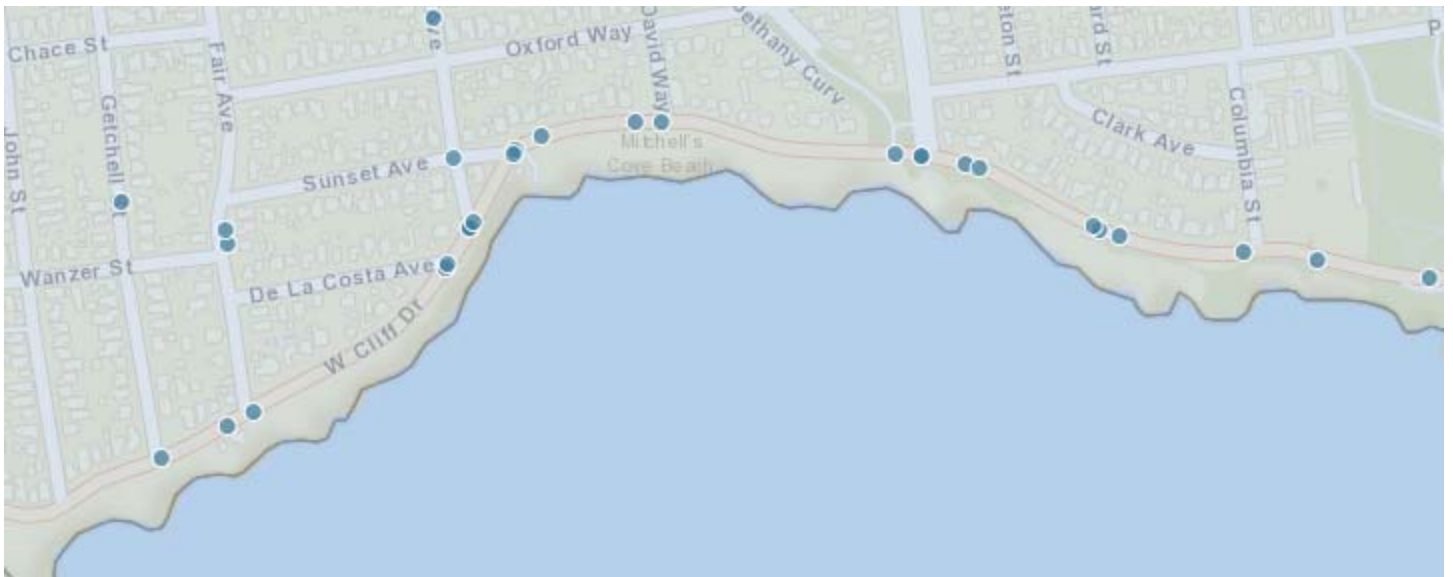
Below is a map showing collision data on West Cliff Drive from 2010-2020.

Please schedule a hearing with the Transportation and Public Works Commission ASAP.

Thank you for your immediate consideration, especially since the summer season will be here soon.

*Sincerely,  
Karen Kaplan  
Resident of Santa Cruz County Since 1974.*





## **Rosemary Balsley**

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**From:** Eloise Naman <eloise@cruzio.com>  
**Sent:** Monday, April 26, 2021 4:01 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Eloise Naman

## Rosemary Balsley

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**From:** David Mintz <davemintz1112@gmail.com>  
**Sent:** Monday, April 26, 2021 4:07 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

This should be done NOW. West Cliff can be a one way area and allow for non-polluting transportation. We need to be BOLD

Thank you,

Make the world a better place .....

David Mintz  
[319 Younglove Ave. Santa Cruz, CA. 95060](#)  
714 351 3836

*... originally cared for by the Uypi Tribe of the Amah Mutsun Tribal Band*

## **Rosemary Balsley**

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**From:** Steve Lustgarden <slustgarden@gmail.com>  
**Sent:** Monday, April 26, 2021 4:10 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Steve Lustgarden  
Susan Kauffman  
Santa Cruz



**Rosemary Balsley**

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**From:** Andy Carman <rokamon@baymoon.com>  
**Sent:** Monday, April 26, 2021 5:20 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Andy Carman  
231 Sunset Avenue  
Santa Cruz, CA 95060

## Rosemary Balsley

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**From:** Meghan Arnold <mcarnold@gmail.com>  
**Sent:** Monday, April 26, 2021 5:29 PM  
**To:** Donna Meyers; Sonja Brunner; Sandy Brown; Justin Cummings; Renee Golder; Shebreh Kalantari-Johnson; Martine Watkins; City Council  
**Subject:** Support for West Cliff Drive Climate Adaptation Plan Alternative 2

Mayor and Council,

As a resident of the westside, I'd like to write in support about item 38: West Cliff Drive Adaptation and Management Plan. Please adopt the plan as presented and also direct staff to add Alternative 2 and send it back to the TPW Committee for consideration on prioritizing the plan for early adoption.

I ran and biked frequently on the West Cliff path at the beginning of the pandemic, but as Santa Cruz opened back up it became a source of anxiety for me because the current path is too small and does not support an influx of visitors and residents. There is barely room for pedestrians on the path, nevermind bikes too. We should focus our efforts to accommodate both modes of transport. This can be done by taking out a lane of traffic on West Cliff. If Santa Cruz is actually serious about climate change, we should prioritize people power and not fossil fuels.

Thank you for your consideration,  
Meghan Arnold  
200 California St.

**meghan arnold | a creative and professional creative professional**  
[mcarnold@gmail.com](mailto:mcarnold@gmail.com) | [www.meghanarnold.com](http://www.meghanarnold.com) | [blog](#) | [twitter](#) | [instagram](#) | [linkedin](#) |  
*pronouns: she/hers*

## **Rosemary Balsley**

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**From:** Altaira Hatton <altaira5hatton@gmail.com>  
**Sent:** Monday, April 26, 2021 5:35 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

As a regular user of West Cliff, I can say that at present it does not feel safe to ride in the car lane a bicycle or wheelchair user, and it is difficult to ride slowly enough to keep pace with the walkers on the trail. This causes so many conflicts between pedestrians and people on wheels.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Altaira Hatton

## **Rosemary Balsley**

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**From:** Judy Cassada <expresso76@yahoo.com>  
**Sent:** Monday, April 26, 2021 5:38 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I hope this finds you well! I am writing to support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is an incredibly popular public recreation area that that necessitates an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you for your time and consideration. Best wishes,

Judy Cassada, (831) 479-7491  
PO Box 1363  
Capitola, CA 95010



## Rosemary Balsley

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**From:** Ann Simonton <mwatch@cruzio.com>  
**Sent:** Monday, April 26, 2021 5:58 PM  
**To:** City Council  
**Subject:** West Cliff proposal

Dear Council Members,

I ride my bike and walk West Cliff Dr. regularly. It is so DANGEROUS with people on bikes going fast and groups of people going slow. If someone has a dog on a long leash it is a recipe for disaster. Lately, I just stay on the road if I am on the bicycle and the road has become a drag racing spot for crazy motorists. I hope you could get rid of the cars altogether and just allow walkers, bicycles. I understand that the community is worried about cars driving through their areas but if there were ZERO cars that would be the very best for everyone to enjoy this wonderful spot on the earth. Thank you for making it one lane and hopefully eventually no cars-- just walkers and bicyclists in different lanes completely. In Montreal they have two way bike lanes that go along the roads it makes so much sense.

Thanks for making West Cliff safer for us to use!!

Thank you all for your hard work, Ann Simonton

## Rosemary Balsley

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**From:** Cher Bergeon <cbergeon@ucsc.edu>  
**Sent:** Monday, April 26, 2021 6:08 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

The current West Cliff path proved too narrow for me to use safely as a pedestrian this past COVID year. I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians now and into the future.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Cher Bergeon

**Rosemary Balsley**

---

**From:** Gillian Greensite <gilliangreensite@gmail.com>  
**Sent:** Monday, April 26, 2021 6:53 PM  
**To:** City Council  
**Subject:** West Cliff Drive Management Plan

Dear Mayor and Council members,

**I appreciated the opportunity to serve on the Technical Advisory Committee (TAC) for this project. Congratulations to Dr. Tiffany Wise-West and the team for its completion within a tight timeline.**

**There is much to digest in the report. One important issue has not been given prominence and might easily be overlooked. It should be a key variable in the discussion of monitoring, triggers and options. I reference it here to ensure it is part of the public record. I'm referring to the 5 foot easement that applies to all properties facing West Cliff Drive. It is briefly listed under 4.5 Monitoring and Triggers but lacks detail and discussion. That an extra five feet of public right of way is available along West Cliff should erosion and cliff failure necessitate moving the path and road inland is no small item. It should be as prominent as the lengthy references to making West Cliff one-way to traffic.**

**Whenever members of TAC were invited to give input I included this easement and asked for it to be better highlighted. I also included a caution about the impact of making West Cliff one-way on the lower westside residential streets and neighborhoods that lie behind West Cliff Drive. Such a major traffic diversion while appealing to those who live elsewhere, will have massive impacts on the livability of the lower westside and opposition is guaranteed to be vehement. Claiming the rightful easement from properties along West Cliff may not appeal to those property owners, but they are aware of such easement since it would have been revealed in the sale or acquisition of the property. It is beholden on the city to acknowledge its legal right to such easement and include it as a prominent option in the context of this report.**

**In future, whenever there is a discussion of making West Cliff one-way, the five foot easement along West Cliff should be an alternative so both can be discussed and evaluated in public.**

**Thank you for your consideration.**

**Respectfully submitted,**

**Gillian**

## **Rosemary Balsley**

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**From:** Tim Brattan <timbrattan@yahoo.com>  
**Sent:** Monday, April 26, 2021 7:46 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

We support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular coastal recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians.

Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Tim Brattan & Suzi Mahler  
City of Santa Cruz residents



## **Rosemary Balsley**

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**From:** Judy Pisano <judypisano@yahoo.com>  
**Sent:** Monday, April 26, 2021 7:57 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan.

The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Judith Pisano  
190 Walnut Avenue  
Santa Cruz CA 95060

## Rosemary Balsley

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**From:** Gillian Greensite <gilliangreensite@gmail.com>  
**Sent:** Monday, April 26, 2021 8:05 PM  
**To:** City Council; Donna Meyers; Sonja Brunner; Sandy Brown; Justin Cummings; Renee Golder; Shebreh Kalantari-Johnson; Martine Watkins  
**Subject:** West Cliff Drive Management Plan (WCDMP): Critical to Keep the Ice Plant

Dear Mayor and Council members,

The plan to remove the ice plant from the bluff tops along West Cliff Drive as outlined in the WCDMP is a big mistake. The predictable result will be accelerated erosion. The same ice plant removal was done along the bluff top at Wilder Ranch State Park. The result? A year later the bluff collapsed. If you want to hasten bluff erosion go ahead but don't be surprised at the outcome. I recommend you get a second opinion on the plant removal and erosion issue. The rat issue, if a problem won't be solved by removing the ice plant. Bluff failure from ice plant is overstated. I know these coves well. The ice-plant falls when sections of bluff fail, not the reverse and that is not a common event. Some of the ice plant is native. Most is South African. Many love the low profile and pink carpet that the ice plant provides.

I hope you will carefully read the letter from Ross Gibson. It was buried among the form letters calling for a WCD lane closed to east bound traffic. Mr. Gibson's point about access is vital to take to heart. Those calling for one lane closed to traffic are thinking of their own pleasure without thought to those who cannot easily walk along West Cliff, nor are they thinking of the impact on the lower west side of the thousands of diverted cars.

I hope you will reconsider approving the inclusion of ice plant removal in the WCDMP. Most is not native but in this case it is serving a crucial role. It holds the fragile bluff soil together, lessening erosion. The areas where ice plant has been removed and natives planted are a sorry sight and not coincidentally, areas of new erosion.

Best regards,

Gillian

## Rosemary Balsley

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**From:** Sally Wittman <sallywittman@me.com>  
**Sent:** Monday, April 26, 2021 8:16 PM  
**To:** City Council  
**Subject:** Fwd: Pedestrian Safety on West Cliff Drive  
**Attachments:** Westcliff Drive.pdf

Dear Mayor and City Council Members,

I heartily agree with Mission Pedestrian's position on the West Cliff Drive plan (see below). Bicyclists are a mixed breed with regard to manners and adherence to common sense. As I grow older and worry about falls, it is sometimes terrifying to have weaving cyclists breeze by in both directions on the sidewalk when I least expect it. We really need to get sidewalk policies nailed down and consistent all over the town.

Bicyclists need to be at the edge of the street, and the street needs to be one-way to allow for cyclist space. This is long overdue.

Also, we do not need more written signs (many tourists speak other languages), people don't read them anyway.

International symbols are used all over the world, except in arrogant USA. Let's join the world of international symbols.

Thank you for your hard work. This is a difficult time for all of us. Anything that makes life safer and easier is a good move.

Sally Wittman

# Mission: Pedestrian

An organization of neighbors and business people seeking to improve the pedestrian environment in Santa Cruz  
1603 King Street, Santa Cruz, CA 95060 [www.missionped.org](http://www.missionped.org)

April 26, 2021

Dear Councilmembers,

**Re: West Cliff Drive Adaptation Plan**

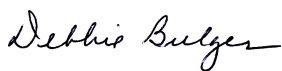
**Mission: Pedestrian supports designating West Cliff as one way with separate pedestrian and bike lanes.**

It is currently NOT SAFE to mix fast-moving bicycles with children, dog walkers, and other pedestrians on the crowded West Cliff Drive path. Elderly pedestrians especially find it very scary to have a bicyclist pass them with seemingly inches to spare at a high rate of speed. This is particularly disconcerting when the bicyclist passes from behind the pedestrian. Please provide a separate lane for bicycles.

**We urge you to support this active transportation project ASAP** without waiting for West Cliff to fall into the Bay.

Mission: Pedestrian is a Santa Cruz pedestrian advocacy group affiliated with California Walks and America Walks.

Sincerely yours,



Debbie Bulger, Coordinator for Mission: Pedestrian

## Mission: Pedestrian





## **Rosemary Balsley**

---

**From:** Alice Lopez <enna.lopez@yahoo.com>  
**Sent:** Monday, April 26, 2021 8:49 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Alice Lopez

Sent from my iPad

**Rosemary Balsley**

---

**From:** totolove@cruzio.com  
**Sent:** Monday, April 26, 2021 9:22 PM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,

Sharon L. McGraham

## Rosemary Balsley

---

**From:** Gillian Greensite <gilliangreensite@gmail.com>  
**Sent:** Monday, April 26, 2021 10:43 PM  
**To:** City Council; Donna Meyers; Sonja Brunner; Sandy Brown; Justin Cummings; Renee Golder; Shebreh Kalantari-Johnson; Martine Watkins  
**Cc:** griggs@ucsc.edu  
**Subject:** Additional notes on West Cliff Drive easement

Dear Mayor and City Council members,

The following reference in the WCDMP on the issue of the West Cliff Drive easement is relevant to a discussion of alternatives. On page 58 under the topic of Setbacks (10.5.2.1) the document includes: "Updating policies and revising easement agreements to allow for the road relocation instead of sidewalks." The consultants have presented this possibility, however it has not been selected for serious consideration. Besides commenting on the Deliverables throughout this process I also attended various public meetings and participated in online public surveys. In all cases, the option of changing West Cliff Drive to a one way road was presented as an alternative while the option of moving the road mentioned in the quote above was absent. When the public is not presented with all the alternatives, conclusions cannot be viewed as valid. I urge you to bring this option to the forefront.

Respectfully submitted,  
Gillian

## Rosemary Balsley

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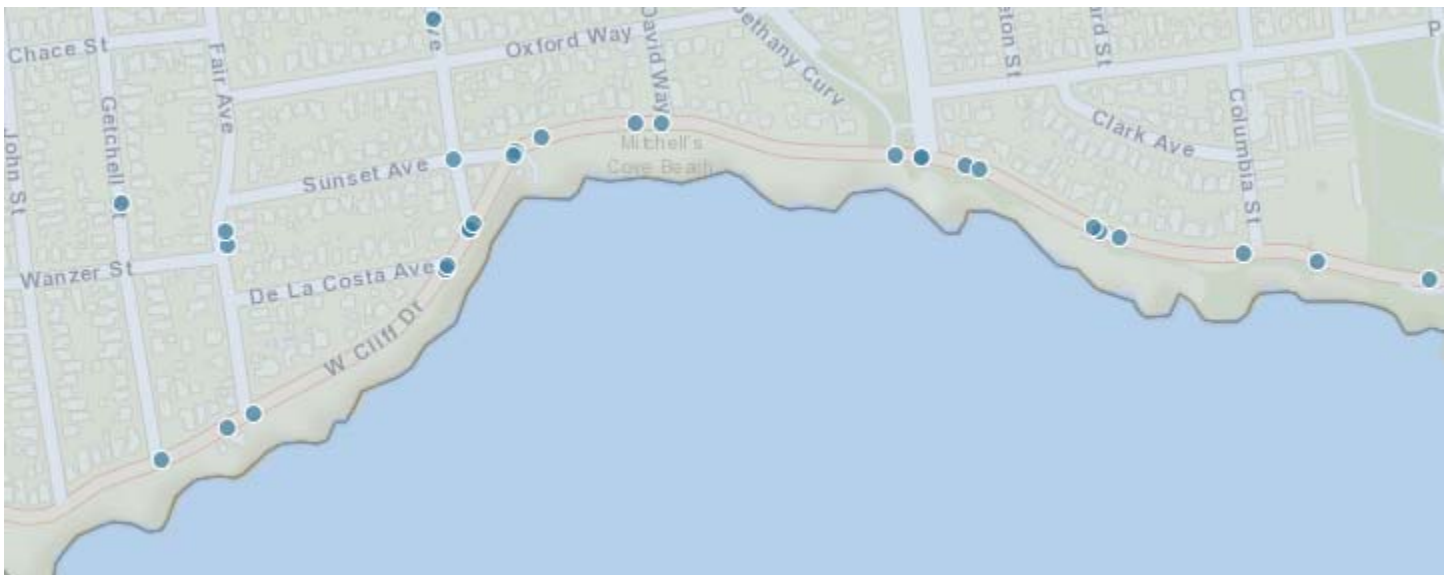
**From:** Jacquelyn Griffith <jkgriffith2@icloud.com>  
**Sent:** Monday, April 26, 2021 10:54 PM  
**To:** City Council  
**Subject:** Please! Ask Transportation and Public Works Commission for a Hearing on ALTERNATIVE 2 on WEST CLIFF DRIVE

Dear Councilmembers,

Like so many seniors I truly need level surfaces and no fear of being made to move quickly out of the way, lest I fall or even be hit. Bikes come so fast and even a near miss leaves my heart racing. Walking on West Cliff where I've walked for 4 decades is just too much of a threat when the result would probably result in broken bones and hospitalization, or even permanent loss of independence.

The image below represents collision data on W. Cliff from 2010-2020 from the TIMS mapping program. Early adoption of the Adaptation Plan's Alternative [2, with one vehicle lane](#) and a dedicated lane for bicyclists will make the street safer for all users, and make the sidewalk safe for pedestrians again. Please ask the Transportation and Public Works Commission to hold a hearing on Alternative [2 for West Cliff Dr.](#)

Thank you so much,  
Jacquelyn Griffith  
239 Calvin Pl  
Santa Cruz, CA 95060



Sent from my iPad



## Rosemary Balsley

---

**From:** Pamela Stearns Stearns <pclares327@gmail.com>  
**Sent:** Tuesday, April 27, 2021 7:48 AM  
**To:** City Council  
**Subject:** Safe West Cliff Dr.

Dear Council Members,

I support the chair of the Transportation Commission's request to hold a hearing on Alternative 2 of the West Cliff Dr. Adaptation Plan. The street is such a popular recreation area that the public needs an opportunity to consider improvements that will enhance safety for bicyclists and pedestrians. Please direct the Commission to consider Alternative 2 for early adoption.

Thank you,  
Phil and Pam Stearns  
327 Harbor Dr.  
Santa Cruz

## Rosemary Balsley

---

**From:** Dan Nowacki <dan@nowacki.org>  
**Sent:** Tuesday, April 27, 2021 8:30 AM  
**To:** City Council  
**Subject:** West Cliff Dr Alternative 2

Dear Council Members,

I am a frequent user of West Cliff on foot, bike, and by car, and have experienced first hand what a great recreation area it is. I also have seen the impacts of erosion that have narrowed the multi-use path, making it a tighter squeeze with each passing year. **I strongly support Alternative 2** of the West Cliff Adaptation Plan and the Transportation Commission chair's request to hold a hearing on it. We need to consider improvements to enhance safety for those walking and on bikes by converting West Cliff to one-way vehicular traffic, and we shouldn't wait any longer than necessary. Please consider **directing the Commission to consider Alternative 2 for early adoption.**

Thank you,

Daniel Nowacki  
Santa Cruz



## RESILIENT COAST SANTA CRUZ

BUILDING RESILIENCE  
TO SEA LEVEL RISE



# WEST CLIFF DRIVE PUBLIC WORKS PLAN

APRIL 27, 2021  
CITY COUNCIL



**RESILIENT COAST  
SANTA CRUZ**

**BUILDING RESILIENCE  
TO SEA LEVEL RISE**

**integral**  
consulting inc.



## West Cliff Drive Adaptation and Management Plan

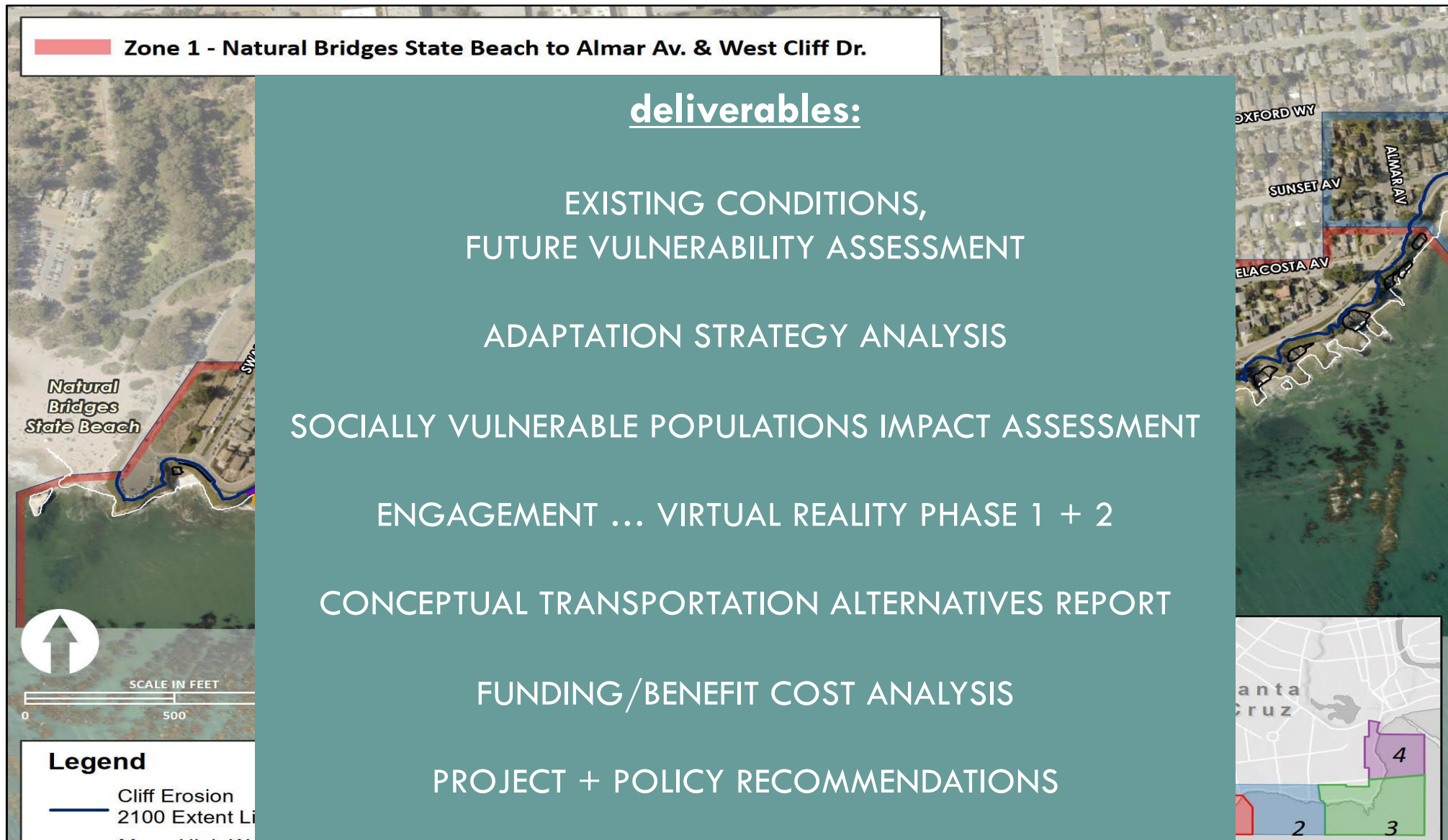
*\$343,000 CalTrans funding; \$44k match*

## Development of LCP Sea Level Rise Strategies & Policies to Support Beach and Public Access Protection

*\$200,000 Coastal Commission funding; \$82k match*

[www.cityofsantacruz.com/ResilientCoast](http://www.cityofsantacruz.com/ResilientCoast)





# ENGAGEMENT

Open  
Streets  
2019

8 Focus  
Groups  
2019

950 West  
Cliff Drive  
Surveys  
2019-2020

126 Interviews in  
Beach Flats/Lower  
Ocean Frontline  
Neighborhoods  
2019

50+ talks w/  
community  
groups and  
students  
2019-2021

Open  
House  
1  
2020

One-on-one  
meetings with 13  
Under  
represented  
groups (2019-2020)

Virtual Reality App  
Phase 1 +2  
2019-2020

TAC & Dept Hd  
Workshops  
2019-2020

Ongoing  
Academic  
Collaborations  
2019-2021

Virtual  
Community  
Workshop  
2020

Storymaps +  
Survey  
2020

Check backs  
with Under  
represented  
Groups 2020

# PLAN STRUCTURE

CH 1 + 2 = INTRODUCTION + CONTEXT → **THE WHY!**

CH 3 = PROJECT PLANNING CONSIDERATIONS → **THE HOW!**

CH 4 = GOALS, OBJECTIVES + PLAN PROJECTS → **THE WHAT!**

CH 5 + 6 = PUBLIC WORKS PLAN + BMPS → **MORE OF THE HOW...**

CH 7 = ILLUSTRATIVE FUTURE TRANSPORTATION CONCEPTS

CH 8 = PROJECT REVIEW + AUTHORIZATION PROCEDURES → **STREAMLINING**

CH 9 = CAPITAL IMPROVEMENT PROGRAM → **THE WHEN + \$\$**

# CORRIDOR WIDE PROJECTS

- Transportation signage and striping;
- Parking management strategies;
- Addition of formal bike parking;
- Stormwater outfall + pipe televising; replace failed pipe;
- Sand management feasibility study;
- Maintenance/upgrade of existing coastal protective structures;
- Site Furnishings;
- Master Signage Plan + Design Standards (Interpretive signage);
- Natural Restoration Plantings;
- Creation of Scenic Overlooks.





# ZONE 3 NEAR TERM PROJECTS



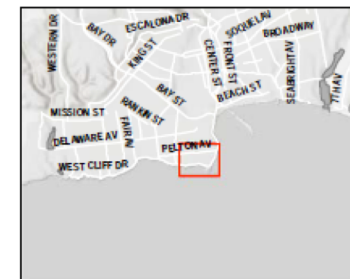
## Legend

- ■ ■ Coastal Armoring
- State Parks Property

## Near-term Projects

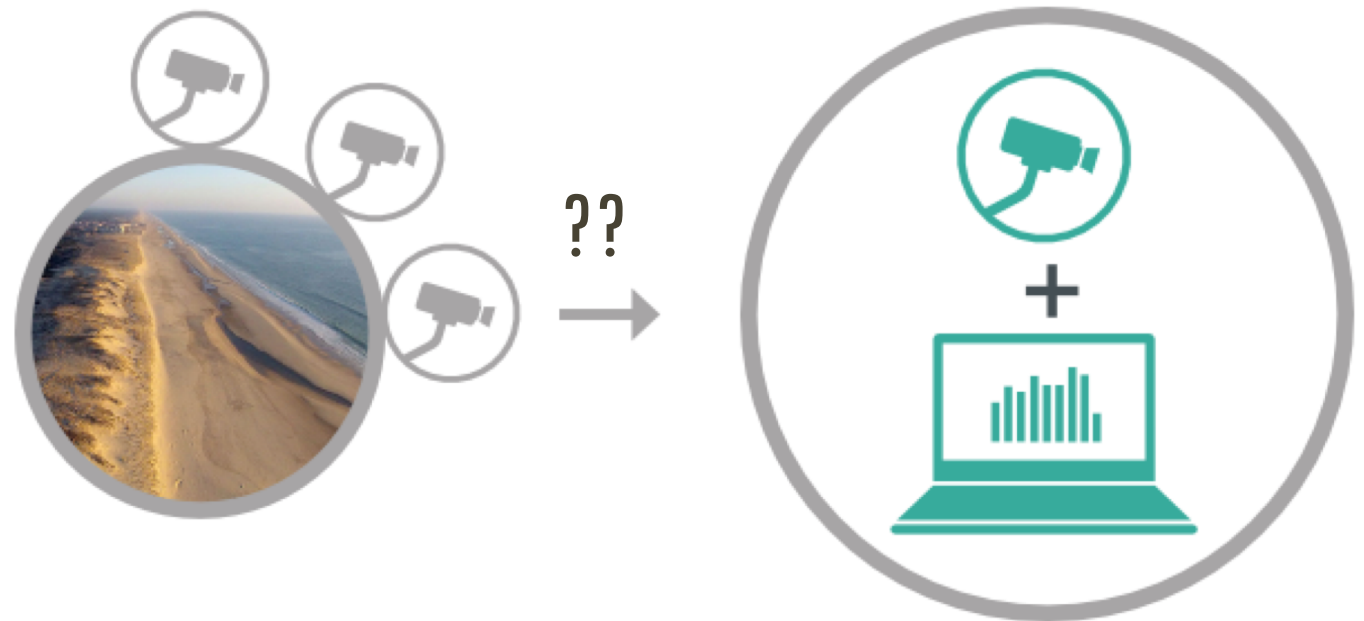
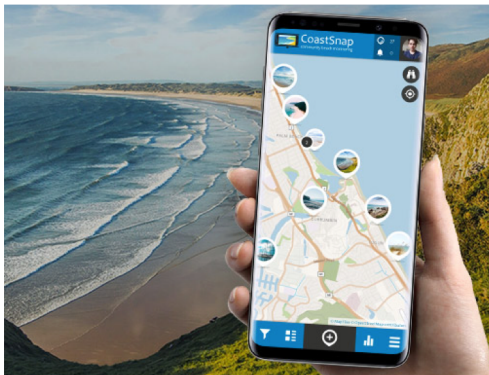
- 1 Transportation signage and striping
- 2 Sand management study
- 3 Conduct geotechnical study of cave (2026)
- 4 Maintain revetment (sites 47 & 48)
- 5 Design seawall replacement

The City will coordinate with the landowner, California State Parks, on funding, design and construction of this project.



SCALE IN FEET  
0 200 400

# COASTAL CHANGE TRIGGERS MONITORING + FUNDING STRATEGY IN DEVELOPMENT



# RECOMMENDATION

Motion to adopt the West Cliff Drive Adaptation and Management Plan: a Public Works Plan with minor modifications as authorized by the City Manager.







## City Council AGENDA REPORT

DATE: 04/09/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** City Manager

**SUBJECT:** Re-Envision Santa Cruz - Interim Recovery Plan Update (CM)

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**RECOMMENDATION:** Motion to accept first quarterly progress reports on the City's Re-Envision Santa Cruz strategy, a 12-18 month interim recovery plan, and provide feedback as desired.

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**BACKGROUND:** Beginning in December 2019, a novel coronavirus caused an outbreak of respiratory illness (COVID-19) in China. Illness with this virus has ranged from mild to severe, with a highly significant impact on our health care system and personnel. The impact from the virus touched all aspects of our community. Unlike other emergencies, COVID-19 is a public health emergency and the City of Santa Cruz must abide by local public health orders set by the County of Santa Cruz Public Health Officer and statewide orders issued by the Governor.

#### Public Health Actions:

- On March 4, 2020, the County of Santa Cruz Health Services Agency declared a Local Health Emergency regarding COVID-19.
- On March 10, 2020, City Council declared a local health emergency disaster.
- All of the County actions can be found at the County's COVID-19 Public Information page - click to expand "Health Officer Orders":  
<http://santacruzhealth.org/HSAHome/HSADivisions/PublicHealth/CommunicableDiseaseControl/CoronavirusHome/PublicInformation.aspx>

#### City Strategic Planning Efforts:

- Strategic Plan. On January 14, 2020, Nicole Young of Optimal Solutions Consulting launched the City's Strategic Plan project at the City Council meeting. Prior to this launch, Optimal Solutions worked with Council at its June 2019 Council Retreat to develop a shorter-term 6 month work plan. In early 2020, staff worked with the consultant to do an internal landscape analysis across all Departments. In March 2020, the City was supposed to begin its external outreach with the community to gather its inputs and opinions. Due to the sheer volume of work needed for COVID-19 response, the outreach and the larger strategic plan project were postponed indefinitely.



- Convergence of COVID-19 and Strategic Planning. As the pandemic changed course and different actions were needed, Council and staff recognized that the City needed to stay focused on responsive actions required to make quick adjustments to State and County changes, but also to shift some time to evaluation of recovery for both community scale needs such as economic recovery but also internal City operational needs such as workplace safety, new delivery mechanisms, and budget management.
- On June 9, 2020, the Council heard and discussed an update which ultimately resulted in shifting from our former broad-based strategic plan to an Interim Recovery Plan encompassing a planning timeline of 12-18 months and establishing a Council Interim Recovery Plan Committee (CIRPC) to work on the Interim Recovery Plan, which would also include a more formal rubric/a set of criteria for decision making for prioritization of tactical City response and recovery.
- On October 29, 2020 at a special meeting, Council engaged in a workshop facilitated by Management Partners and developed:
  - Three priority areas of focus for the Council’s and staff’s attention over the next 12 to 18 months.
  - Key metrics for tracking recovery.
  - A framework for making decisions about new work, services or projects during this period so that Council members and staff can prioritize time and resources on the key areas of focus.
- On November 24, 2020, Council received the Interim Recovery Plan document authored by Management Partners based upon the October workshop and adopted the plan. Key content components of the IRP are:
  - Focus Areas:
    - Fiscal Sustainability
    - Downtown and Other Business Investment
    - Infrastructure
  - Principles and Processes:
    - Equity, Health & Well-being and Sustainability
    - Green Economy
    - Community Engagement
    - Delivery of Core Services
    - Risk Management
    - Pursuit of All Funding Sources
- On February 23, 2021, Council received and approved an update regarding staff work to operationalize the Interim Recovery Plan, refine its contents to “Re-Envision Santa Cruz”, and adopt on-going status reporting formats.

**DISCUSSION:** Since Re-Envision Santa Cruz was defined in late November 2020, staff has continued to dedicatedly implement various projects related to our interim recovery plan and has also been aligning FY 2022 budget requests accordingly. To encapsulate all of that progress, staff now presents two formal reports as well as a succinct handout to outline Re-Envision Santa Cruz’s overall focus, including our objectives within our three focus areas – (1) Fiscal Sustainability, (2) Downtown and Business Revitalization, and (3) Infrastructure.

The three deliverables now presented and previously discussed in the February 2021 Council meeting are:

1. Re-Envision Santa Cruz Handout (Attachment 1) – Two (2) page summary of our interim recovery plan (excerpt below).



### Overview

The COVID-19 pandemic has brought economic peril and uncertainty to cities and their residents across the country. As a small city and a center of tourism, the City of Santa Cruz has felt the pandemic even more acutely. Our residents, businesses and City employees have made tremendous sacrifices, the impact of which will be felt for years to come.

The **Re-Envision Santa Cruz** recovery plan squarely focuses the City on our community’s collective recovery and ongoing resilience. Over the next 12-18 months, we will execute a bold vision centered on **sustainability, equity, community engagement and essential service delivery**. We will explore ways to inject our local economy with new jobs, green businesses, affordable housing and resilient green infrastructure. We will bolster what makes Santa Cruz special by supporting our businesses, advocating for new and improved funding sources, and reinvesting in the Downtown and infrastructure from roads and water to parks, facilities and open spaces.

And we’ll work to not leave anyone behind. Through Re-Envision Santa Cruz, **we are building a future for everyone, together.**

2. Quarterly Progress Report (Attachment 2) – Over the past few months (through March 30, 2021), the City has made strong progress in its recovery, with achievements including business loan support, launching our downtown plan expansion, housing ordinance updates, fuller cost recovery fee studies, revised and new development fees, closing in on West Cliff Drive adaptation plan adoption, initiation of our workforce development initiative, water system backbone reinvestment program, and Wharf Master Plan adoption.

Additionally:

- a. Projects reported upon have been winnowed to those that have a more direct impact on recovery and/or bring creative re-envisioning to the City (Attachment 4).
- b. Projects are now organized by categories within focus areas:



3. Performance Measures Quarterly Report (Attachment 3) – Generally, the data captured for this first quarterly reporting cycle bears out the harsh impacts of the pandemic on our City. However, as is shown in the progress report, the City is also making strong progress toward helping businesses, promoting our local and green economy, facilitating affordable and market rate housing, developing our community’s workforce, and adjusting services to support fiscal sustainability. Next quarter’s report will be even more informative as we move past our baseline.

For the thirteen (13) metrics selected by Council, the attached report compares Fiscal Year (FY) 2019 Year-to-Date (July-December 2018) to FY 2021 Year-to-Date (July-December 2020).

- a. FY 2019 (July 1, 2018 through June 30, 2019) was selected for comparison as the last full “standard” fiscal year that would not have COVID-19 impacts in its numbers.
- b. For this reporting period, the fiscal period ending in December was selected rather than the period ending in March due to data availability lags from reporting sources.
- c. One metric, “New Housing Units”, is recommended to be replaced by “Total Valuation of Building Permits Issued” because the latter is a more reliable indicator of overall community investment trends as it captures most residential, commercial

- and industrial construction activity. New housing can have extreme valleys and peaks as large developments coming online will skew numbers.
- d. Additionally, the current metrics and overall measurement model need additional development per an equity lens and the City's Health in All Policies (HiAP) work. Staff plans to bring suggestions back to Council at its first meeting in August as part of the next quarter's reports.

Regarding the broader HiAP framework, Re-Envision Santa Cruz's vision is founded on the HiAP's pillars of equity, public health, and sustainability. Projects in these areas are found throughout Re-Envision's work, and, as stated above, staff will next focus on recommendations back to Council to reflect equity in the plan's measurement model.

**FISCAL IMPACT:** None.

**Prepared/Submitted by:**  
Laura Schmidt  
Assistant City Manager

**Approved by:**  
Martin Bernal  
City Manager

**ATTACHMENTS:**

- Attachment 1 – Re-Envision Santa Cruz Summary
- Attachment 2 – Re-Envision Santa Cruz Quarterly Progress Report
- Attachment 3 – Re-Envision Santa Cruz Performance Metric Report
- Attachment 4 – List of Projects – Re-Envision Santa Cruz





[cityofsantacruz.com/recovery](http://cityofsantacruz.com/recovery)

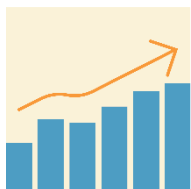
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## Focus Areas



### Fiscal Sustainability

Rebuild the City's strong financial foundation to maintain excellent service delivery, improve quality of life, and build the resiliency to face future challenges.

### Objectives

- Efficiently deliver mandatory and essential services
- Pursue new and update existing revenue sources

- Replenish financial reserves

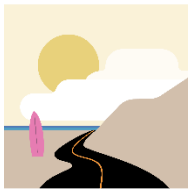


## **Downtown and Business Revitalization**

Invest in Santa Cruz's robust and diverse locally owned businesses, focusing on the Downtown as a center for housing, commerce and transportation, to ensure an equitable recovery for all.

### **Objectives**

- Support Citywide programs for business recovery and resiliency
- Attract and retain businesses
- Reinvest in Downtown for long-term vibrancy
- Develop affordable and market housing, including three City-led affordable mixed-use projects
- Cultivate a green economy and workforce



## **Infrastructure**

Reimagine improvements to facilities, systems, and open spaces with a focus on resilience, climate adaptation, and supporting a high quality of life.

### **Objectives**

- Increase investment in facility and system maintenance
- Implement funded infrastructure projects
- Leverage federal and state stimulus funds to support priority infrastructure projects
- Increase engagement of local businesses and workforce in City projects
- Provide equitable access to essential utility services

## **Measuring Our Success**

As a part of Re-Envision Santa Cruz, the City Council prioritized 13 key metrics, such as business licenses issued, sales tax revenues and new housing units, to be measured on a quarterly basis. In addition, City departments will provide quarterly narrative reports to ensure the community is fully informed and engaged throughout the recovery process.





[cityofsantacruz.com/recovery](http://cityofsantacruz.com/recovery)

## Quarterly Report: November 2020-March 2021

### Summary

The Re-Envision Santa Cruz recovery plan squarely focuses the City on our community's collective recovery and ongoing resilience. Over the next 12-18 months, we will execute a bold vision centered on sustainability, equity, community engagement and essential service delivery. We will explore ways to inject our local economy with new jobs, green businesses, affordable housing and resilient green infrastructure. We will bolster what makes Santa Cruz special by supporting our businesses, advocating for new and improved funding sources, and reinvesting in the Downtown and infrastructure from roads and water to parks, facilities and open spaces.

During the first reporting period, City staff made progress toward the goals of the plan. Key accomplishments include:

- Launch of the Grow Santa Cruz County Revolving Loan Program to provide expanded lending options to support our local businesses.
- Creation of the City Arts Recovery Design (CARD) Pilot Grant Program to harness the creative spirit of Santa Cruz artists to promote recovery.
- Updated the Inclusionary Ordinance to provide developers with more ways to roll out affordable housing as a part of housing projects.
- Kick-off of a grant writing pilot to support a more robust and integrated strategy for securing new funds for projects across the City.
- Revised fee structures in Parks and Recreation and Planning and Community Development to ensure true cost recovery for City services and programs.
- Began work on the development of a Citywide workforce development initiative.
- Initiated construction on the Newell Creek Inlet/Outlet replacement project and completed construction on the Coast Pump Station raw water pipeline replacement project.

## **Downtown And Business Revitalization**

### **Downtown Reinvestment**

#### **Downtown Plan Expansion**

On Oct. 13, 2020, City Council approved applying for the State's Regional Early Action Planning grant to expand the downtown plan boundary. The primary goal of the project is to increase housing opportunities. The project will also allow the City to plan around a permanent new Santa Cruz Warriors arena in the expansion area. The City was awarded the maximum grant amount of \$300,000 in December. In January 2021, staff worked on researching the possible scope of the downtown expansion based on the budget and timing of the project and narrowed in on three potential expansion options south of Laurel Street. On March 23, 2021, staff presented a recommended preliminary boundary map to be included in the project Request for Proposals (RFP) for consultant scoping purposes. Staff received direction from Council to proceed with the RFP and present this information on the RFP to Planning Commission to receive further input. A final draft of the RFP is now under review by staff and will be issued in mid-April.

### **Economic Recovery and Resiliency**

#### **Grow Santa Cruz County Revolving Loan Fund**

The Grow Santa Cruz County Revolving Loan Fund is a countywide, federally-funded business loan program that will provide additional capital for local small businesses' recovery from the COVID-19 pandemic. This program is a partnership of the National Development Council, to which the U.S. Economic Development Administration awarded the \$2.75 million fund, the Santa Cruz Small Business Development Center, and all jurisdictions in the County. Jurisdictions will leverage program funding to provide up to \$16 million in additional local lending ability. The program is loosely based on the City's existing Grow Santa Cruz revolving loan program and provides flexible lending options for our local businesses. This is a first of its kind partnership in the County to create a program that will provide more flexible business lending options, with no additional costs, to the jurisdictions responding to local business needs in the recovery period. The program will help build business resilience in the long run and provide the City with a tool to fill equity gaps for businesses that may seem too risky for traditional lenders.

#### **Temporary Outdoor Expansion Program**

The Temporary COVID-19 Outdoor Expansion Program provides a no-cost permit program for businesses to expand operations outdoors and ensure compliance with public health space requirements during the pandemic. The program began in June 2020 and has enabled more than 90 businesses to operate outdoors on public and private property, including through the activation of some of our alleys and temporary street closures downtown. It has also created an opportunity for the community to enjoy our local businesses in new forms, including outdoor gyms, parklets and expanded sidewalk cafes. This program has demonstrated our City team's ability to be collaborative problem-solvers and nimble and responsive partners for local businesses by providing a streamlined and efficient permitting process to ensure continued operations. It has also allowed us to experiment using our public spaces and learn as we develop permanent options and longer-term policy and program changes.

#### **CARD Pilot Grant Program**

The City Arts Recovery Design (CARD) Pilot Grant Program will harness the arts in tackling the challenges of economic recovery, restorative justice, and health and safety while highlighting the resilient and vibrant character of Santa Cruz as a cultural center. Inspired by the Works Progress Administration's Federal Art Project and modeled on a recently launched program by the City of Santa Monica, this initiative



will harness artists' creative energy and provide them with resources to implement projects that promote recovery. A collaboration with Arts Council Santa Cruz County, the program will also engage the community as proposal reviewers, creating a cross-sector, community-informed process for City Arts programming. A call to artists for letters of intent was issued in March, with a deadline for submission in April. In June, artists with successful letters of intent will receive funding to develop a complete proposal for full grant funding. City staff will forge partnerships between artists and business/property owners while matching projects with locations in commercial areas, parks, and neighborhoods. The projects will then be implemented based on funding availability and alignment with City priorities.

## **Increase Affordable and Market-Rate Housing**

### **Inclusionary Ordinance Updates**

The Inclusionary Ordinance outlines the requirements for new residential developments to include 20 percent of the project as affordable to Low- and Moderate-income households in the City of Santa Cruz. Housing and Community Development staff recently completed a multi-year, City Council-directed update to the Inclusionary Ordinance. The updates include two new alternative methods through which developers can comply.

The first approved alternative allows a developer to provide 15 percent of their project for rent at the standard Area Median Income (AMI) level for low-income households and opt to rent the remaining required 5 percent of their project to tenant-based subsidy holders, commonly known as the Housing Choice Voucher (Section 8) program. If a tenant-based subsidy holder is not available to rent the unit, the developer may rent the unit to Moderate AMI households. When the unit becomes available again, it must be offered to a tenant-based subsidy voucher holder.

The second alternative allows for employer-sponsored housing, meaning an employer can opt to develop rental housing for its employees as long as most of the employees served qualify at the Low and Moderate income levels. Additionally, a subcategory of employer-sponsored housing is available only to school districts, aligning with the federal Teacher Housing Act of 2016 and California's AB 3308 (2019). These alternatives will encourage more affordable housing opportunities, helping to meet health, sustainability and equity goals for the community.

### **Front Street Project**

A project was submitted to Planning proposing to construct a seven-story mixed-use building with 175 residential condos and 11,498 square feet of ground-floor commercial space. Fifteen of the units will be affordable to incomes at 50 percent Area Median Income (AMI) and five units at 80 percent AMI. The City Council approved this project on Jan. 12, 2021, and an appeal was denied by the CCC on Mar. 12, 2021. The project must now obtain approval of a Section 408 Permit from the Army Corps of Engineers and then can proceed to the building permit stage.

### **Objective Standards**

The State of California now requires cities only to use objective standards when reviewing residential development proposals. Current City standards are not fully objective, and as a result, need to be updated. To that end, Planning received grant funding of \$310,000 to create objective development standards for multi-family residential projects. To date, the department has presented a community outreach plan and the results of a consultant's efforts to test existing development sites in relation to the City's development standards and the housing market to better understand development feasibility to both the Planning Commission and the City Council. Two project kick-off meetings with the

community were held digitally in March: an English language event on March 11 and a Spanish language event on March 24. The staff is now starting the next phase of the project: garnering feedback on community preferences to help inform draft development standards.

## **Fiscal Sustainability**

### **Efficient Service Delivery**

#### **Digital Intake and Plan Review – Building**

The Building & Safety Division is converting the previous paper-only submittal process and upgrading the existing digital plan review process for building permits. A temporary web-based intake system using the City's current one-stop payment portal, MyCityofSantaCruz, is expected to allow the department to begin accepting digital files in July 2021. In preparation for moving to digital services and upgrading their existing land management system, Trakit, the Building & Safety Division, has completed an initial review of its major processes. Reviewing existing procedures for consistency and efficiency is the first step toward developing digital intake procedures and incorporating changes in an updated land management system.

#### **Online Rental Inspection Scheduling**

Software systems updates are needed to allow customers to schedule their rental inspections online. Rental Services is reviewing all existing procedures in preparation for the upcoming land management system upgrade. This work will better prepare the division to develop an automated inspection model that will save staff time.

### **New and Improved Funding Sources**

#### **Grant Writing Managed Service**

The City is evaluating working with an expert grants consulting firm to help take a citywide, integrated view of grant opportunities. This will support the City to secure grants for key operational and recovery areas, quickly determine the top grants to pursue, coordinate the application, and improve our success rate. The cost of these services would be recovered through grant award dollars.

During the reporting period, staff summarized research from other agencies taking similar approaches and completed a market scan of potential service providers. The team engaged all City departments, which all supported this more organized, integrated citywide approach. We are now ready to launch a request for information with service providers and pursue a pilot with the successful firm.

#### **Cannabis Ordinance Amendments**

A team consisting of staff from Planning and Community Development, Police, and the City Attorney's Office has convened to work through potential changes to the enforcement of illegal cannabis activity to better support legal cannabis operators in the city of Santa Cruz. This team is now successfully coordinating with the County of Santa Cruz to institute a similar enforcement program used by County. The next step of this project is to finalize the details of this new program and draft an illegal cannabis activity enforcement ordinance amendment this summer.

#### **DeLaveaga Disc Golf Fees**

Parks & Recreation, in partnership with the Santa Cruz Disc Golf Club, will explore a pay-to-play structure at the DeLaveaga disc golf course. Currently, there is a minimal parking fee but no fee to play.

Actions during this period included evaluating needed infrastructure for the site – electricity, internet service, and a small facility. During the next period, staff will begin considering the option to issue an RFP for potential operators so they can propose a conceptual framework to City Council.

#### **Recreation Programming Plan and Revenue Policy**

The Recreation Programming Plan and Revenue Policy are separate but related items that will define and prioritize core services within Parks & Recreation and develop a framework upon which revenue targets and fee structures will be set. The Recreation Programming Plan is complete and will be used as a tool for annual program planning and prioritization. The Revenue Policy is 90 percent complete, except for a new Booking Agent Agreement. The BAA will allow the Department to contract with outside service providers to offer full-service offerings, such as weddings and other events.

#### **Parks and Recreation Contract Partner Agreements**

The Department will be updating all contracts and agreements with partners to adjust fees and update liability and risk information. During the reporting period, the Harvey West Pool rates were evaluated to ensure full cost recovery for pool operations, including utilities and staff time. For example, the past fees charged to Cruz Swimming, assuming full cost recovery, was less than \$3,000 per month. However, those fees did not cover utilities or staff time. Staff calculated that the total cost to host Cruz Swimming at the pool is \$4,600 a month. Cruz Swimming and other partners agreed to the updated fees, and the new rates were applied to current agreements. Under this structure, the pool is now able to “break even.”

The lens through which the department will evaluate whether to seek full cost recovery is public versus private “good.” In the case of youth swim lessons, there is an inherent “public good,” which is water safety and youth education. As such, the department would charge a lower rate to subsidize the public good that is youth swim lessons.

#### **Impact Fee Development**

Staff is working to complete Child Care and Public Safety Impact Fee studies to determine the fee amount for consideration of adopting three new development fees. The nexus study and supporting documentation to adopt a Public Safety and Childcare Impact Fee were finalized and are expected to be presented to Council in April 2021.

#### **Fee Studies – Building, Code, Misc. Fees**

The current fee structure fees related to building, code enforcement, and associated administrative costs are based on 1997 Administrative Building Codes, and staff is seeking to update them. RFP research was completed to prepare for the development of the City’s RFP. RFP development is expected to begin once the Chief Building Official is hired.

#### **Revision to Code Compliance Division Fee Schedule**

Staff is updating the Code Compliance Division Fee Schedule from actual costs to flat rates. Supporting documentation to present the proposed schedule was completed and is expected to be adopted by Council in April 2021.

## Infrastructure

### **Green Economy and Workforce**

#### **Workforce Development Initiatives**

Workforce development initiatives are a key component of the Re-Envision Santa Cruz plan. During the reporting period, departments from across the City have begun collaborative efforts and their own initiatives to contribute to this vital aspect of recovery.

#### *Cross-Department Collaboration*

During the reporting period, an internal city working team, including representatives from HR, Water, Public Works, Economic Development, and Climate Action/Sustainability, came together to talk about workforce development issues for skilled trades and green economy work. This team began planning the initial steps of outreach and established a routine monthly meeting for this group.

To facilitate the work, the team applied and was granted the opportunity to hire a 2021-2022 CivicSpark Fellow to work with city staff and other interests on partnerships and other workforce development initiatives. Additionally, this group briefed Senator Laird and his local and Sacramento staff on the workforce development initiative.

#### *Library*

The SCPL Library continued to provide digital access throughout the pandemic via 24-hour-a-day, free wireless access at library sites across the County, along with open computer labs (when possible), curbside wifi printing pick-up, and one-to-one virtual and in-person technology help appointments. SCPL also provides digital literacy training and offers a free Career OnLineHigh School program for adults wishing to complete their diploma. The Library received a grant from the County to provide laptop and wifi hotspot checkout to patrons and nonprofit organizations. SCPL also has submitted a federal grant application for expanding the workforce development program offerings.

#### *Public Works*

In April, Laboratory & Environmental Compliance Manager Akin Babatola served as a guest lecturer on Environmental Science for Cabrillo College. Through his instruction, students were introduced to analytical methods and instruments used for monitoring microbiology and biochemistry of wastewater; trace compounds of public health consequences in water and wastewater and recreational water; wastewater and recreational (rivers and ocean water) sampling and analyses. They were also given a primer on wastewater surveillance for COVID-19 (and other pathogens) and how this helps the City and regional public health management.

#### **Resilient Coast Santa Cruz and Other Pending Grant Projects**

The West Cliff Drive Adaptation and Management Plan was recommended for adoption by the Transportation and Public Works Commission in March 2021 and will be on the April 27, 2021, City Council Agenda for consideration. Based on two years of extensive and inclusive engagement and technical work, the plan includes nearly \$20 million in specific near-term coastal maintenance and improvement projects to bolster coastal resilience. It also documents options for future coastal adaptations. Staff members are implementing the plan by developing a funding strategy, aligning for stimulus funding, and collaborating with the University of California Santa Cruz's Coastal Science and Policy graduate program to plan a coastal change monitoring network. The staff intends to bring the complementary Local Coastal Program amendment to include sea-level rise policies to the City Council



in the fall. It will report back on three next-step coastal resilience proposals awaiting project grant funding decisions.

#### **Climate and Energy Action Plan, including Green Economy / Green Recovery Analysis**

The City selected a consultant team to assist in developing a Climate and Energy Action Plan 2030 (CAP 2030) to determine the most equitable pathway to carbon neutrality by 2045 or earlier. The project was soft-launched with the community through a community engagement preferences survey (see [results](#) at project [website](#)). Representatives from the consultant team, the internal Sustainability Team, and the community Climate Action Task Force participated in the project kick-off in late March 2021. They engaged in an equity readiness check exercise and reviewed the detailed scope of work and deliverables. The planning team is developing the Climate Action Plan 2020 final report, along with conducting community visioning engagement and inviting priority groups to join the equity working group in compensated roles. During summer 2021, consultants and a Doris Duke Conservation Scholar hosted by UCSC will conduct the Green Economy Analysis, which builds upon an initial Green Jobs in Santa Cruz study conducted by a Monterey Bay Economic Partnership Ambassador Program intern.

### **Parks, Recreation and Open Spaces**

#### **Wharf Master Plan**

The Santa Cruz Wharf Master Plan (WMP) is a 20-30 year plan for revitalizing the Santa Cruz Municipal Wharf. It includes expanding public space, guidelines for new development, and sustainability strategies to make the Wharf more resilient and environmentally friendly. On Nov. 24, 2020, the City Council adopted the WMP and certified the associated Environmental Impact Report. Staff is currently securing consultant estimates to move forward with state and federal permitting of certain proposed Wharf Master Plan improvements, including relocation of entrance gates and the East Promenade. In March 2021, staff submitted two grant applications to the California Statewide Parks Program totaling more than \$14.1 million for a first phase of the East Promenade and to public space improvements at the end of the Wharf, including a stepped overlook, educational play space, and stability improvements widening parts of the end of the Wharf. Staff is monitoring several other potential funding sources and anticipates returning to City Council for consideration of additional grant applications as those opportunities approach.

#### **Wharf “Public Works” Plan**

The California Coastal Commission (CCC) requested a Public Works plan for the Wharf to grant an annual or multi-year coastal development permit (CDP) for all Wharf-related construction activities. The plan would be similar to the Beach Management Plan, serving as a blanket permit for various activities and maintenance needs during a specific period. Staff met during this reporting period to discuss goals and needs and will develop a maintenance plan in the immediate term to address concerns and requirements from CCC.

#### **Westside Pump Track**

In partnership with Mountain Bikers of Santa Cruz County (MBOSC) and Ow Properties, the City is working to invest in the Westside Pump Track by converting the existing earthen ramps to asphalt. We have raised approximately \$100,000 of the \$150,000 needed for the improvements and are on track to reach the fundraising goal this spring. Improvements are targeted for implementation in Fall 2021.

## Resiliency and Improvements

### Urban Water Management Plan Update

Every five years, the Water Department must update its Urban Water Management Plan and submit it to the state. The department completed a new long-range water demand forecast during the reporting period and presented it to the Water Commission on Feb. 1, 2021. The department also completed work on the drought risk assessment and supply reliability assessment, presented to the Water Commission on Apr. 5, 2021, and all of its required pre-plan development coordination with other regional water utilities and city and county planning organizations, including Santa Cruz County, City of Capitola, and City of Santa Cruz, and Association of Monterey Bay Area Governments.

### Santa Cruz Water Capital Improvement Program

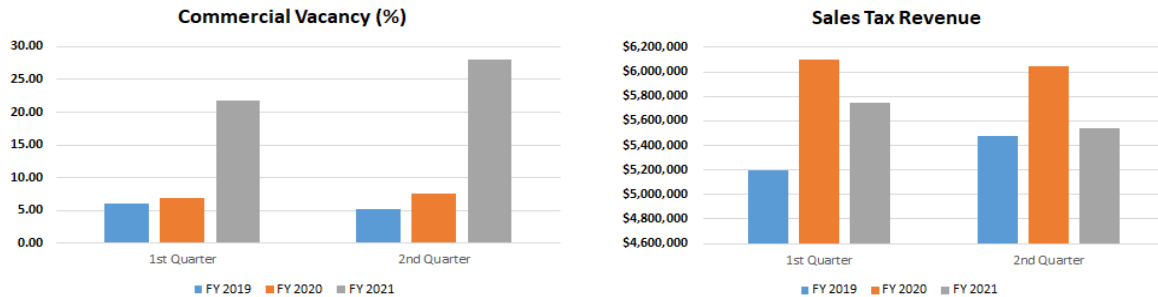
This project represents an approximately \$600 million reinvestment in the water system's backbone infrastructure: raw water storage, transmission, and water treatment facilities, as well as funding for the water supply projects selected as a result of the water supply augmentation strategy. During the reporting period, the Water Department initiated construction on the Newell Creek Inlet/Outlet replacement project and completed construction on the Coast Pump Station raw water pipeline replacement project. The department also completed the initial selection of qualified firms to participate in the competitive selection process for a design-build contract for the Graham Hill Water Treatment Plant. It issued the request for proposals to qualified firms, which are due back in early April. The department also awarded the contract for the Graham Hill Water Treatment Plant Concrete Tanks Replacement Project, with construction anticipated to begin in April or early May.

### Update of Water Shortage Contingency Plan

The Water Shortage Contingency plan governs water restriction in the event they are required during the water demand season. The Water Department completed an updated plan presented to the City Council on Feb. 23, 2021. From there, the department turned to processing municipal code changes to align with the new plan. It will bring a recommendation to Council at its April 13, 2021 meeting to declare a Stage 1 Water Shortage Warning, which will result in implementing the updated plan.



**Interim Recovery Plan - Performance Metrics Quarterly Report**  
As of 04/12/2021



| Metric   | Jul-Dec 2018<br>Fiscal Year 2019    | Jul-Dec 2020<br>Fiscal Year 2021    | % Change<br>Between Fiscal<br>Years | Notes:   |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|
| Business Licenses Issued   | 158                                 | 103                                 | -34.81%                             |  |
| Business Licenses Renewed  | Not Available                       | Not Available                       | Not Available                       | Business license renewal is a new metric that Economic Development (ED) is tracking. They are working with Finance to gather a complete set of data to report.   |
| Commercial Vacancy Rate  | 5.10%                               | 28.10%                              | +23.00%                             |  |
| Business Closures Reported<br>A. Closures Reported<br>B. Utility Terminations  | A. 213<br>B. 33                     | A. 112<br>B. 44                     | A. -47.42%<br>B. +33.33%            | A. The number of discontinued business licenses is only what is reported to us by business owners. The data does not account for the potential business owners who do not report to the City that they are closing.<br><br>B. Thus, we are also using data from Santa Cruz Municipal Utilities to see if there is data that sheds different light in this area. We assume that utilities are a more proactive approach since business owners terminate service once the business closes to avoid ongoing fees. |
| Number of Permits Issued<br>A. Planning Applications<br>B. Building Permits  | A. 213<br>B. 806                    | A. 84<br>B. 695                     | A. -60.56%<br>B. -13.77%            |  |
| New Housing Units  | 29                                  | 117                                 | +403.45%                            | These numbers reflect units that have completed construction. Staff suggests replacing this metric with the one below.   |
| Total Valuation of Building Permits Issued   | \$60,147,980                        | \$27,631,938                        | -54.06%                             | These permits capture (most) residential, commercial and industrial construction activity => overall investment.   |
| Transient Occupancy Tax (TOT) Revenue  | \$6,007,880                         | \$4,207,568                         | -29.97%                             |  |
| Sales Tax Revenue  | \$10,673,838                        | \$11,287,451                        | +5.75%                              | Change in the State's timing of distribution may have impacted this data.  |
| Admission Tax Revenue  | \$1,388,607                         | \$44,150                            | -96.82%                             |  |
| General Fund Reserve   | \$19,229,433                        | \$13,974,360                        | -27.33%                             | FY 2019 is actual year-end fund balance.<br>FY 2021 is budgeted year-end fund balance.   |
| General Fund Capital Maintenance Budget  | \$1,560,628                         | \$0                                 | -100%                               | Numbers are adopted budget.  |
| Maintenance of Parks and Open Space - Labor Hours per Acre for Fiscal Year<br>A. Budgeted<br>B. Actual                 | A. 73.38<br>B. 69.71                | A. 69.77<br>B. 60.15                | A. -4.92%<br>B. -13.71%             | Since Shelter-in-Place orders have been issued, parks and open space usage has surged. So, while usage has increased, maintenance budgeted and actually done has decreased. Parks and Rec is currently working on a process to further refine the actual hours.  |
| Maintenance of Recreational Facilities - Labor Hours per 1,000 square feet for Fiscal Year<br>A. Budgeted<br>B. Actual | A. 99.54<br>B. Actual Not Available | A. 99.54<br>B. Actual Not Available | A. 0.00%<br>B. Not Available        | Parks and Rec is currently working on a process to measure actual hours.   |

**City of Santa Cruz - Re-Envision Santa Cruz**  
**Projects for Our 12-18 Month Interim Recovery Plan**  
**January 1, 2021 - June 30, 2022**

| ID  | Focus Area                           | Project Category                            | Project  | Lead Department | Long(er) Description  | Re-Envision | Recovery | Green Economy | Engaged Community | Equity and Well-being | Essential Service Delivery |
|-----|--------------------------------------|---|--|-----------------|---|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 93  | Downtown and Business Revitalization | Downtown Reinvestment                       | Downtown Recovery Plan   | ED              | Expansion of Downtown Needs Assessment efforts, expanded into pandemic recovery.  |             | X        |               |                   |                       |                            |
| 113 | Downtown and Business Revitalization | Downtown Reinvestment                       | Pacific Avenue Beautification  | ED              | RDA bond-funded and Council approved project based on the Downtown Design Standards including landscaping, sidewalk improvements, lighting, security and some construction costs for placemaking and activation.  |             | X        |               |                   |                       |                            |
| 114 | Downtown and Business Revitalization | Downtown Reinvestment                       | Downtown Alley Improvements  | ED              | Bond funded and Council approved Capital Improvement Project to include lighting, placemaking and wayfinding improvements in downtown alleys.   |             | X        |               |                   |                       |                            |
| 115 | Downtown and Business Revitalization | Downtown Reinvestment                       | Lower Pacific Ave Improvements   | ED              | Bond-funded and Council-approved Infrastructure improvements including parking, street beautification and other related improvements in connection with the METRO project.  |             | X        |               |                   |                       |                            |
| 76  | Downtown and Business Revitalization | Downtown Reinvestment                       | Library Mixed-Use Project  | ED              | 35,000-40,000 square foot new public library, 50-75 affordable units, commercial/retail and up to 400 public parking spaces.  | X           |          | X             | X                 | X                     |                            |
| 80  | Downtown and Business Revitalization | Downtown Reinvestment                       | Library /Civic Core Revisioning Process/Project                                      | ED              | Re-envisioning of future use of existing library site as part of a larger civic core revitalization project.  | X           |          |               | X                 | X                     |                            |
| 79  | Downtown and Business Revitalization | Downtown Reinvestment                       | Farmers' Market Permanent Location/Structure   | ED              | Permanent downtown home and year-round structure for farmers' market.   |             |          |               |                   |                       |                            |
| 42  | Downtown and Business Revitalization | Downtown Reinvestment                       | Downtown Plan Expansion  | PLACD           | Grant-funded planning for expansion of the Downtown Plan into areas that currently have lower allowed development intensity. The expansion is expected to move the Downtown. The process will increase development capacity for housing and commercial/office uses. |             | X        |               |                   |                       |                            |
| 21  | Downtown and Business Revitalization | Downtown Reinvestment                       | Parking District Infrastructure  | PW              | Design and construct various infrastructure projects within the Downtown parking District.  |             | X        |               |                   |                       | X                          |
| 82  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Arts in Recovery Grant Program Launch  | ED              | Design and implement grant program to improve efficiency and expand community involvement in City Arts programming.   |             | X        |               |                   |                       |                            |
| 99  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Economic Development Strategy  | ED              | Five year strategic work plan guiding the focus of business development division.   |             | X        |               | X                 |                       |                            |
| 78  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Grow Santa Cruz Loan Program   | ED              | Expanded revolving loan program leveraged with EDA grant funds, focused on pandemic recovery.   |             | X        |               |                   |                       |                            |
| 77  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Permanent Outdoor Expansion Program  | ED              | Use of public and private adjacent parking areas for outdoor dining.  | X           |          |               |                   |                       |                            |
| 92  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Permanent Warriors Arena   | ED              | Permanent home for SC Warriors and possible mixed-use project.  | X           | X        |               |                   |                       |                            |
| 98  | Downtown and Business Revitalization | Economic Recovery and Resiliency            | Wharf Property Management Tenant Retention + Re-leasing Strategy                     | ED              | Specific Wharf strategy to address vacancies and potential new lease rates in an effort to retain City tenants and ensure businesses remain solvent. Re-leasing vacant City owned spaces.   |             |          |               |                   |                       | X                          |
| 68  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Putney Perry Acquisition   | ED              | Parcels needed for Pac South site assemblage.   | X           |          |               |                   | X                     |                            |
| 73  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Fee Waiver/Deferral Process  | ED              | For multiple upcoming affordable housing projects (125 Coral, Calvary-Cedar, PacNorth and PacSouth and Library mixed use housing).  | X           |          |               |                   | X                     |                            |
| 74  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Establish Lease-up Process for AB 2162 Units Working with Housing Authority & County | ED              | For multiple upcoming affordable housing projects utilizing AB 2162 (Calvary, PacSouth, PacNorth and Library Mixed Use).  | X           |          |               |                   | X                     |                            |

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|-----|--------------------------------------|---|---|-----------------|---|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 60  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Pacific Station South                                       | ED              | 85 unit affordable housing mixed use project. 20,000 square foot office/medical for Santa Cruz Community Health Center and Dientes, providing low-cost community medical and dental care and approximately 4,000 square foot retail frontage on Pacific.<br><br>Coastal Permit to demolish three commercial buildings and construct a seven-story, mixed-use building with 85 affordable residential apartments, 15,228 square feet of ground floor commercial and residential amenity space, and 15,665 feet of medical office space on the second floor, on a property located within the CBD/CZ-O/FP-O zone district and within the Pacific Avenue Retail District and Front Street/Riverfront Corridor subareas of the Downtown | X           |          |               |                   | X                     |                            |
| 61  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Pacific Station North                                       | ED              | 89-100 unit affordable housing and mixed-use transit center with METRO, and approximately 5,000 commercial retail frontage on Pacific.  | X           |          |               |                   | X                     |                            |
| 90  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | 5-Yr HUD Consolidated Action Plan - CARES Act               | ED              | CARES Act (CDBG-CV) funding allocations require additional reporting and planning.  |             |          |               |                   | X                     |                            |
| 110 | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Affordable Housing Agreements: New Development Projects     | ED              | As new housing projects are developed, it is a requirement to execute affordability, participation and other agreements between the developer/owner and the City. There is also ongoing management and review of these agreements both through the annual monitoring and through communications between owners and staff.   |             |          |               |                   | X                     |                            |
| 111 | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Analysis of Impediments to Fair Housing (AI)                | ED              | Assist, research and coordinate effort as needed for Analysis of Impediments to Fair Housing (AI). Complete trainings, research requirements and procedure for applying. Coordinating with outside agencies, advance planning and possibly consultants. Plan timeline and needed deliverables for AI. Develop work-plan and strategize due date in coordination with NRSA due date.   | X           |          |               |                   | X                     |                            |
| 83  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Inclusionary Housing Ordinance-Workforce Housing Definition | ED              | Develop a workforce housing component of the Inclusionary housing ordinance, including an employer housing and school housing option.   |             | X        |               |                   | X                     |                            |
| 84  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | 555 Pacific   | ED              | Renegotiation of existing development agreement.  |             |          |               |                   | X                     |                            |
| 86  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Develop Affordable Housing Academy                          | ED              | Per City Council sub-committee and Council adopted Housing Blueprint Recommendations, create an annual Affordable Housing Academy program for the public to educate on affordable housing in Santa Cruz and affordable housing production.  | X           |          |               | X                 | X                     |                            |
| 112 | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Neighborhood Revitalization Strategy Area (NRSA)            | ED              | Evaluate City NRSA for alignment with HUD objectives and requirements, planning of timeline for updating NRSA (due June 2022). Coordinate and investigate timeline and requirements to strategize deliverable deadlines.  |             | X        |               |                   | X                     |                            |
| 62  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | 190 West Cliff  | PLACD           | Coastal Permit, Design Permit, Special Use Permit, Density Bonus Request to exceed height, Encroachment Permit for street and intersection improvements, and Tentative Map to construct a four-story mixed use project consisting of two levels of underground parking, ground level commercial, and 89 residential condominium units on a parcel located in the RTB(PER)/CZ-O/SP-O zone district.  | X           |          |               |                   | X                     |                            |



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|-----|--------------------------------------|---|--|-----------------|---|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 63  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Front Street Project                         | PLACD           | Coastal Permit, Non-Residential Demolition Authorization Permits, Design Permit, Tentative Map, Special Use Permit, Administrative Use Permit, Revocable License for Outdoor Extension Area, Heritage Tree Removal Permit, and Street Tree Removal to remove one street tree and three heritage trees, to combine five parcels, demolish three commercial buildings including two historic commercial buildings, and to construct a seven-story, mixed-use building with 175 residential condos and 11,498 square feet of ground floor and levee front commercial space on property located within the CBD (Central Business District)/CZ-O (Coastal Zone Overlay)/FP-O (Floodplain Overlay) zone district and within the Front Street/Riverfront subarea of the Downtown Plan. | X           |          |               |                   | X                     |                            |
| 50  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | SRO/SOU Ordinance Amendments                 | PLACD           | Updates to the Single-room Occupancy (SRO) and Small Unit Occupancy Ordinances were described in the Council Housing Blueprint Subcommittee recommendations to add more clarity and better coordination of regulations of these two housing types.  |             |          |               |                   |                       | X                          |
| 44  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Housing Element Update                       | PLACD           | The City of Santa Cruz must update its General Plan Housing Element every eight years. This update will include existing conditions analysis of housing in the City, public outreach, development of policies and objectives, environmental documentation, and adoption of the final Housing Element document.  |             |          |               |                   |                       | X                          |
| 43  | Downtown and Business Revitalization | Increase Affordable and Market Rate Housing | Objective Standards                          | PLACD           | Planning has received grant funding to create objective development standards for multi-family residential projects. The State of California now requires cities to only use objective standards when reviewing residential development proposals. Development of the standards will include public participation and review by Planning Commission throughout the process.   |             |          |               |                   |                       | X                          |
| 109 | Fiscal Sustainability                | Efficient Service Delivery                  | Digitization of Annual Compliance Monitoring | ED              | Project to convert the Annual paper monitoring process to an online, digital process to facilitate the completion of annual monitoring and to adapt to the changing needs in COVID and post-COVID climate.  |             |          |               |                   |                       | X                          |
| 36  | Fiscal Sustainability                | Efficient Service Delivery                  | Land Use Management Upgrade (TRAKIT)         | IT              | The City has used TRAKIT, for over a decade for land use management, permitting and licensing. The current version of TRAKIT is nearing end of support status from the vendor, making the upgrade a high priority for departments citywide. This upgrade is an opportunity for the City to review and refine existing business processes for efficiency and assess data and reporting needs.  |             |          |               |                   |                       | X                          |
| 39  | Fiscal Sustainability                | Efficient Service Delivery                  | MyCityofSantaCruz Phase 2                    | IT              | Add additional payment types to MyCityofSantaCruz. Payment types to be determined, but likely to include payments for building and planning applications/permits, TOT, Cannabis and Parking Tickets/Permits.  |             |          |               |                   |                       | X                          |
| 54  | Fiscal Sustainability                | Efficient Service Delivery                  | Digital Intake - Building                    | PLACD           | Convert the previous paper-only submittal process to all-electronic plan review for building permits.   |             |          |               |                   |                       | X                          |
| 55  | Fiscal Sustainability                | Efficient Service Delivery                  | Digital Plan Review - Building               | PLACD           | Digital review of building plan sets received from applicants.  |             |          |               |                   |                       | X                          |
| 58  | Fiscal Sustainability                | Efficient Service Delivery                  | Online Rental Inspection Scheduling          | PLACD           | Update software systems to allow for customers to schedule their own rental inspections online, thereby saving staff time.  | X           |          |               |                   |                       |                            |
| 159 | Fiscal Sustainability                | New and Improved Funding Sources            | Grant Writing Managed Service                | CMO             | Develop business case for using consulting services for grant research and writing to maximize grants awarded to City, with built in cost recovery of consulting services.  |             | X        |               |                   |                       |                            |
| 139 | Fiscal Sustainability                | New and Improved Funding Sources            | Revenue Ballot Measure                       | CN              | Explore the feasibility of a sales tax ballot measure for in November 2021.   |             | X        |               |                   |                       | X                          |

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|-----|-----------------------|----------------------------------|---|-----------------|---|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 117 | Fiscal Sustainability | New and Improved Funding Sources | Cannabis Equity Grant   | ED              | GoBiz state-funded project to conduct an equity assessment of the cannabis industry and impact of the war on drugs locally and to develop a local equity program to provide resources and support to equity applicants for the cannabis industry.   |             | X        |               |                   | X                     |                            |
| 85  | Fiscal Sustainability | New and Improved Funding Sources | State/Federal Funding Grants  | ED              | Applying for competitive funding for affordable housing and community development opportunities.  |             | X        |               |                   | X                     |                            |
| 94  | Fiscal Sustainability | New and Improved Funding Sources | Skypark Disposition   | ED              | Sale of City-owned property in Scotts Valley.   |             | X        |               |                   |                       |                            |
| 53  | Fiscal Sustainability | New and Improved Funding Sources | Impact Fee Development - Public Safety and Childcare                              | PLACD           | Completion of Child Care and Public Safety Impact Fee studies to determine fee amount, and consideration to adopt three new development fees.   | X           |          |               |                   | X                     |                            |
| 49  | Fiscal Sustainability | New and Improved Funding Sources | Cannabis Ordinance Amendments   | PLACD           | A coordinated effort to amend cannabis regulations with the aim to provide greater enforcement of illegal cannabis activity to better support legal cannabis businesses in the City.  |             | X        |               |                   |                       |                            |
| 56  | Fiscal Sustainability | New and Improved Funding Sources | Fee Studies - Building, Code, Misc Fees.  | PLACD           | Completion of study of fees for service related to building permits. Current fee structure based off of 1997 Administrative Building Codes. Other fees may be included such as code fees and other administrative fees like administrative fee for completing payments in person, and fees to cover extended outreach services for planning applications. |             | X        |               |                   |                       |                            |
| 57  | Fiscal Sustainability | New and Improved Funding Sources | Revision to Code Compliance Division Fee Schedule                                 | PLACD           | Updating division charges from actual costs to flat rates.  |             | X        |               |                   |                       |                            |
| 120 | Fiscal Sustainability | New and Improved Funding Sources | Wharf Parking Fee Increase  | PR              | Raising parking fees on the Wharf to generate additional revenues.  |             | X        |               |                   |                       |                            |
| 127 | Fiscal Sustainability | New and Improved Funding Sources | DeLaveaga Disc Golf Fees  | PR              | Develop infrastructure and business plan around monetizing disc golf at DeLaveaga.  |             | X        |               |                   |                       |                            |
| 132 | Fiscal Sustainability | New and Improved Funding Sources | Recreation Programming Plan/Revenue Policy  | PR              | Update fees, cost recovery targets, and fiscal sustainability plan for Recreation.  |             | X        |               |                   |                       |                            |
| 145 | Fiscal Sustainability | New and Improved Funding Sources | PR Contract Partner Agreements  | PR              | Wide-ranging updates to contracts with P&R partners for programs and services to change fee structures, liability, and expectations.  |             | X        |               |                   |                       |                            |
| 126 | Fiscal Sustainability | New and Improved Funding Sources | West Cliff Parking Fees   | PR              | Implement parking fees on West Cliff Drive to generate revenue.   |             | X        |               |                   |                       |                            |
| 146 | Fiscal Sustainability | New and Improved Funding Sources | Updated Water Rates   | WT              | The current water rate schedule expires on 6-30-21. New rates are required to provided fiscal sustainability for the Water Department and support ongoing work for infrastructure and supply reliability and sustainability.  |             |          |               |                   |                       | X                          |
| 2   | Fiscal Sustainability | New and Improved Funding Sources | City's Re-envision Santa Cruz - State and Federal Communication and Outreach Plan | WT              | Develop and implement an integrated state and federal communication and outreach plan for the Santa Cruz Community Investment and Reinvestment Initiative.  | X           |          | X             | X                 | X                     | X                          |
| 28  | Infrastructure        | Green Economy and Workforce      | Resilient Coast Santa Cruz + Other Pending Grant Projects                         | CMO             | West Cliff Drive Public Works Plan adopted by 5/1/2021; LCP amendment adopted by 6/1/2021; 3 new projects identified during Resilient Coast are pending final stage grant award.  |             |          | X             |                   |                       |                            |
| 29  | Infrastructure        | Green Economy and Workforce      | Climate and Energy Action Plan including Green Economy / Green Recovery Analysis  | CMO             | Determine quick to implement strategies that benefit economy and climate and longer term strategies that support both.  |             |          | X             |                   |                       |                            |
| 35  | Infrastructure        | Green Economy and Workforce      | Existing Building Decarbonization Retrofit Study                                  | CMO             | Identify markets, pathways and incentives for existing building electrification retrofits. Proposal pending requested funding from 3C with SLO and SC resources matches pledged.  |             |          | X             |                   |                       |                            |
| 33  | Infrastructure        | Green Economy and Workforce      | Green Workforce Development Initiative  | ED              | Develop a series of strategies to increase the number of Green Economy jobs and local businesses working on improvement projects with the City. Could include: Mayors Roundtables on Green Economy/Climate Readiness, and other concepts.   |             | X        | X             | X                 | X                     |                            |

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|--------|----------------|-----------------------------------|--|-----------------|---|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 32     | Infrastructure | Green Economy and Workforce       | Municipal Fleet Electrification Plan   | PW              | Will be completed as part of the PW facilities division work plan in September 2021.  |             |          | X             |                   |                       |                            |
| 25     | Infrastructure | Green Economy and Workforce       | Public Facility Maintenance and Energy Upgrades  | PW              | Some energy upgrades in progress. Building Maintenance minimally funded.  | X           |          |               |                   |                       |                            |
| 34     | Infrastructure | Green Economy and Workforce       | Planning and Funding of West Cliff Drive (WCD) Project                                   | PW              | WCD adopted by May 1; FY22 CIP and next step studies/design will be prioritized for funding and implementation.   |             |          |               |                   |                       |                            |
| 3      | Infrastructure | Green Economy and Workforce       | City's Build Back Better -Workforce Development Initiative                               | WT              | City's Build Back Better - Develop and implement a Workforce Development Initiative.<br><br>From #33: See developing proposal for other actions, e.g., Mayors Roundtables on Green Economy/Climate Readiness; WTR and other concerns.                                       |             | X        | X             | X                 | X                     |                            |
| 4      | Infrastructure | Green Economy and Workforce       | City's Re-envision Santa Cruz - Infrastructure and Facilities List                       | WT              | Develop the Integrated and Comprehensive Infrastructure and Facilities List to inform local businesses of upcoming projects.  | X           |          |               |                   |                       | X                          |
| 1      | Infrastructure | Green Economy and Workforce       | City's Re-envision Santa Cruz - Integrated and Strategic Communications                  | WT              | Develop and implement an integrated and Strategic Communication Initiative.   | X           | X        |               | X                 |                       |                            |
| 0      | Infrastructure | Green Economy and Workforce       | City's Re-envision Santa Cruz - Community Investment / Reinvestment Strategy             | WT              | Community Investment / Reinvestment Initiative includes projects and initiatives related to: Green Economy; Infrastructure Rehabilitation and Replacement; Workforce Development; Climate Action and Climate Adaptation; Sustainability, and Quality of Life in Santa Cruz. | X           | X        | X             | X                 | X                     | X                          |
| 87     | Infrastructure | Parks, Recreation and Open Spaces | Rail Trail Art Implementation  | ED              | Negotiate Rail Trail Master Agreement with the RTC for Right of Entry along the Rail Trail. Negotiate donation agreements, commissions and installations on the completed segment.  |             |          |               |                   |                       |                            |
| 97     | Infrastructure | Parks, Recreation and Open Spaces | Wharf PopUp/Pandemic Recovery Efforts  | ED              | Help draw new visitors to the wharf by complementing the existing vendors on the wharf with short term new business concepts and curated programming.   |             |          |               |                   |                       |                            |
| 118-01 | Infrastructure | Parks, Recreation and Open Spaces | Wharf Master Plan  | PR              | The WMP is a joint effort between PR and ED. It is complete and Council-approved, but has received a legal challenge. We anticipate needing to work on this over the next several months or more.   | X           | X        |               |                   |                       |                            |
| 118-02 | Infrastructure | Parks, Recreation and Open Spaces | Wharf EDA Grant for Piling Replacement   | ED              | Project to replace subset of wharf pilings (wooden posts on which the wharf sits). This replacement is a constant rotating need.  |             | X        |               |                   |                       |                            |
| 118-03 | Infrastructure | Parks, Recreation and Open Spaces | Wharf Master Plan Implementation: Phase I: Gateway Signage and Ticketing Entry           | ED              | Funds are secured and the public process for design of the Gateway sign may proceed as directed by Council.   |             | X        |               |                   |                       |                            |
| 118-04 | Infrastructure | Parks, Recreation and Open Spaces | Wharf Master Plan Implementation: Phase II+  | ED              | Long term implementation of plan including public outreach and ongoing grant funding.   |             | X        |               | X                 |                       |                            |
| 161    | Infrastructure | Parks, Recreation and Open Spaces | Pogonip Vegetation Management Program  | FD              | Complete shaded fuel breaks within our largest open space, Pogonip.   |             | X        |               |                   |                       |                            |
| 162    | Infrastructure | Parks, Recreation and Open Spaces | Wild Urban Interface 5 Year Vegetation Master Plan                                       | FD              | Compile master plan for vegetation management in our open spaces and create integrated plan for the next 5 years.   |             | X        |               |                   |                       |                            |
| 136    | Infrastructure | Parks, Recreation and Open Spaces | Pogonip Clubhouse  | PR              | Philanthropic funding available for renovation of Pogonip Clubhouse; structural review complete; will need design review, access, contract approvals.   | X           |          |               |                   |                       |                            |
| 123    | Infrastructure | Parks, Recreation and Open Spaces | Harvey West Pool Feasibility Study   | PR              | Per City Council sub-committee, develop a pool feasibility study leading to a donor-based capital campaign.   | X           |          |               |                   |                       |                            |
| 140    | Infrastructure | Parks, Recreation and Open Spaces | Westside Pump Track  | PR              | Project to renovate Westside Pump Track to an asphalt surface.  | X           |          |               |                   |                       |                            |
| 119    | Infrastructure | Parks, Recreation and Open Spaces | Wharf "Public Works" Plan  | PR              | Coastal Commission will need a "public works" plan for the Wharf, similar to the Beach Management Plan, to provide a blanket permit for maintenance and CIP investment into the Wharf.  |             | X        |               |                   |                       |                            |
| 10     | Infrastructure | Parks, Recreation and Open Spaces | Monterey Bay Sanctuary Scenic Trail (MBSST) Rail Trail Segments 8 & 9                    | PW              | Design and complete environmental review for project, from Wharf roundabout to 17th Ave.  |             |          | X             | X                 | X                     |                            |
| 27     | Infrastructure | Parks, Recreation and Open Spaces | West Cliff Drive Multi-use Repair, Storm Damage Repair at Chico and Stair Rehabilitation | PW              | Repair the path from John to Swanton, repair 2 stairs and address the storm damage near Chico.  |             |          | X             | X                 | X                     |                            |

**City of Santa Cruz - Re-Envision Santa Cruz**  
**Projects for Our 12-18 Month Interim Recovery Plan**  
**January 1, 2021 - June 30, 2022**

| ID  | Focus Area     | Project Category                  | Project   | Lead Department | Long(er) Description   | Re-Envision | Recovery | Green Economy | Engaged Community | Equity and Well-being | Essential Service Delivery |
|-----|----------------|-----------------------------------|---|-----------------|--|-------------|----------|---------------|-------------------|-----------------------|----------------------------|
| 11  | Infrastructure | Parks, Recreation and Open Spaces | MBSST Rail Trail Segment 7 Phase 2                    | PW              | Construct rail trail from Bay/California to Wharf Roundabout (along WWTF and Neary Lagoon).  |             |          | X             | X                 | X                     |                            |
| 13  | Infrastructure | Parks, Recreation and Open Spaces | Swanton Blvd Multi-Use Trail Connector                | PW              | Development of multi-use trail along Swanton and Delaware.   | X           |          | X             | X                 | X                     |                            |
| 116 | Infrastructure | Resiliency and Improvements       | Ocean Street Beautification                           | ED              | Bond-funded and Council-approved CIP Project including design development for improvements based on the Ocean Street Plan including development of the design details for landscaping, sidewalk, streetlights.   |             | X        |               |                   |                       |                            |
| 20  | Infrastructure | Resiliency and Improvements       | Resource Recovery Facility Infrastructure             | PW              | Design and construct various required infrastructure projects at the recycling center and landfill.  | X           |          | X             |                   |                       | X                          |
| 7   | Infrastructure | Resiliency and Improvements       | State Route 1/9                                       | PW              | Widen intersection to provide additional lanes, and bike and pedestrian improvements. Project also involves property acquisitions and an eminent domain process, both being assisted by City Attorney's office and Economic Development.   |             | X        |               |                   |                       |                            |
| 8   | Infrastructure | Resiliency and Improvements       | State Route 1 Bridge Replacement                      | PW              | Replace existing functionally obsolete bridges with one new wider structure.   | X           |          |               |                   |                       | X                          |
| 5   | Infrastructure | Resiliency and Improvements       | Downtown Intersection Improvements                    | PW              | Revise Front/Soquel, Front Laurel and Pacific/Laurel based on Downtown development.  |             |          |               |                   |                       |                            |
| 12  | Infrastructure | Resiliency and Improvements       | Riverside Ave Utility Undergrounding and Streetscape  | PW              | Utility undergrounding and streetscape on Riverside from the bridge to Beach Street.   | X           |          |               |                   |                       |                            |
| 19  | Infrastructure | Resiliency and Improvements       | Pure Water Soquel Creek Water District                | PW              | Upgrade Regional Wastewater Treatment Facility infrastructure to treat reclaimed water and construct dual pipeline to city limits.   |             |          |               |                   |                       |                            |
| 17  | Infrastructure | Resiliency and Improvements       | Wastewater Collection System Infrastructure Projects  | PW              | Improve wastewater mains and pump stations city wide.  |             |          |               |                   |                       | X                          |
| 18  | Infrastructure | Resiliency and Improvements       | Wastewater Treatment Facility Infrastructure Projects | PW              | Upgrade Regional Wastewater Treatment Facility infrastructure.   | X           |          | X             |                   |                       |                            |
| 150 | Infrastructure | Resiliency and Improvements       | Water Capital Improvement Program                     | WT              | Infrastructure reinvestment and climate adaptation -- key projects include: Meter Replacement, Newell Creek Inlet-Outlet Pipeline Replacement, GHWTP Concrete Tanks Replacement, GHWTP Facilities Improvement Project design-build contract award, Laguna Diversion Capital Maintenance<br><br>This is an approximately \$600 million reinvestment in the water system's backbone infrastructure: raw water storage, transmission, and water treatment facilities as well as funding for the water supply projects selected as a result of the water supply augmentation strategy work described | X           |          | X             |                   |                       | X                          |
| 149 | Infrastructure | Resiliency and Improvements       | Water Augmentation Strategy                           | WT              | This effort will culminate in the selection of one or more water supply augmentation projects that will be implemented to improve water supply reliability.  |             |          | X             |                   |                       |                            |
| 147 | Infrastructure | Resiliency and Improvements       | Updated Long Range Financial Plan                     | WT              | The Water Department has developed a 10 year financial plan to guide financial planning and management for the decade ahead. We need to update the 2016 document.  |             |          |               |                   |                       | X                          |
| 148 | Infrastructure | Resiliency and Improvements       | Updated Urban Water Management Plan                   | WT              | The Water Department is required to update its Urban Water Management Plan and submit it to the state every 5 years.   |             |          |               |                   |                       | X                          |
| 151 | Infrastructure | Resiliency and Improvements       | Council Action on Water Shortage Contingency Plan     | WT              | Council action to accept this plan in the specified timeline is needed to ensure that we have a relevant plan in place before the upcoming water demand season in the event we need to implement water restrictions.   |             |          |               |                   |                       | X                          |

## Rosemary Balsley

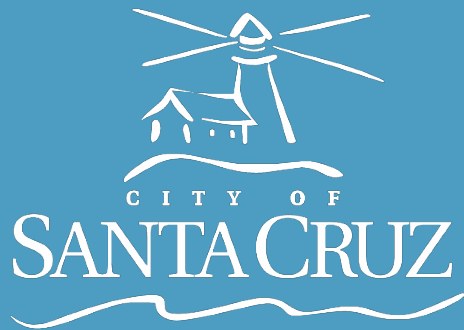
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**From:** bikerick@att.net  
**Sent:** Friday, April 23, 2021 12:16 PM  
**To:** City Council  
**Subject:** Fiscal Sustainability in Re-Envision Santa Cruz Item #39 Council meeting of 4/27/21

Dear Councilmembers: Regarding the goal of Fiscal Sustainability in Re-Envision Santa Cruz, one simple matter you can undertake is to ensure that all TOT (transient occupancy taxes) are collected from both permitted and non-permitted short-term rentals. A quick perusal of Santa Cruz City listings on the Airbnb website reveals some indicate that guests must pay the TOT, others don't. Airbnb collects TOT for the County (in the unincorporated area), but not in the City. An advantage of having Airbnb collect the tax is that Airbnb pays not only based only on the landlord's charge, but also on the additional fee that Airbnb charges the guest. If you don't want to make an agreement with Airbnb to collect TOT fees for the City, there are other services that will do this, but will probably take a cut. I suggest adding this simple measure to fully collect all TOT taxes to Re-Envision's task list.

Rick Hyman  
Santa Cruz





# Re-Envision Santa Cruz

*Building a future for everyone, together*

## Council Update

April 27, 2021

## Re-Envision Santa Cruz

**Building a future for everyone, together**



### Guiding Principles

Sustainability and  
Green Economy

Engaged  
Community

Equity and  
Well-being

Essential  
Service Delivery

# Agenda

01

Furthering the Recovery Planning

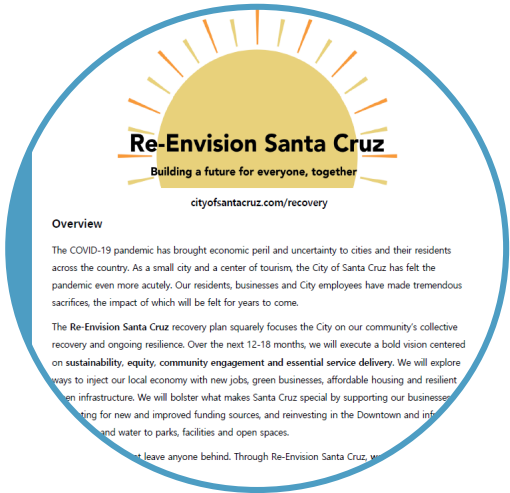
02

Accomplishments

03

Metrics

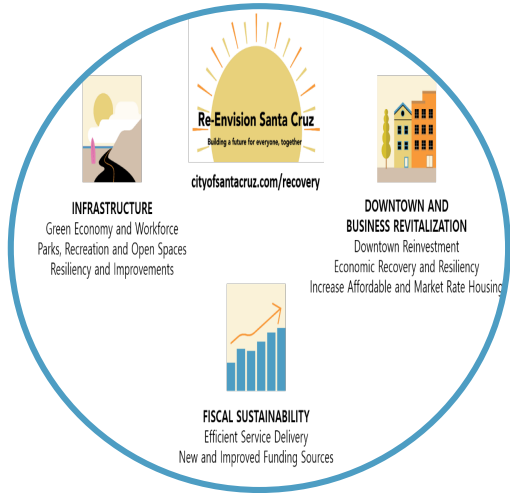
# Further Advancing Re-Envision SC



## Re-Envision Summary

### Overview

### Objectives for Each Focus Area



## Project Categories

### Categories for Each Focus Area

### Refinement of List

# Our Focus Areas



## Fiscal Sustainability

Rebuild the City's strong financial foundation to maintain excellent service delivery, improve quality of life, and build the resiliency to face future challenges.



## Downtown and Business Revitalization

Invest in Santa Cruz's robust and diverse locally owned businesses, focusing on the Downtown as a center for housing, commerce and transportation, to ensure an equitable recovery for all.



## Infrastructure

Reimagine improvements to facilities, systems, and open spaces with a focus on resilience, climate adaptation, and supporting a high quality of life.

*See Attachment 1 for Objectives for Each Focus Area*

# Project Categories



## Fiscal Sustainability

Efficient Service Delivery

New and Improved Funding Sources



## Downtown and Business Revitalization

Downtown Reinvestment

Economic Recovery and Resiliency

Affordable and Market Rate Housing



## Infrastructure

Green Economy and Workforce

Parks, Recreation and Open Spaces

Resiliency and Improvements



# Accomplishments (Subset)



## Fiscal Sustainability

Fuller cost recovery fee studies  
Revised and new development fees  
Pilot concept approval for grant  
writing managed service  
Progress on recreation programming  
plan and revenue policy



## Downtown and Business Revitalization

Business loan support  
Outdoor expansion program  
Launch of downtown expansion plan  
Housing inclusionary ordinance updates  
Progress on objective standards for  
residential development proposals



## Infrastructure

West Cliff Drive Adaptation Plan  
Initiation of workforce development  
initiative  
Water system backbone reinvestment  
program  
Wharf Master Plan

*See Attachment 2 for Full Progress Report*

# Metrics – 1<sup>st</sup> Baseline Report



## NOTES:

Comparison Year: Last “Standard” Fiscal Year

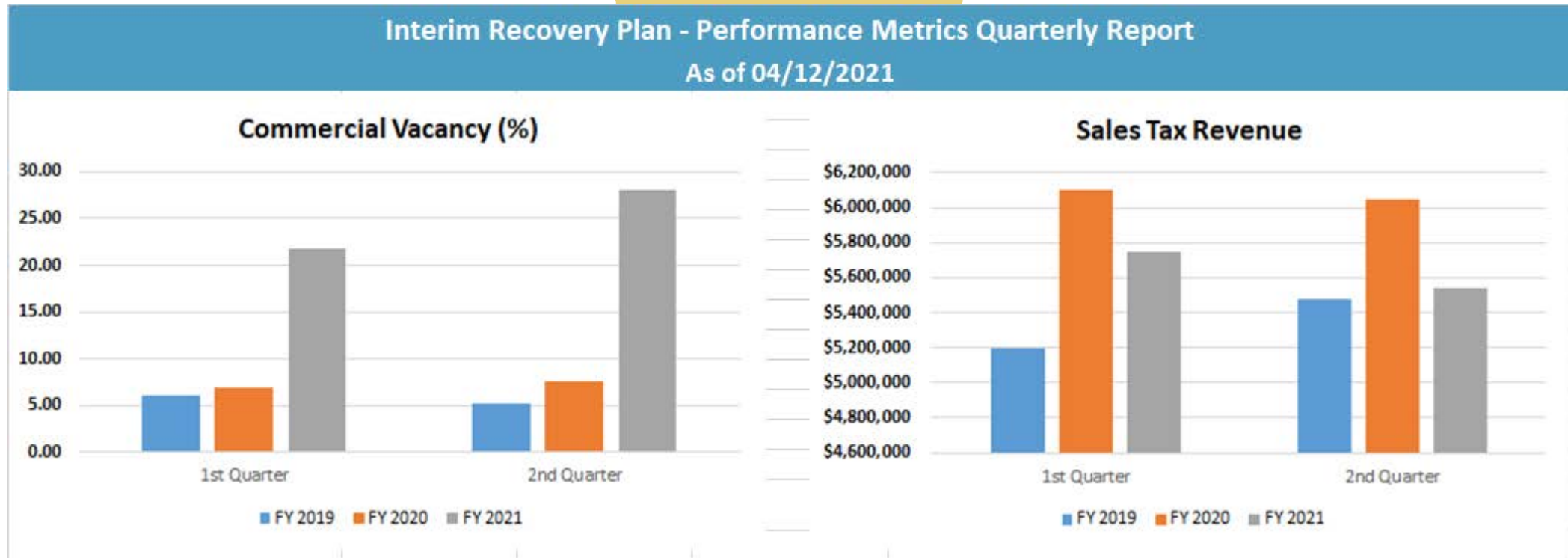
Period: 6 Months from July through December –  
January through March Not Available for All Metrics

One Recommended Replacement Metric

Next Quarter: Suggestions Regarding  
Equity Lens ↔ Our Metrics

*See Attachment 3 for Full Metrics Report*

# Metrics – 1<sup>st</sup> Baseline Report



# Metrics – 1<sup>st</sup> Baseline Report



| Metric   | Jul-Dec 2018<br>Fiscal Year 2019 | Jul-Dec 2020<br>Fiscal Year 2021 | % Change<br>Between Fiscal<br>Years | Notes:   |
|--|----------------------------------|----------------------------------|-------------------------------------|--|
| <b>Business Licenses Issued</b>  | 158                              | 103                              | -34.81%                             |  |
| <b>Business Licenses Renewed</b>   | Not Available                    | Not Available                    | Not Available                       | Business license renewal is a new metric that Economic Development (ED) is tracking. They are working with Finance to gather a complete set of data to report.   |
| <b>Commercial Vacancy Rate</b>   | 5.10%                            | 28.10%                           | +23.00%                             |  |
| <b>Business Closures Reported</b><br>A. Closures Reported<br>B. Utility Terminations | A. 213<br>B. 33                  | A. 112<br>B. 44                  | A. -47.42%<br>B. +33.33%            | A. The number of discontinued business licenses is only what is reported to us by business owners. The data does not account for the potential business owners who do not report to the City that they are closing.<br><br>B. Thus, we are also using data from Santa Cruz Municipal Utilities to see if there is data that sheds different light in this area. We assume that utilities are a more proactive approach since business owners terminate service once the business closes to avoid ongoing fees. |
| <b>Number of Permits Issued</b><br>A. Planning Applications<br>B. Building Permits   | A. 213<br>B. 806                 | A. 84<br>B. 695                  | A. -60.56%<br>B. -13.77%            |  |
| <b>New Housing Units</b>   | 29                               | 117                              | +403.45%                            | These numbers reflect units that have completed construction. Staff suggests replacing this metric with the one below.   |
| <b>Total Valuation of Building Permits Issued</b>                                    | \$60,147,980                     | \$27,631,938                     | -54.06%                             | These permits capture (most) residential, commercial and industrial construction activity => overall investment.   |

# Metrics – 1<sup>st</sup> Baseline Report



| Metric  | Jul-Dec 2018<br>Fiscal Year 2019       | Jul-Dec 2020<br>Fiscal Year 2021       | % Change<br>Between Fiscal<br>Years | Notes:  |
|---|--|--|-------------------------------------|---|
| <b>Transient Occupancy Tax (TOT)<br/>Revenue</b>  | \$6,007,880                            | \$4,207,568                            | -29.97%                             |   |
| <b>Sales Tax Revenue</b>  | \$10,673,838                           | \$11,287,451                           | +5.75%                              | Change in the State's timing of distribution may have impacted this data.   |
| <b>Admission Tax Revenue</b>  | \$1,388,607                            | \$44,150                               | -96.82%                             |   |
| <b>General Fund Reserve</b>   | \$19,229,433                           | \$13,974,360                           | -27.33%                             | FY 2019 is actual year-end fund balance.<br>FY 2021 is budgeted year-end fund balance.  |
| <b>General Fund Capital<br/>Maintenance Budget</b>  | \$1,560,628                            | \$0                                    | -100%                               | Numbers are adopted budget.   |
| <b>Maintenance of Parks and<br/>Open Space - Labor Hours per<br/>Acre for Fiscal Year</b><br>A. Budgeted<br>B. Actual                 | A. 73.38<br>B. 69.71                   | A. 69.77<br>B. 60.15                   | A. -4.92%<br>B. -13.71%             | Since Shelter-in-Place orders have been issued, parks and open space usage has surged. So, while usage has increased, maintenance budgeted and actually done has decreased. Parks and Rec is currently working on a process to further refine the actual hours. |
| <b>Maintenance of Recreational<br/>Facilities - Labor Hours per<br/>1,000 square feet for Fiscal Year</b><br>A. Budgeted<br>B. Actual | A. 99.54<br>B. Actual Not<br>Available | A. 99.54<br>B. Actual Not<br>Available | A. 0.00%<br>B. Not Available        | Parks and Rec is currently working on a process to measure actual hours.  |





Employees – Day-In-Day-Out Hard Work  
Departmental Staff – Report Content  
Department Heads – Report Content  
Department Head Re-Envision Sub-team



# Re-Envision Santa Cruz

*Building a future for everyone, together*

Recommendation: Motion to accept first quarterly progress reports on the City's Re-Envision Santa Cruz strategy, a 12-18 month interim recovery plan, and provide feedback as desired.



## City Council AGENDA REPORT

**DATE:** 04/15/2021

**AGENDA OF:** 04/27/2021

**DEPARTMENT:** Economic Development

**SUBJECT:** Vacant Storefront Activation Pilot Program: Downtown Pops! - Budget Adjustment (ED)

---

**RECOMMENDATION:** Motion to:

- 1) Authorize the creation of a vacant storefront activation program in Downtown Santa Cruz.
  - 2) Adopt a resolution approving a budget adjustment from the Economic Development Trust Fund to fund the 6 month pilot program.
  - 3) Authorize the City Manager or his/her Designee, to execute, in a form approved by the City Attorney, any leases, licenses, or other such agreements, documents, or administrative duties necessary for implementation of the “Downtown Pops!” program.
- 

**BACKGROUND:** The coronavirus pandemic has brought devastating economic impacts to businesses across the country and here in Santa Cruz. Downtown Santa Cruz is the heart of our community and contains the greatest concentration of commercial, retail and office space in the city. As such, the economic impacts of the pandemic are highly visible downtown with the highest vacancy rates in the city. Reported downtown retail vacancy rates in the first quarter of 2021 were 31.5% compared to 9.6% during the pre-pandemic first quarter of 2020 (CoStar Research). In reality, downtown vacancies are even higher, reflective of off-market properties and closed businesses, restaurants and offices who still have active leases but are no longer operating their businesses or occupying their leased spaces due to impacts of the pandemic.

There are additional conditions that further compound the impacts of the downtown vacancies. First, the highest lease rates are on Pacific Avenue, and, as a result, the concentration of vacancies are particularly high on Pacific Avenue and highly visible on our main downtown corridor. Second, a number of new development projects at the south end of Pacific Avenue have taken properties off the market to prepare for development leaving empty storefronts waiting for demolition that are currently inactive. Third, the office related foot traffic during the work week has declined dramatically downtown as office tenants and their clients conduct a significant amount of their work remotely. Finally, it is also important to note that UCSC, the City’s largest employer and home to nearly 20,000 students, has been mostly remote over the past year of the pandemic. As a result, many businesses have been impacted both by the reduced customer base as well as by the reduction of UCSC students who are usually a consistent available employment workforce for businesses downtown.

Unlike residential landlords, commercial property owners have not had the same state or federal relief options as residential landlords. While some commercial property owners have been in a position to voluntarily reduce rents during the pandemic, due to mortgages or other limitations, other landlords and property owners have not been in the same financial position. As a result, many landlords and property owners downtown have lost tenants from business closures or an inability to pay rent. These cumulative conditions have resulted in a severely impacted economic environment downtown which warrants direct and immediate intervention in order to support our existing local businesses, to ensure the long term sustainability of the downtown, and to aid in the recovery effort by encouraging new business investment and reinvestment downtown.

**Pop-up Programs.** The proposed vacant storefront activation pilot program will both incentivize new and growing businesses by offsetting the cost and risk of starting a new business during uncertain pandemic conditions and reduce the financial risk to landlords, by securing a short-term guaranteed minimal rent. By reducing vacant spaces in downtown with a concentrated focus on activating the spaces through vibrant, complimentary pop-ups, the City will be helping the short-term recovery and long term viability of the entire downtown while encouraging additional foot traffic in and around downtown. Working collaboratively with the Downtown Association and Downtown Management Corporation, the City can actively help offset the devastating and long term impacts of the pandemic on our downtown business community and employment base.

The pop-up program concept is not a new one. Many cities have created or partnered with organizations to develop pop-up programs or storefront activation programs to address their own vacancy and business development challenges. Pop-up programs also foster collaborative economic development activity between the public and private sector as a solution to addressing uncertain market conditions while expanding opportunity for aspiring entrepreneurs. Pop-up programs further reduce significant barriers to entry for businesses through reduced or subsidized rent. It is a model that can be an effective tool in the current environment where economic conditions, access to capital and related risks for new business ventures are acute.

The Economic Development Department (ED) has past and recent experience in supporting downtown revitalization through pop-ups and leasing assistance. At the beginning of the 2009 recession, the City supported a downtown leasing effort resulting in securing a major anchor tenant that has now been in the downtown over a decade. In 2019, the department partnered with the Downtown Association for a holiday pop-up program that brought the Santa Cruz Mountain Maker's Market into an empty store in the 1500 block of Pacific Avenue and brought Childish, a local children's toy store, into an empty store in the 1300 block of Pacific Avenue. These spaces were donated by the property owner to provide a short-term activation to draw shoppers into Downtown during the busy holiday season and was a positive test of the concept of a longer term pop-up program.

ED also has a demonstrated track record of incubating local businesses to accelerate recovery. The Downtown Kiosk Program, originally established after the Loma Prieta earthquake, leases kiosk spaces to startup food-service businesses allowing businesses to test concepts, grow their businesses, and eventually expand into a larger traditional brick and mortar restaurant space. A number of businesses have been able to grow out of the kiosk into a brick and mortar store. Most recently, Roux Dat graduated from the Kiosk Program growing into Abbot Square Market, while Opulence Indian Fare is currently exploring opportunities to expand its business footprint downtown.

**DISCUSSION:** As we work towards recovery from the impacts of the pandemic, the proposed vacant storefront activation pilot program, Downtown Pops!, will help create a framework to help address the following needs:

- Stabilize the Santa Cruz commercial real estate market by:
  - o Providing a guaranteed minimal income to property owners and lowering operating costs
  - o Creating a path to permanent tenancy by testing new business models and concepts
- Maintain Downtown as regional commercial destination by:
  - o Activating and filling vacant storefronts
  - o Creating an exciting and dynamic post pandemic retail environment
- Encourage local entrepreneurship and broaden business opportunities
  - o Reduce barriers to entry and a period of unprecedented risk for aspiring business owners through limited short-term subsidized commercial rents with a focus on attracting women and people of color-owned businesses
  - o Creating “test pilot” opportunities for new and successful businesses to expand

Downtown Pops! Pilot Program Outline. Under Downtown Pops!, the City enters into a master lease with a number of downtown commercial property owners with existing high profile vacant spaces and provides a guaranteed minimum rent, roughly 50% of downtown current market rents, and then sub-leases these spaces to a variety of pop-up tenants. Such tenants could include aspiring new businesses with sound business concepts, established successful businesses with temporary expansion needs or prototyping new products or concepts, and other creative pop-ups designed to activate and invite downtown engagement.

The City will release a Request for Proposals for the available spaces and select the businesses based on criteria and input from a selection committee that includes representatives of the Downtown Association and Downtown Management Corporation. Selected business tenants in the program would pay to the City a percentage rent of their sales, anticipated between 3-5%. The City, in turn, would supplement the percentage rent, as needed, to ensure that the landlord receives a total of \$2/sq. ft. Any additional rent collected would be reserved by the City on the tenant’s behalf to support each tenant’s future expansion into a permanent business concept. All initial lease terms will be for six months. It is estimated that the program can support between 8-12 pop-ups during the initial lease up period, depending on size and availability of spaces and availability of tenants. Additional major terms are presented below.

Master Lease Format:

- Basic Terms:
  - o City executes lease with owner providing sub-let rights to City and indemnifying both parties.
  - o Owner/Landlord reserves right to terminate lease with 90 day notice for any reason.
  - o Owner/Landlord reserves right to terminate lease with 60 day notice subject to securing permanent tenant (Pop-up program will not impede filling vacancies on a more permanent basis).
  - o City reserves right to select and relocate pop-up tenants, as needed.
  - o City monitors tenant sales reports and confirms rents paid are appropriate.



- o City streamlining of permits for tenant businesses and minor TI's (tenant improvements), if needed, subject to owner approval.

- Rent:

- o City guarantees \$1.00 sq. ft. minimum base rent, as may be offset by Tenant's percentage payments below.

- o Tenant pays percentage of monthly sales to City as rent, targeted between 3-5%.

- o City pays Owner/Landlord total monthly rent, supplementing the percentage rent, if needed, capped at \$2 sq. ft, but no less than the minimum base rent.

- o Any percentage rents collected above \$2.00 sq. ft. would be held in a tenant specific account to support the tenant's growth into a permanent business or to cover rent during low performing months.

- Triple net NNN costs:

- o Tenant to be responsible for any additional triple net or CAM (common area maintenance) costs.

Source of Funds and Estimate of Program Costs. Funding for the pilot program would come from the City's Economic Development Trust Fund. The Economic Development Trust Fund (Fund) was created by the City Council following the dissolution of the Santa Cruz Redevelopment Agency by the State of California in 2012. The Fund was created for the City to continue to invest in economic development projects and initiatives in order to create jobs and provide tax revenue for the community. Following necessary budgetary reductions to the Fund in FY 2020 and FY 2021 as a result of the pandemic, the Fund currently has a balance of \$800,000. Previous expenditures from the Fund include the recent \$500,000 for the City's FY 2020 Resilience Microloan program (of which over \$180,000 has been repaid to the fund), the City's Get Virtual program contribution and a Council-approved earmark for the permanent structure for the Santa Cruz Farmers' Market.

The proposed program is estimated to cost in the range of \$150,000-\$200,000, depending on the success of the selected business ventures. The range is reflective of the City's guaranteed minimum rent, but will be offset by the actual percentage rent paid by individual tenants. Tenants able to pay the full \$2/sq. ft. monthly rent through the percentage rent will not be supplemented by the City. Staff proposes to return to Council within 6 months of program implementation to review success of the program and expenditures.

**FISCAL IMPACT:** Up to \$200,000 from the City's Economic Development Trust Fund would be used for this pilot program and there will be no direct impact to the General Fund related to implementation.

**Prepared By:**  
Rebecca Unitt  
Business Liaison

David McCormic  
Asset and Development  
Manager

Bonnie Lipscomb  
Director of Economic  
Development

**Submitted By:**  
Bonnie Lipscomb  
Director of Economic  
Development

**Approved By:**  
Martín Bernal  
City Manager

**ATTACHMENTS:**

1. BUDGET ADJUSTMENT.PDF

☒ Council Approval  
☐ Administrative Approval

**City of Santa Cruz  
BUDGET ADJUSTMENT REQUEST**

**Clear Form**

Fiscal Year: 2021  
Date: 04/27/2021

CM/FN Use Only:  
Reso #:  
JE Post#:

Purpose: To fund the Vacant Storefront Activation Pilot Program. The City will master lease vacant downtown property and sublease to new businesses for pop-up operations.

| ACCOUNT              | PROJECT            | REVENUE EDEN ACCOUNT TITLE  | AMOUNT |
|----------------------|--------------------|-----------------------------|--------|
| 136-51-80-5590-46201 | p512104-665-1026-0 | ED Trust Fund Rental Income | 50,000 |
|                      |                    |                             |        |
|                      |                    |                             |        |
|                      |                    |                             |        |
|                      |                    |                             |        |
| TOTAL REVENUE        |                    |                             | 50,000 |

| ACCOUNT              | PROJECT            | EXPENDITURE EDEN ACCOUNT TITLE | AMOUNT  |
|----------------------|--------------------|--------------------------------|---------|
| 136-51-80-5590-52151 | p512104-100-2020-0 | ED Trust Fund Program Services | 200,000 |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
|                      |                    |                                |         |
| TOTAL EXPENDITURE    |                    |                                | 200,000 |

**NET: \$ -150,000**

| REQUESTED BY  | DEPARTMENT HEAD APPROVAL   | BUDGET/ACCOUNTING* APPROVAL  | FINANCE DIRECTOR APPROVAL   | CITY MANAGER APPROVAL |
|---|--|--|---|-----------------------|
| Kathryn Mintz<br><small>Digitally signed by Kathryn Mintz<br/>DN: cn=Kathryn Mintz, o=City of Santa Cruz, ou=Economic Development,<br/>email=kmintz@cityofsantacruz.co.ca, c=US<br/>Date: 2021.04.15 11:47:07 -0700</small> | Bonnie Lipscomb<br><small>Digitally signed by Bonnie Lipscomb<br/>DN: cn=Bonnie Lipscomb, o=City of Santa Cruz, ou=Economic Development,<br/>email=blipscomb@cityofsantacruz.co.ca, c=US<br/>Date: 2021.04.15 16:35:30 -0700</small> | Edward Torres<br><small>Digitally signed by Edward Torres<br/>DN: cn=Edward Torres, o=City of Santa Cruz, ou=Finance Department,<br/>email=etorres@cityofsantacruz.co.ca, c=US<br/>Date: 2021.04.19 16:30:21 -0700</small> | Kim Krause<br><small>Digitally signed by Kim Krause<br/>DN: cn=Kim Krause, o=City of Santa Cruz, ou=Finance Department,<br/>email=kkrause@cityofsantacruz.co.ca, c=US<br/>Date: 2021.04.19 16:30:21 -0700</small> |                       |

## Rosemary Balsley

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**From:** jorian@downtownsantacruz.com  
**Sent:** Saturday, April 24, 2021 9:21 AM  
**To:** City Council  
**Subject:** In Support of Downtown Pops!

To Our City Council,

I'm writing on behalf of the Downtown Association of Santa Cruz in support of the **Downtown Pops!** pilot program, [Item #40](#) on the Agenda for April 27<sup>th</sup>. This program will help fill Downtown's vacant spaces, which increased by over 20% last year. This program is needed to keep our neighborhood activated and vibrant, discourage the negative behaviors attracted to unoccupied space, and enable our community's entrepreneurs to bring their energy Downtown to be part of re-building the heart of Santa Cruz while building the next generation of community businesses.

The Downtown Association of Santa Cruz, which represents business owners in the Downtown district, exists to create, promote and sustain Downtown as a unique and economically viable business, entertainment, social and cultural center. **Downtown Pops!** will be a critical component of our neighborhood's recovery from the pandemic.

Sincerely,

Jorian Wilkins

Cell | 303-905-1424

**Downtown Association of Santa Cruz**

[www.DowntownSantaCruz.com](http://www.DowntownSantaCruz.com)

———— SANTA ————

D O W N T O W N

———— C R U Z ————

[Instagram](#) | [Facebook](#) | [Newsletter](#)

## Rosemary Balsley

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**From:** Wendy King <wking108@mac.com>  
**Sent:** Monday, April 26, 2021 10:28 AM  
**To:** City Council  
**Subject:** Revitalizing downtown SC

Dear City Council,

Thank you for looking into revitalizing downtown Santa Cruz.

The shuttered stores are a sad reminder of the past year. But the outdoor dining areas are lively and full - we here in the Central Coast have glorious weather; we are fortunate to have the great outdoors to gather. There are so many examples: our farmer Markets, the pop up art festivals, the Keep on Truckin' movable music fest...

I urge City Council to focus on some outdoor spaces downtown for revitalization. Recently there was an OpEd about town plazas. Santa Cruz has lost its center - the heart ♥□. We need a plaza where old and young can sit, talk, gather for events, meet people... Personally I feel that the space where the Downtown Farmers Market would be ideal.

I visited MorroBay for the first time just before the pandemic. They have lovely pocket parks around the city, including one with a giant chess board and pieces! It creates a peaceful, welcoming feeling, celebrating our glorious venue.

I am still hoping that the Farmers Market lot with our heritage magnolia trees will be saved for us and our children.

Revitalize downtown Santa Cruz by celebrating our beautiful outdoors with a Plaza, please!

Thank you for your consideration,  
Wendy King  
143 Mason St. SC



## Rosemary Balsley

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**From:** Bonnie Bush  
**Sent:** Monday, April 26, 2021 11:52 AM  
**To:** City Council  
**Subject:** FW: Item #40 Downtown Pops pilot program

*Bonnie Bush, CMC*  
City Clerk Administrator  
City of Santa Cruz  
831-420-5035

Public Records Requests may be submitted online via the Public Records Request form, by email to [bwillman@cityofsantacruz.com](mailto:bwillman@cityofsantacruz.com), or by hard copy form available at the City Clerk's Office located at 809 Center Street, Room 9, Santa Cruz, CA 95060.

Please note: Public Record Act Requests submitted via email, fax, USPS, or dropoff after 5:00 p.m. on a business day, Saturdays, Sundays, or holidays will be processed as received on the next open business day. The 10-day response period begins when the request is received.

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**From:** Casey Beyer [mailto:casey.beyer@santacruzchamber.org]  
**Sent:** Monday, April 26, 2021 11:51 AM  
**To:** Donna Meyers <dmeyers@cityofsantacruz.com>; Sonja Brunner <sbrunner@cityofsantacruz.com>; Sandy Brown <sbrown@cityofsantacruz.com>; Justin Cummings <jcummings@cityofsantacruz.com>; Renee Golder <rgolder@cityofsantacruz.com>; Shebreh Kalantari-Johnson <SKalantari-Johnson@cityofsantacruz.com>; Martine Watkins <mwatkins@cityofsantacruz.com>  
**Cc:** Bonnie Bush <bbush@cityofsantacruz.com>; Bonnie Lipscomb <blipscomb@cityofsantacruz.com>  
**Subject:** Item #40 Downtown Pops pilot program

Dear Mayor Meyers, Vice Mayor Brunner and Councilmembers Brown, Cummings, Golder, Kalatrari-Johnson and Watkins:

I'm writing on behalf of the Santa Cruz County Chamber of Commerce in support of the **Downtown Pops!** Pilot program, Item 40 on the City Council's April 27th meeting. This program can be a helpful tool to fill Downtown's vacant spaces. This program is needed to keep our downtown activated and vibrant.

According to the city staff report and information provided by CoStar Research, the pandemic has brought devastating economic impacts to businesses across the country and here in Santa Cruz. Downtown Santa Cruz is the heart of our community and contains the greatest concentration of commercial, retail and office space in the city. As such, the economic impacts of the pandemic are highly visible downtown with the highest vacancy rates in the city. Reported downtown retail vacancy rates in the first quarter of 2021 were 31.5% compared to 9.6% during the pre-pandemic first quarter of 2020. When we face vacancies in our downtown, not only does the vacancy have harsh economic impact, but also vacant buildings lead to unwanted activities at empty door fronts.

The pop-up program concept is not a new program. It has been utilized by the City's Economic Development Department in the past. At the beginning of the 2009 recession, the City supported a downtown leasing effort resulting in securing a major anchor tenant that has now been in the downtown over a decade.

The Santa Cruz County Chamber of Commerce has long supported and promoted economic vitality through out the county and we believe the pop-up program can be a temporary resource as downtown businesses recover from the pandemic.

Thank you for considering the views of the Santa Cruz County Chamber.

Respectfully submitted.

Casey

Casey Beyer  
Chief Executive Officer  
Santa Cruz County  
Chamber of Commerce  
3121 Park Ave., Suite C  
Soquel, CA 95073  
(831) 457-3713

## Rosemary Balsley

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**From:** Ron Pomerantz <hectic@cruzio.com>  
**Sent:** Monday, April 26, 2021 10:31 PM  
**To:** City Council  
**Cc:** Donna Meyers; Sonja Brunner; Shebreh Kalantari-Johnson; Martine Watkins; Renee Golder; Justin Cummings; Sandy Brown  
**Subject:** April 27, 2021 Council Agenda Item #40: Vacant Storefront Activation Pilot Program: Downtown Pops!

I'm very concerned about Agenda Item #40-Vacant Storefront Activation Pilot Program: Downtown Pops! Budget Adjustment (ED). This issue appears to be a classic Republican trope, Socialism for the rich. Republicans constantly say this is a Capitalist economy and the market must dictate where capital goes and government is not to pick winners and losers. Yet, the staff report speaks of "stabilizing commercial real estate market," also "providing a guaranteed minimal income to property owners ...". But Staff seems to want it both ways. When commercial real estate has a down-turn the City appears willing to give them a hand out. When Commercial real estate interests make money hand-over-fist does some of the extra profit go to the City?

Bonnie Lipscomb's Economic Development Department is now asking you're approval to subsidize wealthy commercial real estate interests on the Mall to the tune of \$200,000. The staff report speaks of stabilizing commercial real estate market. What about stabilizing the runaway residential real estate market that displaces students and working people that contribute to the well being of the community (far more so than commercial real estate people)? Where's the concern and money to assist with unaffordable rents and mortgages, and high unemployment in the service industry? Oh, it's the Trickle Down Theory in motion in the bastion of progressivism, Santa Cruz.

Now down to the nuts and bolts. If the City puts public money into subsidizing businesses then surely they must require those businesses to pay prevailing wages. What is the selection process to pick the winning businesses? Shouldn't this be a public process? Will the Economic Development Department's vision dictate what the public's Pacific Garden Mall will look and feel like? The public has a right to know what the Economic Development Department's vision is. Was this vetted through the Downtown Commission or other public bodies? Wouldn't a public commons provide a needed boost to Downtown merchants more so that subsidizing commercial real estate? How come other City business districts weren't included in this gravy train?

There's no hurry, please get this right with a much needed public process before doling out public money for commercial real estate subsidies.

Ron Pomerantz



# *Vacant Storefront Activation Pilot Program: Downtown Pops!*

*City Council Presentation April 27, 2021*



SANTA CRUZ  
ECONOMIC  
DEVELOPMENT

# *THREE STAGES OF COVID-19 BUSINESS SUPPORT*

*Survival/ Rescue (March 2020 through May 2020)*  
*Immediate Needs, Deferments*

*Stabilization ( May 2020 through December 2020)*  
*More Substantial Assistance, SBA Loans*

*Recovery & Rebuilding (2021 and beyond)*  
*Temporary & Permanent Assistance, Additional Funding*



## *Survival/ Rescue (March 2020 through May 2020)*

### *Immediate Needs, Deferments*

- *Residential and Commercial Eviction Moratorium*
- *Emergency rental assistance for income qualified residents*
- *Rent deferment for City tenants*
- *City Utility and Parking Fee payment flexibility*
- *Alternative City tax payment schedules*
- *City Executive Order capping delivery fees on food deliveries*
- *Resolution supporting Business Interruption Insurance*
- *Community Support Platforms: RideOutTheWave.Org*

*Stabilization ( May 2020 through December 2020)*  
*More Substantial Assistance, SBA Loans*

- *Jump Start the Restart Kits*
- *Resilience Microloan Program*
- *Temporary COVID- 19 Outdoor Expansion Program*
- *Get Virtual Program*
- *Shop Santa Cruz Holiday Campaign & Bridge Signage*

*Recovery & Rebuilding (2021 and beyond)*  
*Permanent Parklets, Filling Vacancies, Additional Funding*

- *Developing Permanent Parklet Program*
- *Launching Grow Santa Cruz County Revolving Loan Fund*
- *Ongoing Shop Santa Cruz Campaign & Banners*
- *City Arts Recovery Design Program (CARD)*
- *SBDC “Clicks to Bricks” Incubator/ Accelerator for Retail*
- *Downtown Pops! Vacant Storefront Activation Program*

# *Why Downtown?*

- *Downtown economy particularly impacted by the pandemic*
- *Higher vacancy rate, greater concentration of businesses*
- *Largest impacted sales tax by geographical area in Qty*
- *Interim Recovery Plan (IRP) adopted on November 24, 2020*
  - *Downtown 1 of 3 Focus Areas in IRP*
  - *Reinvest in downtown for long-term viability, including efforts to attract and retain businesses, support long term investment*
  - *Downtown Pops! is a key part of the downtown recovery plan identified in the IRP and a complement to the Outdoor Expansion Program and other downtown recovery efforts.*

# *DOWNTOWN POPS! Program Goals*

- *Help to stabilize the downtown Santa Cruz commercial real estate market by:*
  - *Creating a path to permanent tenancy by testing new business models/ concepts*
  - *Bolstering the downtown economy and existing businesses by reducing vacancies*
  - *Reducing barriers to entry and risk for aspiring businesses and reducing risk in an unstable market for landlords/ property owners*
- *Maintain downtown as a regional commercial destination by:*
  - *Activating and filling vacant storefronts*
  - *Creating an exciting and dynamic post pandemic retail environment*
- *Encourage local entrepreneurship and broaden business opportunities*
  - *focus on attracting women and people of color-owned businesses*
  - *Creating “test pilot” opportunities for new and successful businesses to expand*



1547 Pacific Ave



1411 Pacific Ave



110 Cooper St



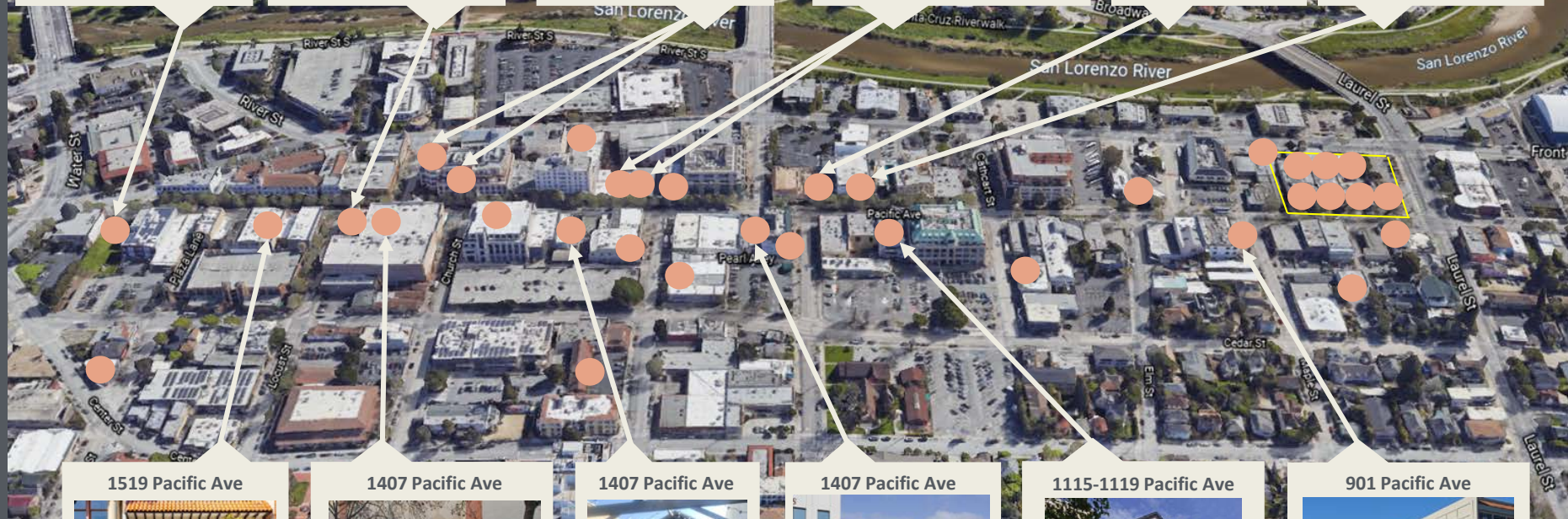
1308 & 1306 Pacific Ave



1130 Pacific Ave



1122 Pacific Ave



1519 Pacific Ave



1407 Pacific Ave



1407 Pacific Ave



1407 Pacific Ave



1115-1119 Pacific Ave



901 Pacific Ave



# Master Lease Format

01

Qty executes lease with owner providing sublet rights to Qty and indemnifying both parties.

- Owner/ Landlord reserves right to terminate lease with 90 day notice for any reason.
- Owner/ Landlord reserves right to terminate lease with 60 day notice subject to securing permanent tenant (Pop-up program will not impede filling vacancies on a more permanent basis).

02

Qty issues RFP for prospective tenants and selects and executes license agreement with tenants to sublet space.

- All initial lease terms will be for six months
- Qty reserves right to select and relocate pop-up tenants, as needed.
- Qty monitors tenant sales reports and confirms rents paid are appropriate.
- Qty streamlining of permits for tenant businesses and minor TI's, if needed, subject to owner approval.

03

Qty collects rent from tenant and pays Owner/ Landlord total monthly rent, supplementing the percentage rent, if needed.

- Qty guarantees \$1.00 sq. ft. minimum base rent, as may be offset by Tenant's percentage payments.
- Tenant pays percentage of monthly sales to Qty as rent, targeted between 3-5%.
- Qty pays Owner/ Landlord total monthly rent, supplementing the percentage rent, if needed, capped at \$2 sq. ft, but no less than the minimum base rent.
- Any percentage rents collected above \$2.00 sq. ft. would be held in a tenant specific account to support the tenant's growth into a permanent business or to cover rent during low performing months.

# *Tenant Selection Process*

1. *Economic Development will create an online application process for prospective tenants in both English & Spanish*
  - a. *Outreach will be done through community partners for a diverse applicant pool*
  - b. *Businesses needing assistance with the application will receive 1-on-1 support to successfully apply*
2. *A review panel including representatives from the Downtown Association, the Downtown Management Corporation and ED staff will review the applications, identify candidates able to move forward, and identify appropriate locations.*
3. *Priority consideration for business proposals from women and people of color.*
4. *Prospective tenants not selected will receive support to help them become eligible for future opportunities such as referrals to the SBDC for business plan development or other resources as necessary.*

# DOWNTOWN POPS! *Tenant Example*

*Retail Store in a 1,500 SF space on Pacific Avenue*

*Lease Space SF*

*1,500*

*Minimum Guaranteed Rent (\$1/ SF)*

*\$1,500*

*Maximum Monthly Rent (\$2/ SF)*

*\$3,000*

| <u>Example #1</u>                      |  |              | Rent/ SF      |
|--|--|--------------|---------------|
| Taxable Gross Income/ Month            |  | \$45,000     |               |
| Tenant Rent to Qty (5% of sales)       |  | \$2,250      | \$1.50        |
| Qty guaranteed minimum (up to \$1/ SF) |  | <u>\$750</u> | <u>\$0.50</u> |
| Rent Paid to Landlord/ Property Owner  |  | \$3,000      | \$2.00        |

# DOWNTOWN POPS! *Tenant Example*

*Retail Store in a 1,500 SF space on Pacific Avenue*

*Lease Space SF*

*1,500*

*Minimum Guaranteed Rent (\$1/ SF)*

*\$1,500*

*Maximum Monthly Rent (\$2/ SF)*

*\$3,000*

| <u>Example #2</u>                      |  |              | Rent/ SF      |
|--|--|--------------|---------------|
| Taxable Gross Income/ Month            |  | \$65,000     |               |
| Tenant Rent to Qty (5% of sales)       |  | \$3,250      | \$2.17        |
| Qty guaranteed minimum (up to \$1/ SF) |  | \$0          | \$0.00        |
| Tenant Reserve Fund held by Qty        |  | <u>\$250</u> | <u>\$0.17</u> |
| Rent Paid to Landlord/ Property Owner  |  | \$3,000      | \$2.00        |



# DOWNTOWN POPS! *Tenant Example*

*Retail Store in a 1,500 SF space on Pacific Avenue*

*Lease Space SF*

*1,500*

*Minimum Guaranteed Rent (\$1/ SF)*







*\$1,500*

*Maximum Monthly Rent (\$2/ SF)*

*\$3,000*

| <u>Example #3</u>                      |  |              | Rent/ SF      |
|--|--|--------------|---------------|
| Taxable Gross Income/ Month            |  | \$23,000     |               |
| Tenant Rent to Qty (5% of sales)       |  | \$1,150      | \$0.77        |
| Qty guaranteed minimum (up to \$1/ SF) |  | \$1,500      | \$1.00        |
| Tenant Reserve Applied                 |  | <u>\$250</u> | <u>\$0.17</u> |
| Rent Paid to Landlord/ Property Owner  |  | \$2,900      | \$1.93        |

# ***DOWNTOWN POPS! Timeline and Next Steps***

|                                       | <i>MAY</i>  | <i>JUNE</i> | <i>JULY</i>  | <i>AUGUST</i> | <i>SEPTEMBER</i> | <i>OCTOBER</i>  | <i>NOVEMBER</i>   | <i>DECEMBER</i> |
|---------------------------------------|---|-------------|--|---------------|------------------|---|---|-----------------|
| Finalize Lease & License Agreements   |  |             |  |               |                  |   |   |                 |
| Secure Locations from Property Owners |  |             |  |               |                  |   |   |                 |
| Solicit & Secure Tenants              |  |             |  |               |                  |   |   |                 |
| Initiate 6 Month Leases               |   |             |  |               |                  |   |   |                 |
| Program & Tenant Review               |   |             |  |               |                  |  |   |                 |
| Report Back to Council                |   |             |  |               |                  |   |  |                 |

## ***DOWNTOWN POPS! Recommendation***

- 1) Motion authorizing the creation of a vacant storefront activation program in downtown Santa Cruz; and,*
- 2) Resolution approving a budget adjustment from the Economic Development Trust Fund to fund the 6 month pilot program; and,*
- 3) Motion authorizing the City Manager or his/ her Designee, to execute any leases, licenses, or other such agreements, documents, or administrative duties necessary for implementation of the “Downtown Pops!” program.*

*QUESTIONS?*



## INFORMATION REPORT

COUNCIL MEETING

4/27, 2021

DATE: April 7, 2020

TO: City Council  
DEPARTMENT: Public Works  
SUBJECT: FYI# 0106: Slow Streets Program

APPROVED:

DATE:

04.12.21

In early 2020, the Transportation and Public Works Commission (TPWC) formed an ad-hoc committee to evaluate bringing Slow Streets to Santa Cruz. The ad-hoc group recommended the City initiate a Slow Streets program, and the full TPWC recommended implementation of the Slow Streets program to City Council.

Council reviewed the Slow Streets program and directed staff to begin the program in July 2020 in response to community requests for more space for cyclists and pedestrians during the COVID-19 pandemic. The program officially launched in August 2020. In November 2020, the \$30,000 budget was exhausted, and staff recommended that Council end the program. At that time, Council directed staff to seek a nonprofit partner to operate the Slow Streets program through May 2021 with an additional \$20,000 budget. The motion language was:

**MOTION:** Councilmember Brown moved, seconded by Councilmember Beiers, to accept the report on the Slow Streets pilot program, and to recommend staff develop a Request For Proposal to administer the Slow Streets pilot program in an amount up to \$20,000, including an outreach plan, operating guidelines, and appropriate liability safeguards to allow a local nonprofit to administer the program on a subset of streets through May 2021.

**FRIENDLY AMENDMENT:** Mayor Cummings requested to add: In order for a street to continue in the program, they must receive signatures of support from 50% plus 1 of residents on the street. Councilmembers Brown and Beiers accepted.

**FRIENDLY AMENDMENT:** Mayor Cummings requested to add: If there are no qualified responses to the RFP, the program is to be discontinued. Councilmembers Brown and Beiers accepted.

In response, staff released an RFP in early January with responses due January 21, 2021. One response was received from Bike Santa Cruz County (BSCC). On January 26, staff informed BSCC that they were the selected vendor and requested verification of their insurance and business license. Since that time, staff has been working with BSCC to complete these requirements in order to issue a purchase order and begin work. To date, the BSCC insurance provider is unwilling to cover them for this project, and they have not been able to resolve this issue.

Council direction is that this program will run through May 2021, that each of the streets receive 50% +1 support from residents, and that if there were no qualified responses to the RFP then the




program be discontinued. At this point, there are less than two months left in the program. As a result of this, and the lead time necessary to order materials and supplies and complete the neighborhood surveys, there is insufficient time left to actually run the program before the Council directed end date of May 31, 2021.

At this time, the Slow Streets program will end. Staff will notify all neighborhood points of contact and collect the remaining signs and barricades.

Prepared by:

Claire Gallogly, AICP  
Transportation Planner

Submitted by:

  
Mark R. Dettle  
Director of Public Works

ATTACHMENTS:

None.