Ekwill Street and Fowler Road

Restoration Contractor Scope of Work for Off-site Devereux Creek and Northwestern Tributary (Ellwood Mesa) Mitigation Site

prepared for

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October 2022

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1 Introduction

The purpose of this Scope of Work is to inform the Restoration Contractor that will be subcontracted to the General Contractor on what will be required to initiate the restoration phase of the City of Goleta (City) Ekwill Street and Fowler Road Extensions Project (Project). The "Restoration Contractor" is the firm responsible for the habitat restoration scope of work described herein. The "General Contractor" is the firm responsible for the construction scope of work described in the Project Special Provisions and the hiring of the Restoration Contractor. Figure 1 shows the Project site and mitigation sites in relation to each other.

The goal of the restoration phase is to fulfill the requirements of Environmental Impact Report (EIR) (City of Goleta 2011a) Mitigation Measure (MM) NA-1/City Condition of Approval (COA) No. 15 (City 2011b) Protection and Replacement of Riparian Habitat and EIR MM WE-2/City COA No. 20 Wetland Habitat Restoration to compensate for the loss of wetland and riparian habitat associated with the Project. The restoration will take place off-site at:

- Off-site Devereux Creek and Northwestern Tributary (Ellwood Mesa) Mitigation Site – 3.98 acres

Restoration of this area aims to expand the extent and functional capacity of the riparian corridor by increasing native species diversity and abundance along an otherwise non-native species-dominated creek, as well as three partially unvegetated erosional scars.

This Scope of Work for restoration preparation, installation, and maintenance follows the 2022 Biological Mitigation and Monitoring Plan (Mitigation Plan) prepared by Rincon Consultants, Inc. (Rincon) (Rincon 2022). The Mitigation Plan is included as Attachment A for reference. Note that this Scope of Work outlines all the responsibilities that are expected of the Restoration Contractor based on the Mitigation Plan and is a summarization of said document, i.e., restoration preparation, installation, and short-term maintenance (Section 2.4 of the Mitigation Plan). There are additional restoration-related aspects outlined in the Mitigation Plan that are not part of this Scope of Work and should not be included in the Restoration Contractor bid estimate, i.e., long-term maintenance, monitoring, reporting (Sections 2.6, 2.7, and 2.8 of the Mitigation Plan).

Installation of the restoration, including site preparation, is phased by mitigation site and is scheduled for summer of 2023 through fall of 2023. Maintenance of the mitigation sites, defined as the 90-day Plant Establishment Period (PEP), is phased by mitigation site and is scheduled for winter of 2023 through spring of 2024. The schedule is further detailed in Section 2.1.

This Scope of Work is organized by mitigation site, then by Installation Phase and Maintenance Phase, then by task. A summary of anticipated tasks is outlined in Table 1. The detailed Scope of Work is outlined in Section 2. The following Scope of Work will be performed by the Restoration Contractor under the oversight by the City-approved Restoration Biologist.

Table 1 Task Summary

Phase	Task by Mitigation Site Off-site Devereux Creek and Northwestern Tributary (Ellwood Mesa)
Installation Phase	
	Task EM1: Site Preparation
	Task EM2: Plant Installation
	Task EM3: Plant Procurement
	Task EM4: Irrigation Design and Installation
Maintenance Phase	
	Task EM5: Weed Removal
	Task EM6: General Maintenance

1.1 Restoration Contractor Qualifications

The following are the qualifications that must be met by the restoration and/or native landscaping firm that will conduct the mitigation installation for the Project, herein referred to as the Restoration Contractor.

For the off-site mitigation site, the Restoration Contractor must have experience with installing and maintaining restoration sites as follows:

- The Restoration Contractor shall have successfully completed the installation and long-term maintenance of a minimum of three native habitat restoration projects, each over 3 acres in southern and/or central California.
- The Restoration Contractor shall be experienced with all aspects of habitat restoration and thoroughly familiar with all native plant species listed in the Mitigation Plan, as well as all non-native plant species (including invasive species) common to the Goleta area.
- The Restoration Contractor shall be able to successfully install native plants in remote locations.
- The Restoration Contractor shall be able to successfully install an above ground temporary irrigation system in remote locations.

The Restoration Contractor must possess and provide the following Santa Barbara County pesticide application licensing at the time of the bid submittal:

- A pest control business (PCM) or one of its licensed branches (PCB) with a current license issued by California Environmental Protection Agency (EPA) Department of Pesticide Regulation (DPR)
- A person currently licensed as a Qualified Applicator (QAL) and with a Category B (Natural Areas)
- The PCM/PCB and the QAL are required to be registered with the County Commissioner in Santa Barbara County

Additionally, the Restoration Contractor shall provide the following at the time of the bid submittal:

- California Contractors “C-27” Landscaping Contractor license
- Certificate of liability insurance

1.2 Questions and Clarification of The Scope of Work

Questions, requests for explanation, or clarifications in regard to this Scope of Work shall be made in written form and submitted via email to Gerald Comati, Project Manager, City of Goleta, at gcomati@cityofgoleta.org.

The City will advise all bidding parties of responses to the requests for explanation or clarifications via email. All bidding parties interested in responding to the Scope of Work are advised to check their email for any updates. The bidder is also responsible for ensuring that they have complete bidding documents prior to the bid due date.

A site walk may be scheduled by the City. If so, details will be transmitted to the bidders. Attendance will be limited to a maximum of three (3) persons from each bidder.

1.3 Required Proposal Items

Bidding parties must submit a digital document of their proposal via email as described the Project Special Provisions.

The following additional items shall be included in the Restoration Contractor's proposal:

- Technical approach and methodologies
- Proposed resources: include organization chart with proposed staff at management and superintendent level
- Completed bid pricing sheet
- A copy of the State of California C-27 landscape contractor's license and liability insurance
- References for at least three other similar projects involving native plants in a natural setting successfully completed within the last 5 years
- A copy of the Santa Barbara County pesticide application license

2 Restoration Scope of Work

The Ekwill Street and Fowler Road Extension Project requires off-site restoration on Ellwood Mesa, see Figure 1.

- Off-site Devereux Creek and Northwestern Tributary (Ellwood Mesa) Mitigation Site – 3.98 acres

The following summary of work by task will be performed by the Restoration Contractor under the oversight by the City-approved Restoration Biologist. All Installation and Maintenance Phases will adhere to the 2022 Mitigation Plan; specifically, the goal to reach the Performance Criteria. The Performance Criteria established for this Project includes the following:

- All plantings shall have a minimum of 80% survival the first year and 100% survival thereafter.
- All plantings shall attain 75% cover after three years and 90% cover after five years.
- The mitigation site shall be entirely without supplemental irrigation for a minimum of two years.
- No single species shall constitute more than 50% of the vegetative cover.
- No woody invasive species shall be present.
- Herbaceous invasive species shall not exceed 5% cover.

2.1 Schedule

The restoration services outlined herein will be performed over an approximate timeframe of one year, between summer 2023 and spring 2024. The project Special Provisions will establish the timeframe for installation of plants, which is expected to begin in late fall 2023. The restoration work is separated into two phases: Installation Phase and Maintenance Phase. The Installation Phase includes sites preparation, plant/seed installation, and irrigation design and installation. The Maintenance Phase will begin after completing the Installation Phase and will be defined as the 90-day PEP. The Maintenance Phase includes non-native plant removal, watering, and repairing of damage to plants, erosion control devices, fencing, and/or signs as further described below. See Table 2 for a detailed draft restoration schedule. Note that although this schedule is an educated estimate, the General Contractor will provide the actual schedule to be approved by the City. No major alterations, i.e., a change to the calendar year is expected. The Restoration Contractor must coordinate activities with the General Contractor, who is required to submit a Construction Schedule prior to the pre-construction conference.

Table 2 Restoration Schedule

Timing	Devereux Creek and Northwestern Tributary (Ellwood Mesa)
Preparation	
Summer 2023	Task EM4: Design irrigation system
Late Summer 2023	Task EM1: Tree removal
Early Fall 2023	Task EM1: Site preparation Task EM3: Plant procurement
Installation	
Early Fall 2023	Task EM4: Install drip irrigation system
Late Fall 2023	Task EM2: Install container plants
Maintenance (Plant Establishment Period)	
Winter 2023/2024 to Spring 2024	Task EM5: Conduct weeding maintenance Task EM6: Conduct general maintenance

2.2 Coordination

The Restoration Contractor will work in coordination and oversight by the City-approved Restoration Biologist. The City-approved Restoration Biologist will provide oversight for plant stock; container plant and seeding installation locations and layout; non-native plant removal; success criteria; and irrigation schedules. The City-approved Restoration Biologist will be on-site regularly to direct work as needed.

2.3 Crew Education (Cultural Resources) and Archaeological/Native American Monitoring

Although no resources have been identified within the mitigation areas, the project site is generally sensitive for cultural resources. Therefore, a crew education program will be established to be implemented prior to construction per MM CUL-2 (Crew Education). The education program will describe the roles and responsibilities of the archaeologist and Native American monitor, identify what types of resources may be found in the area, procedures to follow in the event of a find, and discuss the regulatory protections for resources and identify the penalties for the destruction or unauthorized collection of cultural resources. Each team member from the Restoration Contractor crew is required to attend the cultural resources education program, which will be offered prior to the Installation Phase and at any time during the Installation Phase and/or Maintenance Phase if new crew members are employed.

Mitigation Measure CUL-1 (Archaeological Monitoring and Discovery) will require that an archeologist and Chumash Native American monitor will be present on the first day of ground disturbing activities for each of the three planting areas shown in Figure 2 (western portion of Devereux Creek, eastern portion of Devereux Creek, and northwestern portion of the Devereux Creek tributary) to examine soils, to the depth of proposed planting, for their potential to yield cultural resources deposits. Should the soils appear to be sterile for cultural resources, monitoring will cease on the first day of the initial disturbance and a full-time monitor will not be required for the Deveraux Creek/Ellwood Mesa areas. Should a discovery of cultural resources be made during the ground disturbing activities during the first or subsequent days, MM CUL-1 of the EIR will be applied which provides measures for the unanticipated discovery of cultural resources and requires

a full-time Chumash Native American monitor to be present. The full-time monitoring, as described in MM CUL-1, will only apply in the case of a discovery during ground disturbing activities of the Devereux Creek and Ellwood Mesa mitigation areas.

The preparation of the crew education program and coordination of the monitors will be the management and fiscal responsibility of the Environmental Compliance firm and will not be the management or fiscal responsibility for the Restoration Contractor. This summary of this Mitigation Measure is included herein for informational purposes only.

2.4 Off-site Devereux Creek and Northwestern Tributary (Ellwood Mesa) Restoration

The off-site restoration site is located on Ellwood Mesa along Devereux Creek and its northwestern tributary, see Figure 1 and Figure 2. Ellwood Mesa is located within City-owned property designated as open space by the City. Devereux Creek and its tributary on Ellwood Mesa were selected by the City to serve as an off-stie mitigation site because the riparian corridors are highly degraded due to invasion by non-native plants, restoration of erosional scars would improve water quality and reduce erosion, the site offers greater opportunities for public appreciation and involvement, and the site offers opportunities to improve habitat for the monarch butterfly (*Danaus plexippus*), a sensitive species.

A total of 3.98 acres of riparian habitat will be enhanced and created through the removal of non-native, invasive species, and installation of native riparian plants along a portion of Devereux Creek and its northwestern tributary, see Figure 2. This mitigation area is also represented on the Project Plans (Dewberry|Drake Haglan 2022), see Mitigation Planting Plan sheets EM-MP-1 and EM-MP-2, which is also included as herein as Figure 3.

The following outlines the scope of work by installation and maintenance phases, then by task. Tasks are named as EM for Ellwood Mesa.

2.4.1 Installation Phase

The Restoration Contractor will provide all labor, equipment and materials needed to complete the work. The Devereux Creek mitigation site on Ellwood Mesa will be accessed by vehicle via two proposed access routes, Elderberry Drive and Ellwood Beach Drive. With permission from the owners of the private residential community, the western portion of the mitigation site will possibly be accessed via Elderberry Drive. From the southern terminus of Elderberry Drive, the mitigation site will be accessed by vehicle along the existing dirt road and paths, terminating at the first intersection with the restoration sites. The eastern portion of the mitigation site will be accessed by vehicle from Ellwood Beach Drive. At the terminus of the vehicle access routes, small staging areas will be established along existing footpaths and further access will be on foot. Staging areas will be contained to the smallest footprint possible and will not disturb native vegetation.

Task EM1: Site Preparation

The City-approved Restoration Biologist will work with the General Contractor and Restoration Contractor to stake the limits of restoration. Prior to installation, the site will need to be prepared for restoration activities. Site preparation includes the following:

- Non-native plants, except for mature trees, will be removed from the site using hand removal methods, such as hand-held weed whips, loppers, and hoes. If hand removal is not feasible due to the characteristics of the species, such as resistance to hand removal methods, the size of the plants, or the number of plants, perennial invasive non-native species may be treated with herbicides. Herbicide application conditions are as follows:
  - Only individual plants will be treated; no blanket spraying efforts will be allowed.
  - If herbicide is applied, it will be applied during dry and low wind conditions in order to prevent conveyance of herbicide into drainages or other non-targeted areas.
  - Herbicide application must be performed by a licensed applicator that can identify the species to be treated and is experienced in the handling and application of herbicides.
  - Herbicides must be approved for use by the City of Goleta and allowed under permit and property conditions.
  - Only herbicides approved for use near or in water, such as AquaMaster™ or equivalent, will be used if necessary.
- Non-native ash trees (*Fraxinus uhdei*) will be removed and may be chipped on-site. Tree removal will not occur during the monarch butterfly aggregation season (October 1 through March 31). Therefore, these trees can only be removed between April 1 through September 30 once the City of Goleta-approved biologist determines that it does not contain active bird nests.
- Eucalyptus trees and other non-native trees other than non-native ash will NOT be removed.
- Install temporary fencing, made of green construction mesh-like fence and t-posts (or similar), on the east side of the mitigation site. Approximately 6,300 feet of fence will be needed.
- Install temporary signage, such as laminated 8.5”x11” paper signs, to alert the Project team and the public of restoration efforts. Permanent signs will be installed by the City.

Timing: Removal of the non-native ash trees will occur in April 1 through September 30, 2022 prior to plant installation once the City-approved Restoration Biologist determines that it does not contain active bird nests. The remaining site preparation tasks will occur in early fall 2023.

Task EM2: Plant Installation

Plant installation will require specific timing and spacing between planting as described in the 2022 Mitigation Plan. Within the 3.98-acre site, a total of 3,625 plants will be needed for the enhancement and creation of habitat along Devereux Creek, see Figure 2. Table 3 provides a representative palette of native species that may be used for each habitat treatment type. The City-approved Restoration Biologist will flag the exact location of each planted area and provide field oversight while the plants are installed.

Table 3 Plant Palette – Devereux Creek at Ellwood Mesa

Scientific Name	Common Name	Arroyo Willow/ Black Cottonwood/ Sycamore Woodland and Seasonal Wetland Mix	Coast Live Oak/ Black Walnut/ Elderberry Woodland Mix	Sandbar willow/ Mulefat	Sandbar Willow and Mulefat Erosion Control Mix	Subtotal
Riparian Trees						
Juglans californica	Black walnut		200			200
Platanus racemosa	Western sycamore	100				100
Populus trichocarpa	Black cottonwood	100	100			200
Quercus agrifolia	Coast live oak		200			200
Quercus lobata	Valley oak					0
Salix exigua	Sandbar willow			100	120	220
Salix laevigata	Red willow	50				50
Salix lasiolepis	Arroyo willow	102				102
Sambucus nigra	Blue elderberry	50	200		120	370
Riparian Shrubs, Grasses, and Forbs						
Artemisia douglasiana	Mugwort		65		100	130
Baccharis salicifolia	Mule fat			32	100	132
Bromus carinatus	California brome		65			103
Elymus condensatus	Giant wild rye		65		60	131
Elymus triticoides	Alkali ryegrass	50	65	32	60	213
Heteromeles arbutifolia	Toyon		65			
Hordeum brachyantherum	California barley		65	32		103
Phacelia ramosissima	Branching phacelia		65			71
Rosa californica	California rose		65		60	131
Rubus ursinus	California blackberry		65		60	131
Salvia spathacea	Hummingbird sage		65			71

Scientific Name	Common Name	Arroyo Willow/ Black Cottonwood/ Sycamore Woodland and Seasonal Wetland Mix	Coast Live Oak/ Black Walnut/ Elderberry Woodland Mix	Sandbar willow/ Mulefat	Sandbar Willow and Mulefat Erosion Control Mix	Subtotal
Solanum douglasii	Douglas nightshade		65			71
Solidago velutina subsp. californica	Velvety goldenrod		65			71
Verbena lasiostachys	Verbena		65			71
Seasonal Wetland Forbs and Grasses						
Anemopsis californica	Yerba mansa	52				77
Carex barbarae	Santa Barbara sedge	52				77
Cyperus eragrostis	Umbrella-sedge	52				77
Distichlis spicata	Saltgrass	52		32		109
Eleocharis macrostachya	Common spikerush	52		32		77
Euthamia occidentalis	Western goldenrod	52		32		109
Frankenia salina	Alkali heath	52				77
Juncus patens	Common California rush	52	65	32		180
Juncus phaeocephalus	Brown-headed rush	52				77
Juncus textilis	Basket rush	52				77
Juncus xiphioides	Iris-leaved rush	52				77
Paspalum distichum	Knot grass	52				77
Total Number of Plants		**1,076**	**1,610**	**324**	**680**	**3,625**
Total Acres per Plant Mix		**2.47**	**0.92**	**0.20**	**0.39**	**3.98**

Note: 5-foot spacing for forbs/grasses/shrubs, 10-foot spacing for trees

Installation of plants in the table above will involve the following:

- Shrubs, grasses, and wetland plants will be installed at 4- to 5-foot spacing.
- On average, tree species will be installed at 8- to 10-foot spacing.
- Most non-tree species will be installed as 1-gallon containers, but other sizes may be used depending on the species.
- Most tree species will be installed as 5-gallon containers and with some being installed as 1-gallon contains in select areas determined in the field by the City of Goleta-approved Restoration Biologist.
- Holes for the container plants will be dug by hand using a shovel, hang auger, or similar device.
- The rootball, stems or branches of container plants shall not be disturbed.
- Planting pits will be backfilled with native soil and wood mulch will be placed round each plant. Mulch will be placed around each container plant at a depth of at least 3 inches, and at least a 2-foot radius for trees and a 1-foot radius for other species. If generated, the mulch from the removed non-native trees would be allowed some time to dry and then would be used around installed plants as feasible. Additional mulch originating from Santa Barbara may be acquired as needed, such as mulch available from the County's South Coast Recycling and Transfer Station. All purchased mulch will be free of Argentine ants.
- Each container plant will be immediately watered by a drip emitter system or by hand as conditions allow. Long-term irrigation will be applied and discussed in Task EM4 below.
- Erosion control materials will be installed as needed and may include low silt fences, hay bales at the base of slopes, and/or straw wattle only. The quantity of erosion control materials that is expected to be needed is minimal; materials would only be used within the mitigation areas and not for the construction portion of the project.
- Signage and temporary construction fencing will be placed around the mitigation sites to inform people to stay out of the restoration area as described in EM1.

Timing: Will coincide with the first major winter storm when soil conditions are moist. Installation will occur in late fall 2023.

Task EM3: Plant Procurement

The native plant materials in Table 3 have already been contracted through Santa Barbara Natives. A deposit has already been paid for by the City. The Restoration Contractor would be responsible for paying for the remainder of the cost. The cost will be $22,405. See Attachment B for the Santa Barbara Natives cost proposal. Although the current bid that the City has obtained for the native container plants includes a delivery charge, assume that the Restoration Contractor will need to pick up the plants from the nursery on a daily or regular basis and bring them to the site. Assume that only a very limited number of plants can be stored safely on-site overnight. If plants remain on-site longer than the day on which they are installed, they must be watered daily.

Timing: The final payment installment for the container plants must be made at the time of plant delivery. Plant procurement will occur in early fall 2023.

Task EM4: Irrigation Design and Installation

The Restoration Contractor will design and install a temporary above ground drip irrigation system. Note that this off-site location is remote. The source of the water will be multiple temporary water sources (a minimum of three), sources such as holding tanks or water trucks or similar will be needed. The

irrigation system should be set up to target individual plants and should avoid watering in between the plants to help prevent the growth of non-natives. However, irrigation materials cannot be installed in areas where creek flows would be prohibitive.

A maximum of 3.98 acres will require a temporary irrigation system to be designed and installed by the Restoration Contractor. The design of the irrigation system is up to the Restoration Contractor based on their experience and site conditions observed during the site walk. The irrigation system will be designed by a qualified irrigation specialist as an aboveground temporary drip irrigation system, which will persist for 5 years with regular maintenance, and can be easily removed at the end of 5 years. The irrigation system will be designed so that it is automated, powered by either batteries or solar operated controllers, and will be weather sensor compatible. Primary lines will be of 2-inch-diameter (or larger diameter if deemed necessary by the Restoration Contractor) schedule 40 polyvinyl chloride (PVC). Any variations from these materials specifications must be indicated in the bid estimate. The irrigation design will be schematic and does not require an architect or engineer stamp.

Note that this off-site location is remote. The storage of the water on-site and supply to the above ground temporary irrigation system will be a temporary water source such as a holding tank or water truck. Water to be used during the restoration preparation, installation, and maintenance will be furnished off-site for the Restoration Contractor and shall be of suitable quality for irrigation. The Restoration Contractor will have the authority to use water as needed to fulfill the irrigation tasks through the General Contractor's closeout. The associated meter will be provided by the City. If this source is not feasible/desirable by the Restoration Contractor, water can be obtained from off-site and would need to be documented as such in the bid proposal.

Following award of the contract, the City will supply the Restoration Contractor with site specifications needed to complete the irrigation system design (e.g., water pressure details, etc.). The Restoration Contractor will work with the City-approved Restoration Biologist to ensure that the design meets all materials and site specifications and will submit a draft irrigation design to the City for approval by early summer 2023. The irrigation design shall be prepared in computer-aided design and drafting (CADD), or similar program that is acceptable in the landscape industry. The City will provide comments to be incorporated into the final irrigation design so that it can be installed (in part, i.e., primary lines to be installed before plant installation and secondary/lateral lines to be installed after plant installation) in late summer/early fall 2023 prior to plant installation.

Timing: The Restoration Contractor finalize the irrigation design so that it can be installed (in part, i.e., primary lines to be installed before plant installation and secondary/lateral lines to be installed after plant installation) in late summer/early fall 2023 prior to plant installation. The Restoration Contractor will install the irrigation system on-site before or after initial non-native vegetation removal, depending on a mutual agreement between the Restoration Contractor and City. The City-approved Restoration Biologist will provide oversight in the field. The irrigation system will be installed in late summer/early fall 2023, prior to plant/seed installation in late fall/early winter 2023.

2.4.2 Maintenance Phase

The Restoration Contractor will maintain the restoration site throughout the Installation Phase and 90-day PEP. Once the City deems the restoration installation complete, the 90-day PEP will begin. Maintenance will include non-native plant removal, watering, replanting, and repairing of damage to plants, erosion control devices, fencing, and/or signs that are a result of erosion or vandalism. The Restoration Contractor will also be adhered to the following measures during the Maintenance Phase:

- Large plants with potential to contain bird nests will not be removed during the breeding bird season (March 1 to September 15) unless the City-approved Restoration Biologist determines that it does not contain active bird nests.
- No eucalyptus trees or other non-native trees, other than ash, will be removed to preserve monarch butterfly habitat. Tree removal will not occur during the monarch butterfly aggregation season (October 1 through March 31).

Task EM5: Weed Removal

Weed removal at the restoration site will include the following:

- Non-native plants will be removed primarily using hand removal methods. If hand removal is not feasible due to species resistance to hand removal methods, the size of the plant, or the number of plants, perennial invasive non-native species may be treated with herbicides. Herbicide application requirements are described in Task EM1.
- All tools, equipment, vehicles, clothing and footwear, and other gear shall be cleaned to remove soil, seeds, and other plant parts before accessing the restoration area.
- Frequency: One "event" or site visit will be equal to 1 day (or more if necessary) and include a crew of an appropriate size to remove weeds in one event. During the Installation Phase, weeding must be conducted so that the site and installed native plants do not become overrun or dominated by weeds, the frequency will be dependent upon site conditions. A minimum of one event per month is required. Assume a minimum of 4 events will be required during the 90-day PEP, spaced a maximum of 1 month and a minimum of 2 weeks apart over the 90-day PEP.

Timing: Weed removal will occur throughout the Installation Phase, with a focus on the peak growing season in the winter and spring. Weed removal will be conducted during the Installation Phase, as well as through the 90-day PEP in approximately winter 2023 through spring 2024.

Task EM6: General Maintenance

Once the City deems the restoration installation complete, the 90-day PEP will begin. Maintenance will be performed during the 90-day PEP. Maintenance at the restoration site will include the following:

- The Restoration Contractor will be responsible to install a temporary aboveground irrigation system (see Task EM4 above), maintain the system, and water the plants immediately after installation and for the duration of the 90-day PEP.
- The City-approved Restoration Biologist will establish an irrigation schedule in conjunction with the restoration contractor. Irrigation will be scheduled to maximize growth of native species and will account for natural rainfall, while minimizing growth of invasive non-native plants. Generally, if irrigation is needed, more irrigation will be provided during the growing season (winter and spring) to mimic seasonal weather patterns, and minimal irrigation will be provided during the summer and fall as needed to keep plants alive.
- Conduct routine activities to maintain the plantings in a healthy condition.
    - If plants die or seeds do not germinate during the 90-day PEP due to the techniques employed by the Restoration Contractor, i.e., not due to natural causes, the Restoration Contractor will be responsible for replacement planting and/or seeding.
- Maintain fencing and signage.
- Remove trash.

- Control erosion of the mitigation site.
- Ensure performance criteria are being achieved.

Timing: General maintenance will be conducted during the Installation Phase, as well as through the 90-day PEP in approximately winter 2023 through spring 2024.

3 References

For a complete list of all references used in the figures included herein, see Attachment A.

City of Goleta (City). 2011a. Final Environmental Impact Report. Ekwill Street and Fowler Road Extension Project. Goleta, California. SCH No. 2004061072. November 16.

_____. 2011b. Conditions of Approval, Ekwill Street and Fowler Road Extensions Project; Case #04-121-DP. Issued November 2011.

Dewberry|Drake Haglan. 2022. Project Plans for the Ekwill Street and Fowler Road Extensions Project. Prepared for the City of Goleta.

Rincon Consultants, Inc. (Rincon). 2022. Biological Mitigation and Monitoring Plan for the Ekwill Street and Fowler Road Extensions Project. Prepared for the City of Goleta. Revised August 2022.

Figures

Figure 1 Project Location and Mitigation Areas

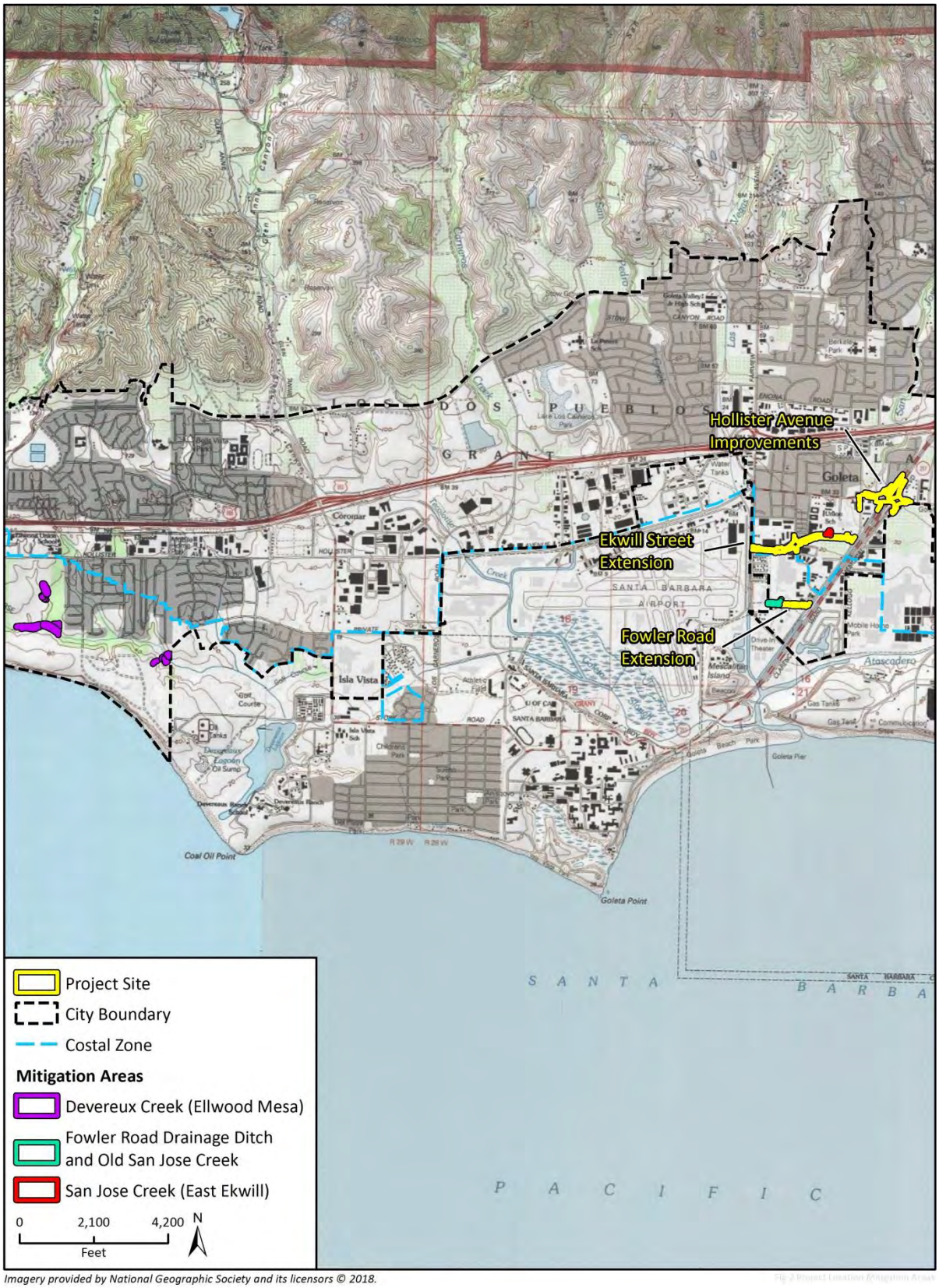

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Figure 2 Devereux Creek at Ellwood Mesa - Restoration Layout

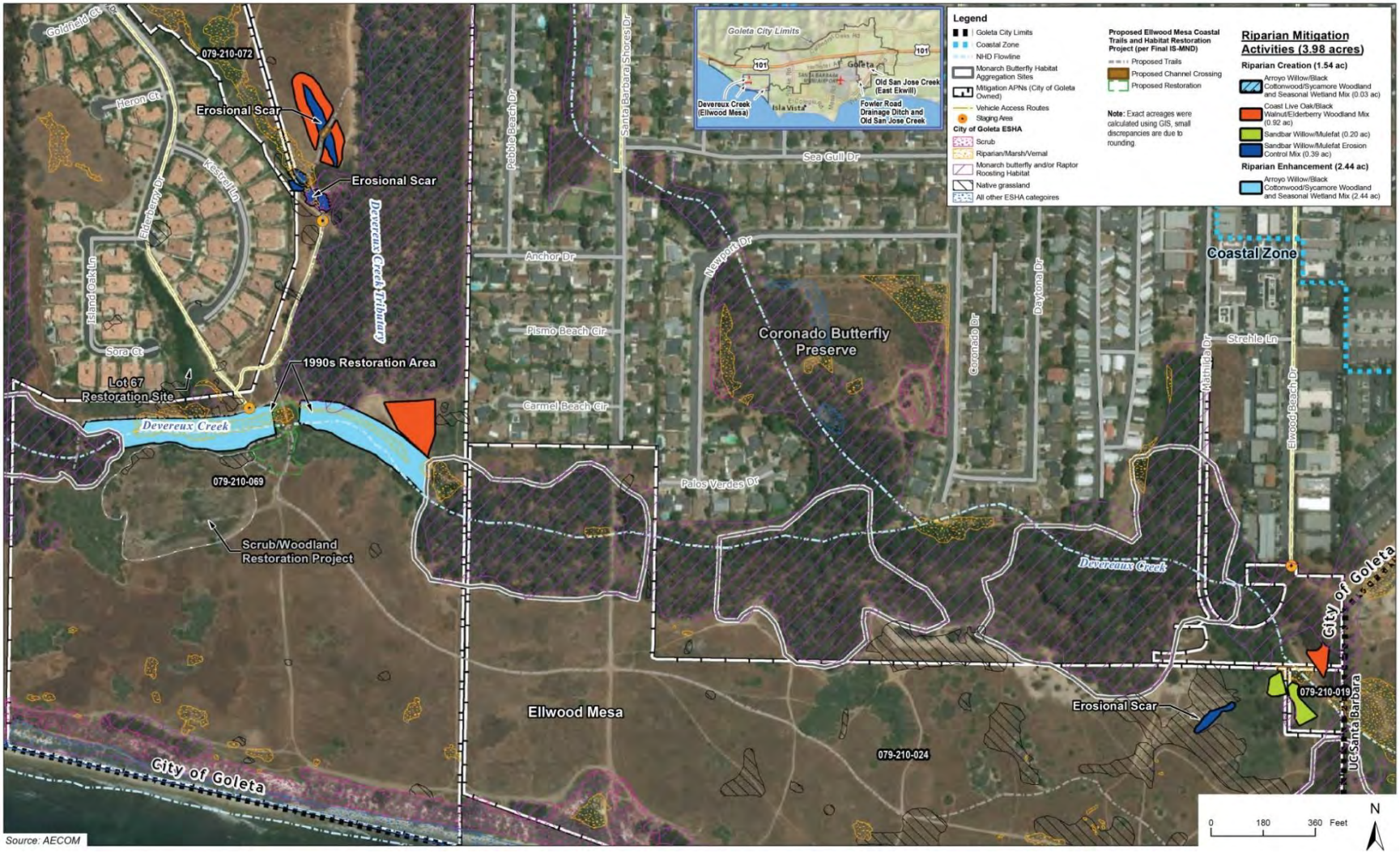


Figure 3 Devereux Creek at Ellwood Mesa - Engineering Planting Plan Page 1 (Dewberry | **Drake Haglan** 2022)

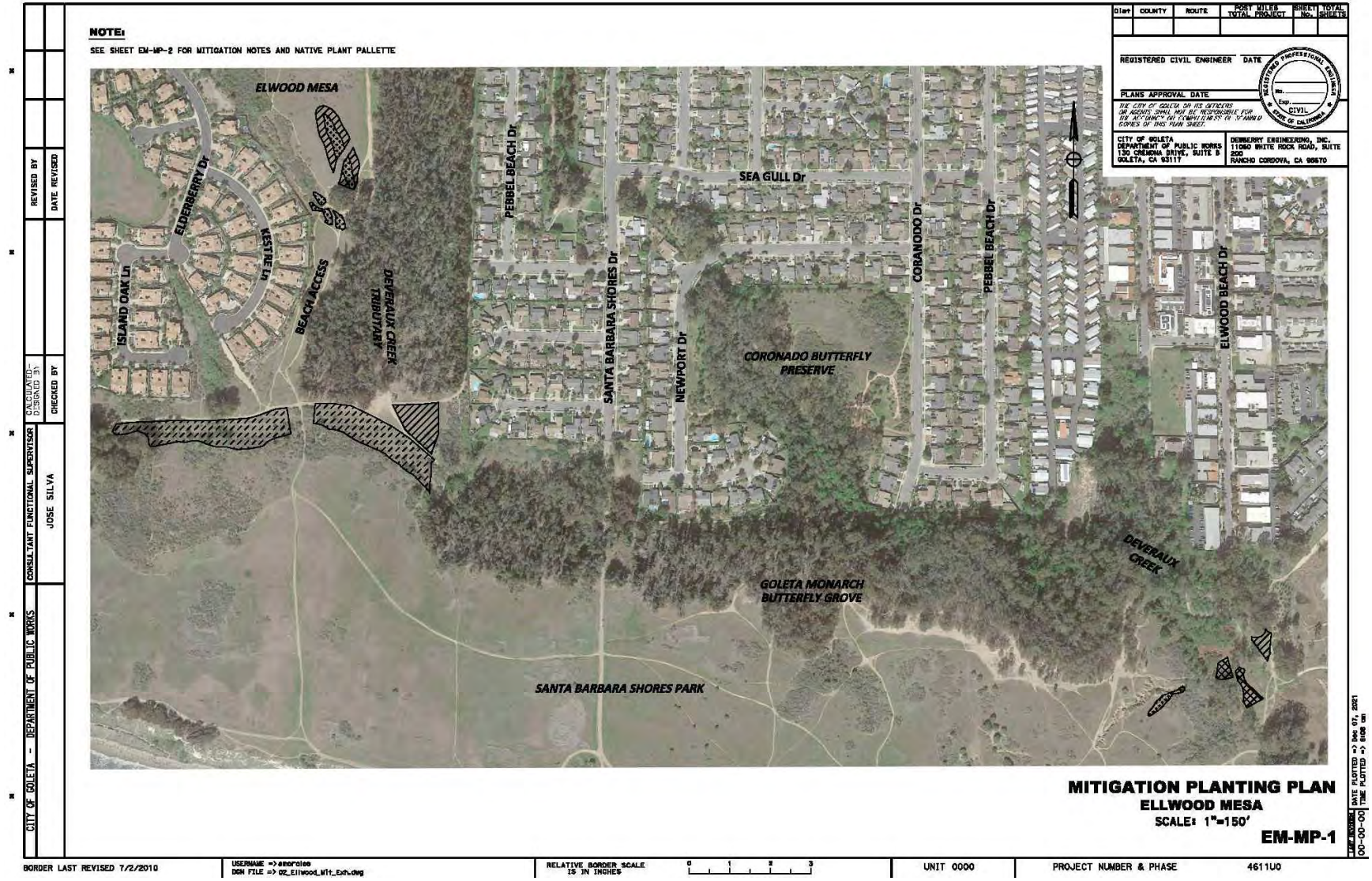
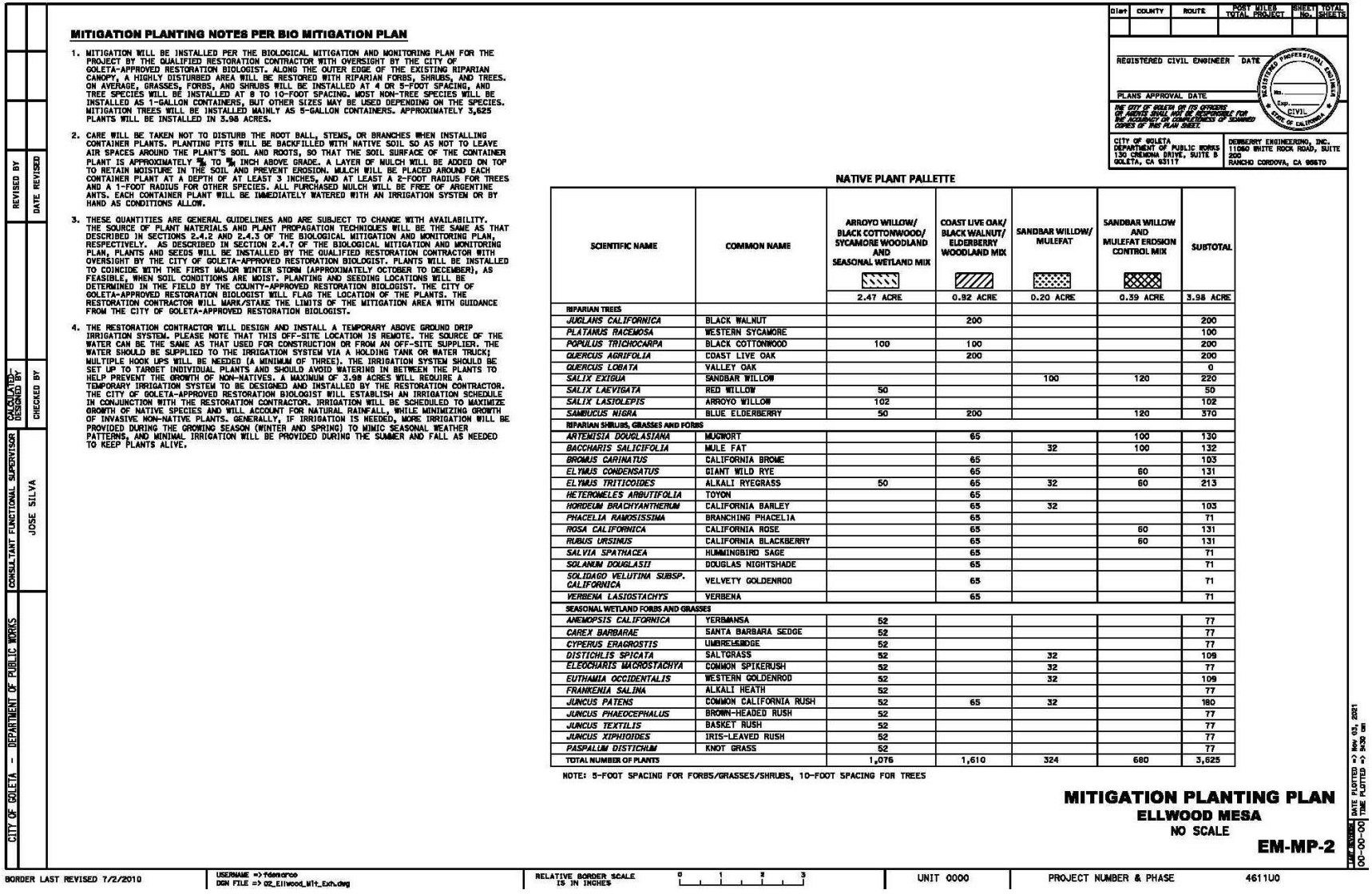


Figure 4 Devereux Creek at Ellwood Mesa - Engineering Planting Plan Page 2 (Dewberry | **Drake Haglan** 2022)



MITIGATION PLANTING NOTES PER BIO MITIGATION PLAN

1. MITIGATION WILL BE INSTALLED PER THE BIOLOGICAL MITIGATION AND MONITORING PLAN FOR THE PROJECT BY THE QUALIFIED RESTORATION CONTRACTOR WITH OVERSIGHT BY THE CITY OF GOLETA-APPROVED RESTORATION BIOLOGIST. ALONG THE OUTER EDGE OF THE EXISTING RIPARIAN CANOPY, A HIGHLY DISTURBED AREA WILL BE RESTORED WITH RIPARIAN FORBS, SHRUBS, AND TREES. ON AVERAGE, GRASSES, FORBS, AND SHRUBS WILL BE INSTALLED AT 4 OR 5-FOOT SPACING, AND TREE SPECIES WILL BE INSTALLED AT 8 TO 10-FOOT SPACING. MOST NON-TREE SPECIES WILL BE INSTALLED AS 1-GALLON CONTAINERS, BUT OTHER SIZES MAY BE USED DEPENDING ON THE SPECIES. MITIGATION TREES WILL BE INSTALLED MAINLY AS 5-GALLON CONTAINERS. APPROXIMATELY 3,625 PLANTS WILL BE INSTALLED IN 3.98 ACRES.
2. CARE WILL BE TAKEN NOT TO DISTURB THE ROOT BALL, STEMS, OR BRANCHES WHEN INSTALLING CONTAINER PLANTS. PLANTING PITS WILL BE BACKFILLED WITH NATIVE SOIL SO AS NOT TO LEAVE AIR SPACES AROUND THE PLANT'S SOIL AND ROOTS, SO THAT THE SOIL SURFACE OF THE CONTAINER PLANT IS APPROXIMATELY ½ TO ¾ INCH ABOVE GRADE. A LAYER OF MULCH WILL BE ADDED ON TOP TO RETAIN MOISTURE IN THE SOIL AND PREVENT EROSION. MULCH WILL BE PLACED AROUND EACH CONTAINER PLANT AT A DEPTH OF AT LEAST 3 INCHES, AND AT LEAST A 2-FOOT RADIUS FOR TREES AND A 1-FOOT RADIUS FOR OTHER SPECIES. ALL PURCHASED MULCH WILL BE FREE OF ARGENTINE ANTS. EACH CONTAINER PLANT WILL BE IMMEDIATELY WATERED WITH AN IRRIGATION SYSTEM OR BY HAND AS CONDITIONS ALLOW.
3. THESE QUANTITIES ARE GENERAL GUIDELINES AND ARE SUBJECT TO CHANGE WITH AVAILABILITY. THE SOURCE OF PLANT MATERIALS AND PLANT PROPAGATION TECHNIQUES WILL BE THE SAME AS THAT DESCRIBED IN SECTIONS 2.4.2 AND 2.4.3 OF THE BIOLOGICAL MITIGATION AND MONITORING PLAN, RESPECTIVELY. AS DESCRIBED IN SECTION 2.4.7 OF THE BIOLOGICAL MITIGATION AND MONITORING PLAN, PLANTS AND SEEDS WILL BE INSTALLED BY THE QUALIFIED RESTORATION CONTRACTOR WITH OVERSIGHT BY THE CITY OF GOLETA-APPROVED RESTORATION BIOLOGIST. PLANTS WILL BE INSTALLED TO COINCIDE WITH THE FIRST MAJOR WINTER STORM (APPROXIMATELY OCTOBER TO DECEMBER), AS FEASIBLE, WHEN SOIL CONDITIONS ARE MOIST. PLANTING AND SEEDING LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE COUNTY-APPROVED RESTORATION BIOLOGIST. THE CITY OF GOLETA-APPROVED RESTORATION BIOLOGIST WILL FLAG THE LOCATION OF THE PLANTS. THE RESTORATION CONTRACTOR WILL MARK/STAKE THE LIMITS OF THE MITIGATION AREA WITH GUIDANCE FROM THE CITY OF GOLETA-APPROVED RESTORATION BIOLOGIST.
4. THE RESTORATION CONTRACTOR WILL DESIGN AND INSTALL A TEMPORARY ABOVE GROUND DRIP IRRIGATION SYSTEM. PLEASE NOTE THAT THIS OFF-SITE LOCATION IS REMOTE. THE SOURCE OF THE WATER CAN BE THE SAME AS THAT USED FOR CONSTRUCTION OR FROM AN OFF-SITE SUPPLIER. THE WATER SHOULD BE SUPPLIED TO THE IRRIGATION SYSTEM VIA A HOLDING TANK OR WATER TRUCK; MULTIPLE HOOK UPS WILL BE NEEDED (A MINIMUM OF THREE). THE IRRIGATION SYSTEM SHOULD BE SET UP TO TARGET INDIVIDUAL PLANTS AND SHOULD AVOID WATERING IN BETWEEN THE PLANTS TO HELP PREVENT THE GROWTH OF NON-NATIVES. A MAXIMUM OF 3.98 ACRES WILL REQUIRE A TEMPORARY IRRIGATION SYSTEM TO BE DESIGNED AND INSTALLED BY THE RESTORATION CONTRACTOR. THE CITY OF GOLETA-APPROVED RESTORATION BIOLOGIST WILL ESTABLISH AN IRRIGATION SCHEDULE IN CONJUNCTION WITH THE RESTORATION CONTRACTOR. IRRIGATION WILL BE SCHEDULED TO MAXIMIZE GROWTH OF NATIVE SPECIES AND WILL ACCOUNT FOR NATURAL RAINFALL, WHILE MINIMIZING GROWTH OF INVASIVE NON-NATIVE PLANTS. GENERALLY, IF IRRIGATION IS NEEDED, MORE IRRIGATION WILL BE PROVIDED DURING THE GROWING SEASON (WINTER AND SPRING) TO MIMIC SEASONAL WEATHER PATTERNS, AND MINIMAL IRRIGATION WILL BE PROVIDED DURING THE SUMMER AND FALL AS NEEDED TO KEEP PLANTS ALIVE.

NATIVE PLANT PALLETTE

SCIENTIFIC NAME	COMMON NAME	ARROYO WILLOW/ BLACK COTTONWOOD/ SYCAMORE WOODLAND AND SEASONAL WETLAND MIX	COAST LIVE OAK/ BLACK WALNUT/ ELDERBERRY WOODLAND MIX	SANDBAR WILLOW/ MULEFAT	SANDBAR WILLOW AND MULEFAT EROSION CONTROL MIX	SUBTOTAL
		2.47 ACRE	0.92 ACRE	0.20 ACRE	0.39 ACRE	3.98 ACRE
RIPARIAN TREES						
JUGLANS CALIFORNICA	BLACK WALNUT		200			200
PLATANUS RACEMOSA	WESTERN SYCAMORE					100
POPULUS TRICHOCARPA	BLACK COTTONWOOD	100	100			200
QUERCUS AGRIFOLIA	COAST LIVE OAK		200			200
QUERCUS LOBATA	VALLEY OAK					0
SALIX EXIGUA	SANDBAR WILLOW			100	120	220
SALIX LAEVIGATA	RED WILLOW	50				50
SALIX LASIOLEPIS	ARROYO WILLOW	102				102
SAMBUCUS NIGRA	BLUE ELDERBERRY	50	200		120	370
RIPARIAN SHRUBS, GRASSES AND FORBS						
ARTEMISIA DOUGLASIANA	MUGWORT		65		100	130
BACCHARIS SALICIFOLIA	MULE FAT			32	100	132
BROMUS CARINATUS	CALIFORNIA BROME		65			103
ELYMUS CONDENSATUS	GIANT WILD RYE		65		60	131
ELYMUS TRITICOIDES	ALKALI RYEGRASS	50	65	32	60	213
HETEROMELES ARBUTIFOLIA	TOYON		65			
HORDEUM BRACHYANTHERUM	CALIFORNIA BARLEY		65	32		103
PHACELIA RAMOSISSIMA	BRANCHING PHACELIA		65			71
ROSA CALIFORNICA	CALIFORNIA ROSE		65		60	131
RUBUS URSINUS	CALIFORNIA BLACKBERRY		65		60	131
SALVIA SPATHACEA	HUMMINGBIRD SAGE		65			71
SOLANUM DOUGLASII	DOUGLAS NIGHTSHADE		65			71
SOLIDAGO VELUTINA SUBSP. CALIFORNICA	VELVETY GOLDENROD		65			71
VERBENA LASIOSTACHYS	VERBENA		65			71
SEASONAL WETLAND FORBS AND GRASSES						
ANEMOPSIS CALIFORNICA	YERBAMANSA	52				77
CAREX BARBARAE	SANTA BARBARA SEDGE	52				77
CYPERUS ERAGROSTIS	UMBRELLASEDGE	52				77
DISTICHLIS SPICATA	SALTGRASS	52		32		109
ELEOCHARIS MACROSTACHYA	COMMON SPIKERUSH	52		32		77
EUTHAMIA OCCIDENTALIS	WESTERN GOLDENROD	52		32		109
FRANKENIA SALINA	ALKALI HEATH	52				77
JUNCUS PATENS	COMMON CALIFORNIA RUSH	52	65	32		180
JUNCUS PHAEOCEPHALUS	BROWN-HEADED RUSH	52				77
JUNCUS TEXTILIS	BASKET RUSH	52				77
JUNCUS XIPHIOIDES	IRIS-LEAVED RUSH	52				77
PASPALUM DISTICHUM	KNOT GRASS	52				77
TOTAL NUMBER OF PLANTS		1,076	1,610	324	680	3,625

NOTE: 5-FOOT SPACING FOR FORBS/GRASSES/SHRUBS, 10-FOOT SPACING FOR TREES

MITIGATION PLANTING PLAN
ELLWOOD MESA
NO SCALE
EM-MP-2

Attachment A

Biological Mitigation and Monitoring Plan (Rincon 2022)

Ekwill Street and Fowler Road Extensions Project

Biological Mitigation and Monitoring Plan

prepared for

City of Goleta
Public Works Department
130 Cremona Drive, Suite B
Goleta, California 93117
Contact: Charlie Ebeling, Public Works Director

prepared by

Rincon Consultants, Inc.
209 East Victoria Street
Santa Barbara, California 93101

REVISED August 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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Executive Summary

The City of Goleta proposes to implement the Ekwill Street and Fowler Road Extensions Project (Project) within the Old Town area of the City of Goleta, in Santa Barbara County, California. The proposed Project consists of three main components: 1) the construction of one new road segment of Ekwill Street (Ekwill Street Extension); 2) the reconstruction and extension of a section of James Fowler Road (Fowler Road Extension); and 3) the construction of roundabouts and other public infrastructure improvements at Hollister Avenue in the vicinity of the State Route 217 interchange (Hollister Avenue Improvements). The Project has been approved by the City of Goleta, with an Environmental Impact Report (EIR) (City of Goleta 2011) certified in November 2011, along with approval of Development Plan 04-121-DP at that time.

On behalf of the City of Goleta, Rincon Consultants, Inc. (Rincon), has prepared this Biological Mitigation and Monitoring Plan. This Biological Mitigation and Monitoring Plan is an update to the 2016 Biological Mitigation and Monitoring Plan (AECOM 2016).

This Biological Mitigation and Monitoring Plan was prepared in accordance with EIR Mitigation Measure NA-1 (Protection and Replacement of Riparian Habitat). In addition, this Biological Mitigation and Monitoring Plan addresses several other biological Mitigation Measures (NA-2 through NA-4, WE-1 through WE-3, PL-1, PL-2, AN-1 through AN-10, CUL-1, and CUL-2), as well as requirements of the California Coastal Commission (CCC), U.S. Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), and Central Coast Regional Water Quality Control Board (RWQCB). To this end, this Biological Mitigation and Monitoring Plan includes details for implementing all mitigation measures, including the compensatory mitigation plan, the native tree inventory and protection plan, required pre-construction biological surveys, and avoidance and minimization measures to be implemented during Project construction. This Biological Mitigation and Monitoring Plan also incorporates information from the most recent Biological Resources Report (URS 2014) for the Project, and bases mitigation on the impact acreages described herein and in the Corps, CDFW, and RWQCB regulatory permit applications.

The Project would impact 21.84 acres of land (including both permanent and temporary impacts), most of which is urban, ruderal, or non-native vegetation. In total, the Project would permanently impact 1.17 acres and temporarily impact 0.32 acre of riparian habitat. Specifically, the Project would permanently impact 0.39 acre of riparian habitat within the Coastal Zone, and 0.78 acre outside of the Coastal Zone. The Project would temporarily impact 0.17 acre of riparian habitat within the Coastal Zone, and 0.15 acre outside of the Coastal Zone.

As required by EIR Mitigation Measure NA-1 (Protection and Replacement of Riparian Habitat) and WE-2 (Wetland Habitat Restoration), and consistent with policies in the City of Goleta General Plan, impacts to riparian habitat will be mitigated by riparian creation/enhancement at a ratio of 3:1 for permanent impacts and 2:1 for temporary impacts. The total acreage required for riparian mitigation is 4.16 acres for impacts within and outside the Coastal Zone. Per Mitigation Measure NA-2 (Implement Native Tree Inventory and Protection Plan), an additional 0.62 acre of mitigation lands are needed to further accommodate replacement trees that are required due to the removal of individual native trees as described below. Therefore, a total of 4.78 acres of mitigation lands are required/needed for all impacts. The entirety of the riparian mitigation will occur within and near the Coastal Zone at three proposed mitigation sites:

- 0.49 acre along Fowler Road Drainage Ditch and Old San Jose Creek, within the Coastal Zone and adjacent to the Project Site
- 0.31 acre along Old San Jose Creek near East Ekwill Street, near the Coastal Zone and adjacent to the Project Area
- 3.98 acres along Devereux Creek and its northwestern tributary on Ellwood Mesa, within the Coastal Zone and off-site

Restoration will also occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to Project-related activities. When completed, the proposed restoration would ensure a net gain in the acreage and function of coastal riparian habitat. Riparian, marsh, and coastal scrub Environmentally Sensitive Habitat Areas (ESHA) will be enhanced as part of mitigation activities and monarch butterfly roosting, raptor roosting, and native grassland ESHA will be preserved. Table 1 summarizes mitigation requirements.

Table 1 Summary of Mitigation Requirements

	Total Mitigation (acres)
Mitigation Required for Impact to Riparian Vegetation	
Ekwill Street Extension	3.94
Fowler Road Extension	0.21
Hollister Avenue Improvements	0.01
Subtotal	4.16
Additional Mitigation Needed for Impact to Individual Native Trees	
All alignments	0.62
Total Mitigation Proposed[1]	**4.78**

Note: exact acreages were calculated using GIS, small discrepancies within the table are due to rounding.

Approximately 3.98 acres will be restored at the off-site mitigation site, and approximately 0.80 acre will be restored at the Project site, for a total of 4.78 acres. Additionally, restoration of approximately 0.13 acre will occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to project-related activities, for a grand total of 5.1 acres.

The biological impacts of the Project include the removal of approximately 198 protected native trees, of which 81 are within the Coastal Zone and 117 are outside of the Coastal Zone. As required by EIR Mitigation Measure NA-2 (Implement Native Tree Inventory and Protection Plan), impacts to individual native trees will be mitigated at a ratio of 10:1. Therefore, a minimum of 1,980 individual native trees will be installed within the mitigation areas. The number of impacted trees may be reduced if during construction it is determined that some of the trees can be preserved in place, which may be the case for the trees located within the temporary impact area.

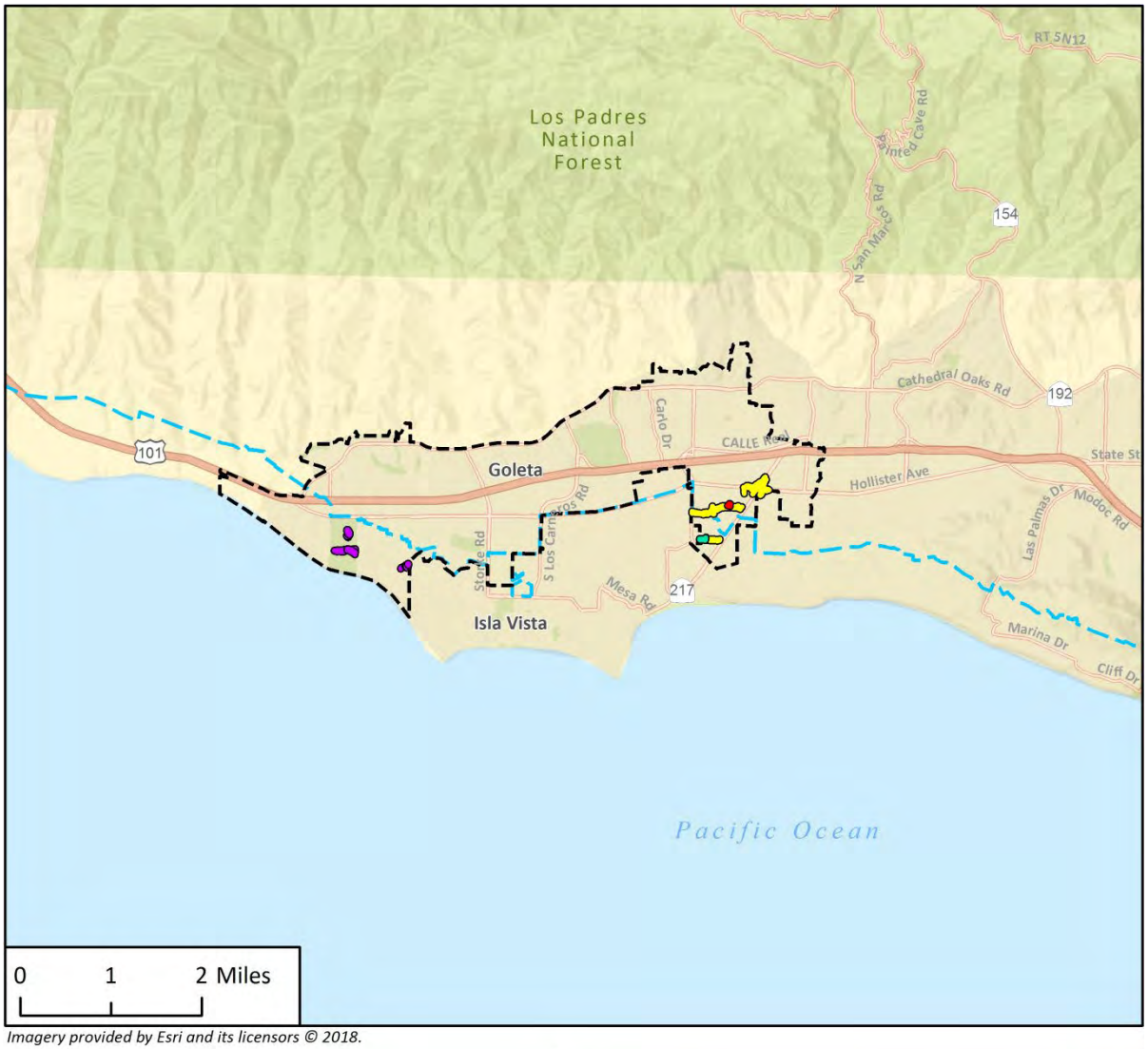
1 Introduction

The City of Goleta proposes to implement the Ekwill Street and Fowler Road Extensions Project (Project) within the Old Town area of the City of Goleta, in Santa Barbara County, California. The proposed Project consists of three main components: 1) the construction of one new road segment of Ekwill Street (Ekwill Street Extension); 2) the reconstruction and extension of a section of James Fowler Road (Fowler Road Extension); and 3) the construction of roundabouts and other public infrastructure improvements at Hollister Avenue in the vicinity of the State Route 217 interchange (Hollister Avenue Improvements) (Figure 1 and Figure 2).

On behalf of the City of Goleta, Rincon Consultants, Inc. (Rincon) has prepared this Biological Mitigation and Monitoring Plan. This Biological Mitigation and Monitoring Plan was prepared as required by the City of Goleta Environmental Impact Report (EIR) (City of Goleta 2011), which was certified in November 2011. This Biological Mitigation and Monitoring Plan fulfills the requirements of Mitigation Measure NA-1 (Protection and Replacement of Riparian Habitat) which states that a biological mitigation and monitoring plan that incorporates all of the biological conditions related to construction of the Project must be prepared by a City of Goleta-approved biologist. Additionally, this Biological Mitigation and Monitoring Plan fulfills the requirements of Mitigation Measures NA-2 through NA-4, WE-1 through WE-3, PL-1, PL-2, AN-1 through AN-10, CUL-1, and CUL-2, which call for a native tree inventory and protection plan, require pre-construction biological surveys, and specify avoidance and minimization measures to be implemented during Project construction. Lastly, this Biological Mitigation and Monitoring Plan satisfies requirements of the California Coastal Commission (CCC), Army Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), and Central Coast Regional Water Quality Control Board (RWQCB).

This Biological Mitigation and Monitoring Plan includes protection and replacement of riparian habitat and measures for the protection of sensitive plants and animals, as described in the EIR. Specifically, this Biological Mitigation and Monitoring Plan includes the compensatory mitigation plan, the native tree inventory and protection plan, pre-construction biological surveys, and avoidance and minimization measures to be implemented during project construction. Table 2 below summarizes the EIR Mitigation Measures that are included in this Biological Mitigation and Monitoring Plan and the section where the requirement is discussed herein. In addition, this Biological Mitigation and Monitoring Plan includes a summary description of the Project and describes the biological setting of the Project area.

Figure 1 Project Vicinity Map



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Project Site
City Boundary
Costal Zone

Mitigation Areas

Devereux Creek (Ellwood Mesa)
Fowler Road Drainage Ditch and Old San Jose Creek
San Jose Creek (East Ekwill)

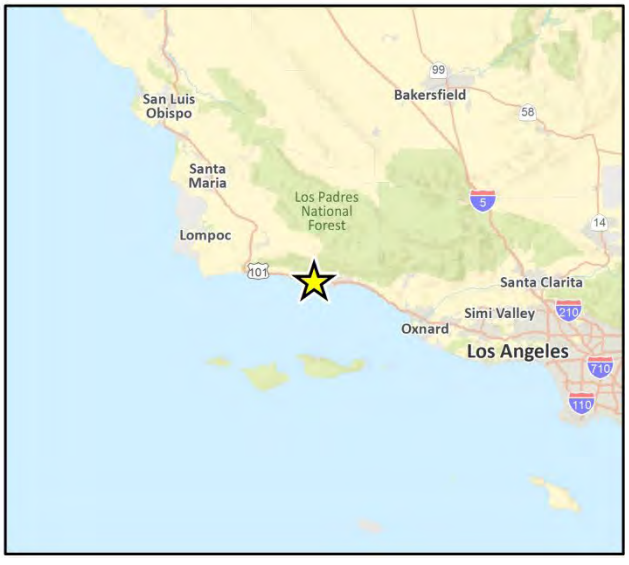
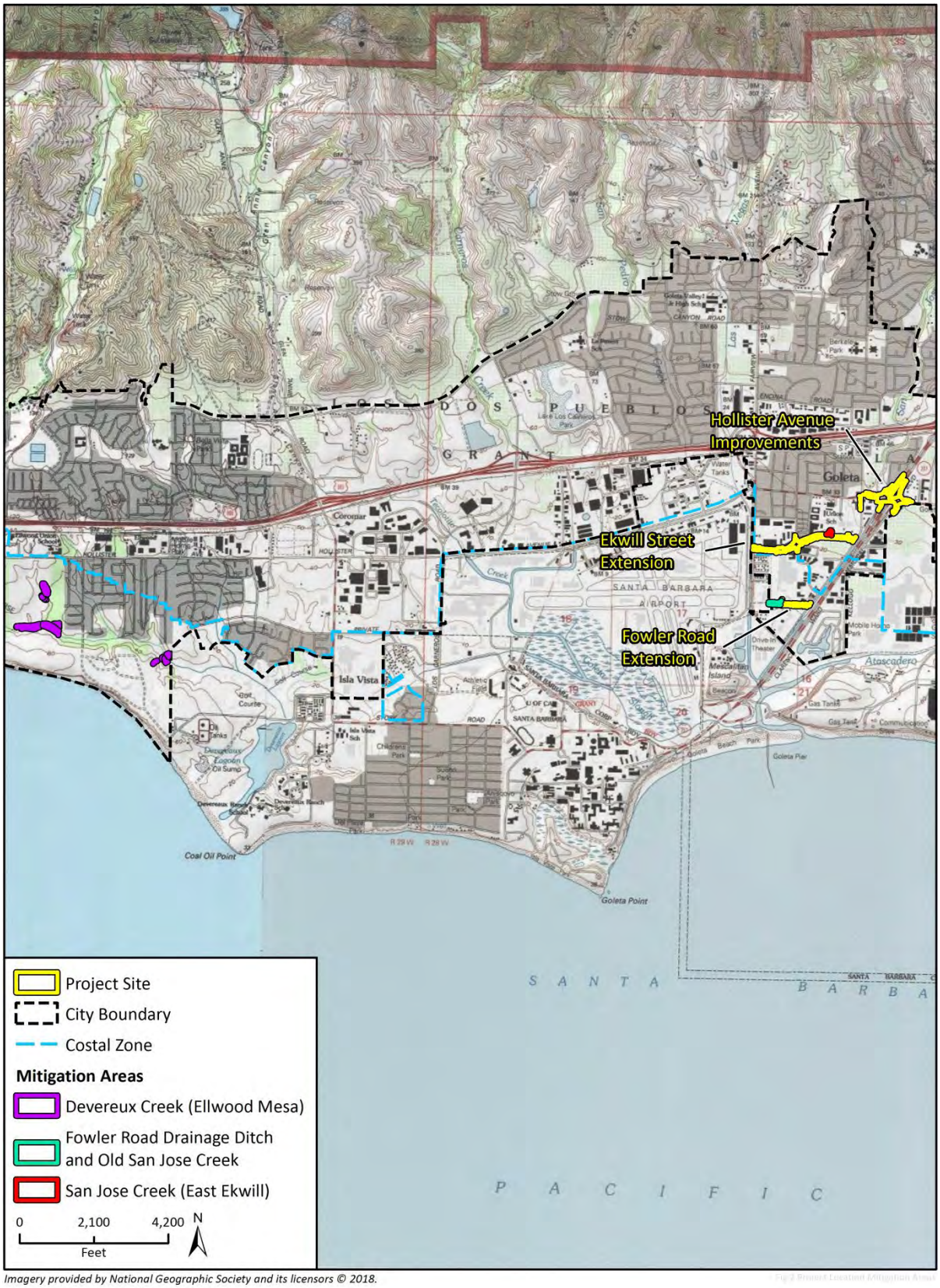


Figure 2 Project Location and Mitigation Areas



Imagery provided by National Geographic Society and its licensors © 2018.

Table 2 Mitigation Measures and Corresponding Plan Section

Mitigation Measure	Plan Section
Natural Communities	
NA-1: Protection and Replacement of Riparian Habitat	2.0
NA-2: Implement Native Tree Inventory and Protection Plan	3.0
NA-3: Avoid Landscaping Use of Invasive Plants	5.10
NA-4: Invasive Species Management	2.4, 5.10
Wetlands and Other Waters	
WE-1: Avoid Environmentally Sensitive Habitat Areas	5.1
WE-2: Wetland Habitat Restoration	2.0
WE-3: Construction Site Housekeeping	5.7
Plant Species	
PL-1: Pre-construction Floristic Surveys and Compensation	2.0, 4.1
PL-2: Plant Restoration	5.2
Animal Species	
AN-1: Construction Restrictions for Riparian Birds and Raptors	5.4
AN-2: Minimize Construction Noise	5.6
AN-3: Construction Zone Housekeeping	5.7
AN-4: Conduct Monarch Butterfly Surveys and Avoidance	4.2, 5.3
AN-5: Use Low-level Lighting Near Riparian Habitats	5.8
AN-6: Maintenance Restrictions	2.6, 5.4
AN-7: Avoid/Minimize Impacts to Least Bell's Vireo	5.5
AN-8: Conduct Pre-construction Protocol Surveys for Least Bell's Vireo	4.4
AN-9: Conduct Breeding Bird Surveys	4.3
AN-10: Dry Season Construction and Stormwater Pollution Prevention Plan	5.9
Cultural Resources	
CUL-1: Archaeological Monitoring and Discovery	5.11
CUL-2: Crew Education	5.12

The Biological Mitigation and Monitoring Plan will be re-submitted to the CCC, Corps, CDFW, and RWQCB for review for the permits discussed below. Resource agency review and approval would ensure the plan is consistent with provisions of the Section 404 permit (SPL-2014-00509), Section 401 Water Quality Certification (34214WQ08), and Streambed Alteration Agreement (1600-2014-0138-R5). City of Goleta staff or an authorized monitor will inspect the construction and mitigation sites to verify implementation of the approved Biological Mitigation and Monitoring Plan requirements during construction.

1.1 Project Location

The Project site is located within the City of Goleta, in Santa Barbara County, California (Figure 1). It is within the Goleta, California U.S. Geological Survey (USGS) 7.5-minute quadrangle (Figure 2). The public infrastructure improvements of the Project are surrounded by Hollister Avenue to the north, State Route 217 to the east, South Fairview Avenue to the west, and the Goleta Slough to the south

and southwest. This area can be described generally as mixed-use, as it includes commercial, industrial, residential, and agricultural uses. Much of the Project area is within the Coastal Zone. The proposed mitigation sites for the Project are located along Fowler Road Drainage Ditch and Old San Jose Creek, Old San Jose Creek near East Ekwill Street, and Devereux Creek and its northwestern tributary on Ellwood Mesa in Goleta, California (see Figure 1 and Figure 2).

The Fowler Road Drainage Ditch and Old San Jose Creek mitigation site is located within the Coastal Zone and adjacent to the Project Site. The Old San Jose Creek (East Ekwill Street) mitigation site is located near the Coastal Zone and adjacent to the Project Site. The Devereux Creek and northwestern tributary (Ellwood Mesa) is located within the Coastal Zone and off-site.

1.2 Project Objectives

The objectives of the Project are to relieve traffic along Hollister Avenue and to improve access within Old Town Goleta (Old Town) in the City of Goleta and between Old Town and the Santa Barbara Airport. The existing roadway system within Old Town has inadequate east-west circulation both north and south of Hollister Avenue, and lacks direct access to the southern portions of Old Town and to the nearby Santa Barbara Airport. Implementation of circulation improvements would provide alternate transportation routes, removing access constraints and congestion within Old Town. The Project is designed to address the following issues:

- Traffic circulation within Old Town is currently less than ideal in several locations, and by 2030 six major intersections will be operating at unacceptable levels of service (LOS)
- Safety concerns associated with a lack of adequate bicycle and pedestrian access and circulation in Old Town
- Insufficient access to the southern industrial area of Old Town
- Insufficient connectivity between Old Town and surrounding areas, including the Santa Barbara Airport

The Adendum to the EIR (City of Goleta 2019b) and the CCC, Corps, CDFW, and RWQCB regulatory permit applications include a more detailed project description.

1.3 Background

This Biological Mitigation and Monitoring Plan is an update to the 2016 Biological Mitigation and Monitoring Plan (AECOM 2016), which was approved by CDFW and Central Coast RWQCB in January 2017. At that time, the Biological Mitigation and Monitoring Plan included two mitigation sites, Devereux Creek on Ellwood Mesa and a tributary to Devereux Creek adjacent to Santa Barbara Shores Drive. Since January 2017, the City of Goleta has determined that the mitigation site located at Santa Barbara Shores Drive was no longer viable and that identification of new mitigation lands was necessary. Therefore, two mitigation sites located adjacent to the Project Site were added: Fowler Road Drainage Ditch and Old San Jose Creek, and Old San Jose Creek at East Ekwill Street. Notably, the Fowler Road Drainage Ditch and Old San Jose Creek site was approved by CCC in March 2018 as part of the Project's Costal Development Permit, and as further described in Section 2.4.1.1. Additionally, the mitigation site at Devereux Creek and its northwestern tributary on Ellwood Mesa was expanded. The total mitigation acreage remains the same. When completed, the proposed restoration of 4.78 acres would ensure a net gain in the acreage and function of coastal riparian habitat. Riparian, marsh, and coastal scrub Environmentally Sensitive Habitat Areas (ESHA) will be

enhanced as part of mitigation activities and monarch butterfly roosting, raptor roosting, and native grassland ESHA will be preserved. The other elements of the Biological Mitigation and Monitoring Plan have remained the same.

This Biological Mitigation and Monitoring Plan incorporates information from the most recent Biological Resources Report (URS 2014) for the Project, and bases mitigation on the impact acreages described herein and in the CCC, Corps, CDFW, and Central Coast RWQCB regulatory permit applications. The Project as described in the 2011 EIR consisted of four primary components. In 2016, Project modifications were made to address permitting constraints and federal regulations related to impact assessments in the vicinity of Santa Barbara Airport. In general, the Project footprint has been reduced, principally, from the reduction in scope of the Fowler Road Extension component. The biological impacts for the Ekwill Street Extension and Hollister Avenue Improvements would not differ substantially from those described in the EIR, although minor refinements to the Project design have decreased impacts to riparian areas where feasible. However, the biological impacts for the Fowler Road Extension are substantially decreased from those described in the EIR. Impacts associated with the Project are summarized herein and are discussed in detail in the Addendum to the EIR (City of Goleta 2019b) and the CCC, Corps, CDFW, and RWQCB regulatory permit applications.

1.4 Biological Setting

The following biological setting summary of the Project area is based on the Ekwill Street and Fowler Road Extensions Project Natural Environmental Study (Caltrans 2010) and the Biological Resources Report (URS 2014), which presents the findings of the biological surveys that were conducted in 2013 and 2014 within a Study Area defined as the Project components, as presented in the engineering plans as of April 2014, and a 100-foot buffer surrounding each Project component (see Figure 3).

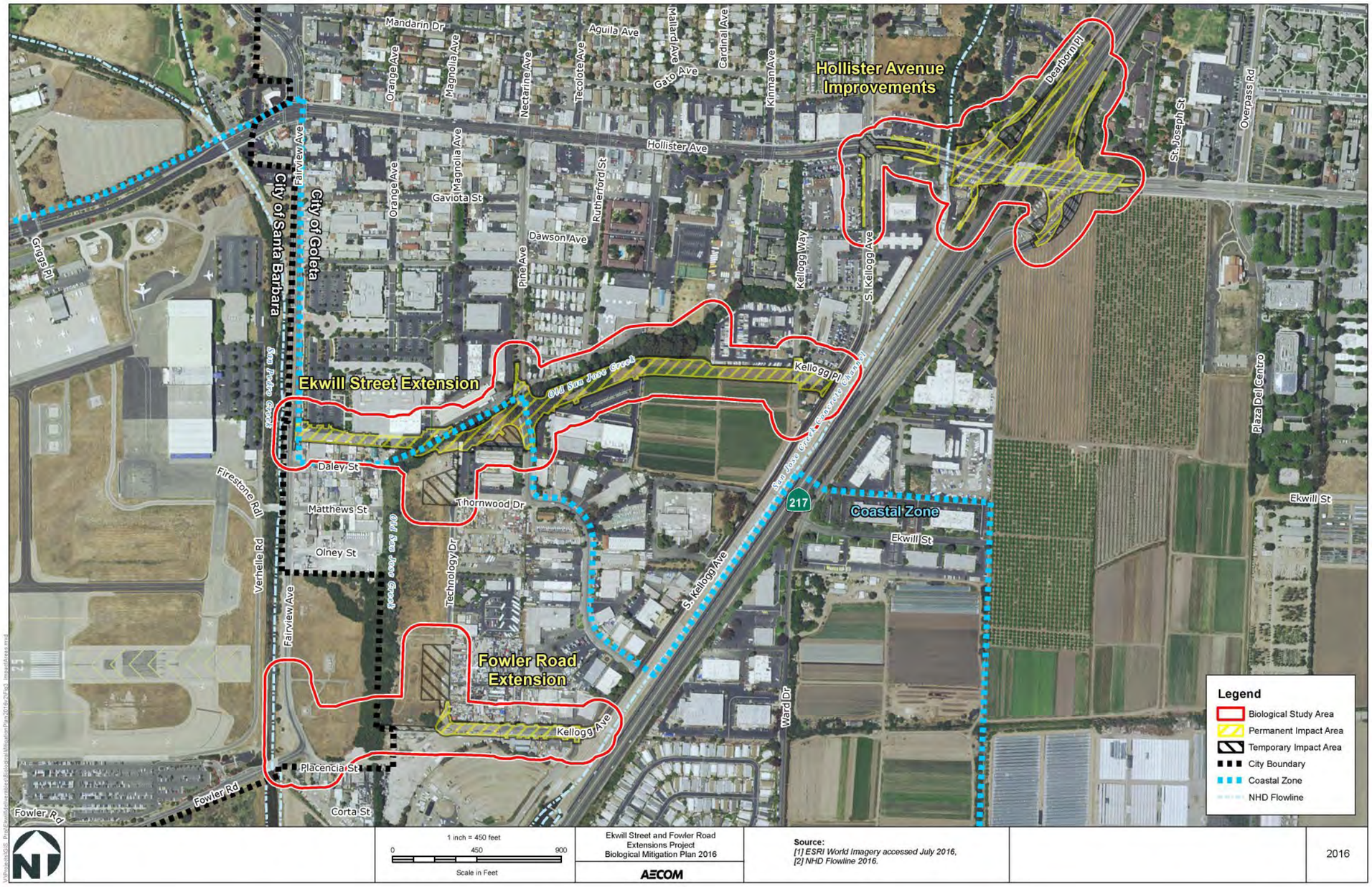
The biological setting of the proposed mitigation sites is described in Sections 2.1 and 2.2.

The Project is within the San Jose Creek watershed, which encompasses approximately 10,000 acres and stretches from the ridge of the Santa Ynez Mountains to its terminus in the Goleta Slough. Roughly 60 percent of the watershed supports native habitat (chaparral, oak woodland, and coastal sage scrub), and most of this occurs on steep mountainsides above Goleta and Santa Barbara. Roughly 18 percent of the watershed contains urban or impervious land uses, and 12 percent is occupied by irrigated agricultural uses (Stoecker 2002).

As shown on Figure 4a through Figure 4c, the Study Area includes portions of four jurisdictional drainages. The channels of two of these drainages are impacted by the Project: Old San Jose Creek, and an unnamed drainage ditch near the intersection of Fowler Road (the existing South Street) with Technology Drive. Minimal impacts to the riparian habitat of San Jose Creek will occur; however, the channel will not be impacted. The remaining drainage, San Pedro Creek, is located in relatively close proximity to Project-related improvements but is beyond the limits of permanent or temporary ground disturbance. These jurisdictional drainages are further described in the Biological Resources Report.

The riparian vegetation communities within the Study Area, all of which are sensitive natural communities, include native arroyo willow thickets (*Salix lasiolepis* shrubland alliance), black cottonwood forest (*Populus trichocarpa* forest alliance), and red willow thickets (*Salix laevigata* woodland alliance) along Old San Jose Creek. The wetland vegetation community within the Study

Figure 3 Temporary and Permanent Impacts in Project Area

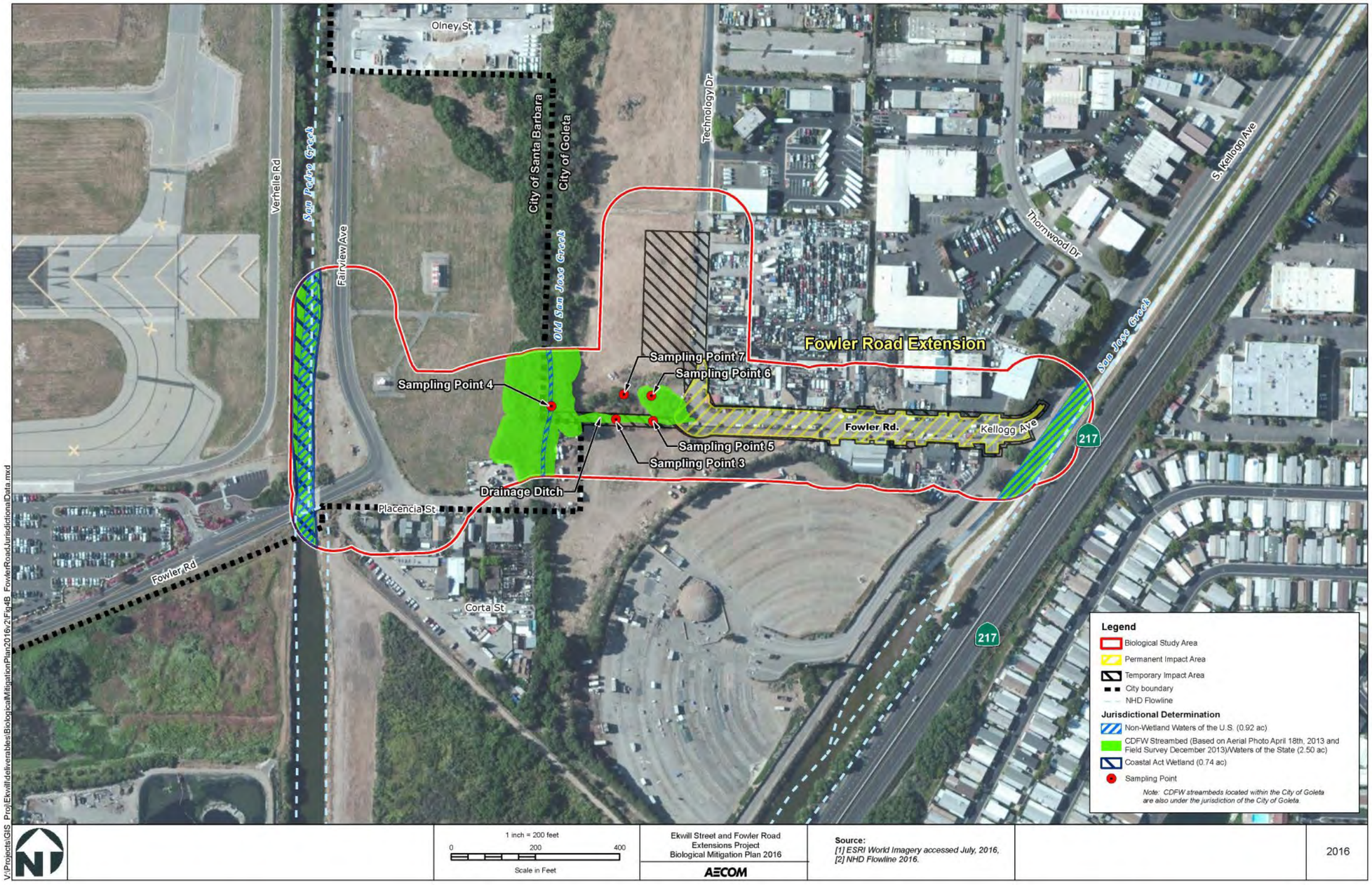


Source: AECOM 2018

Figure 4a Jurisdictional Determination: Ekwill Street

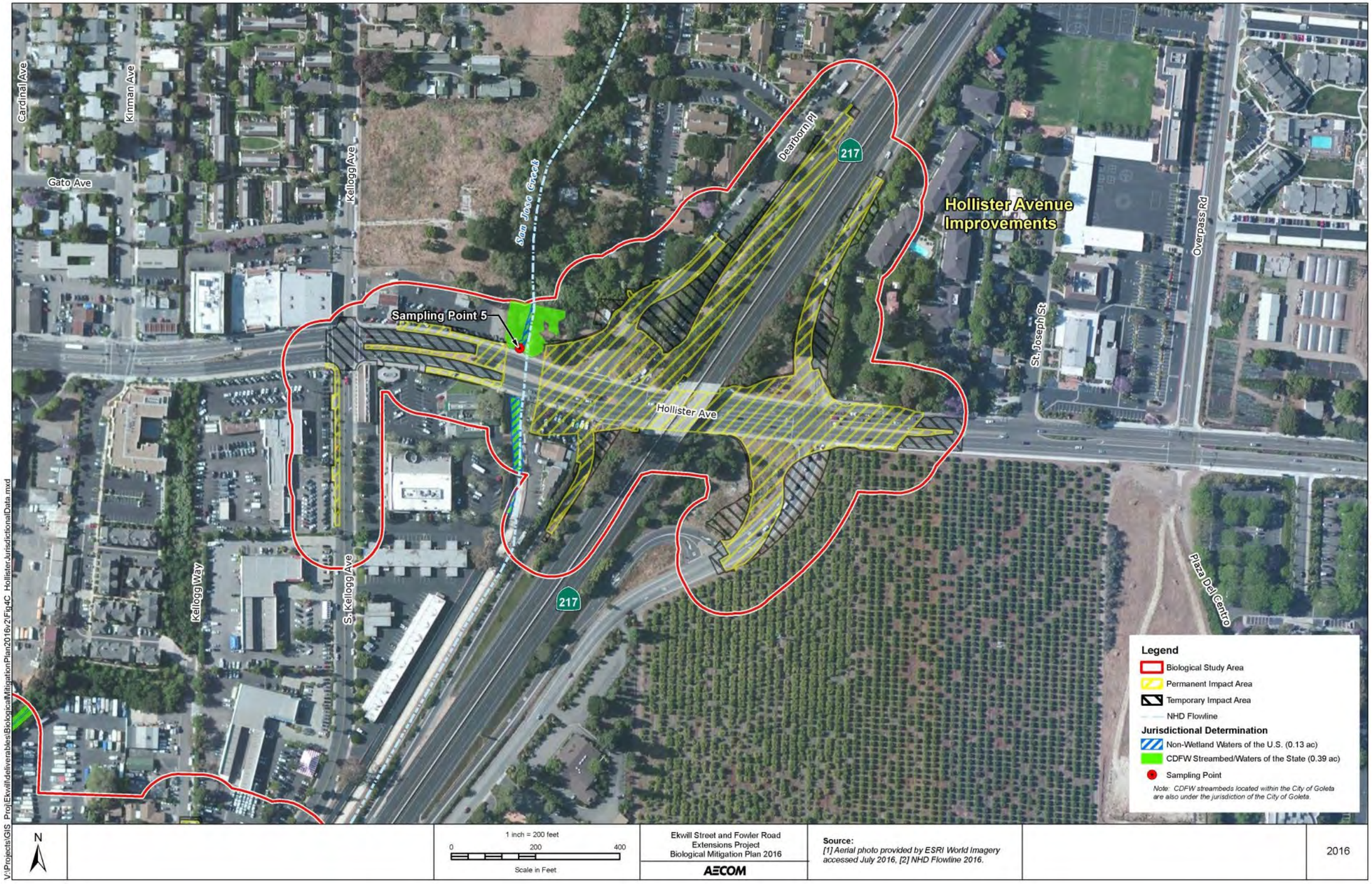
Source: AECOM 2018

Figure 4b Jurisdictional Determination: Fowler Road



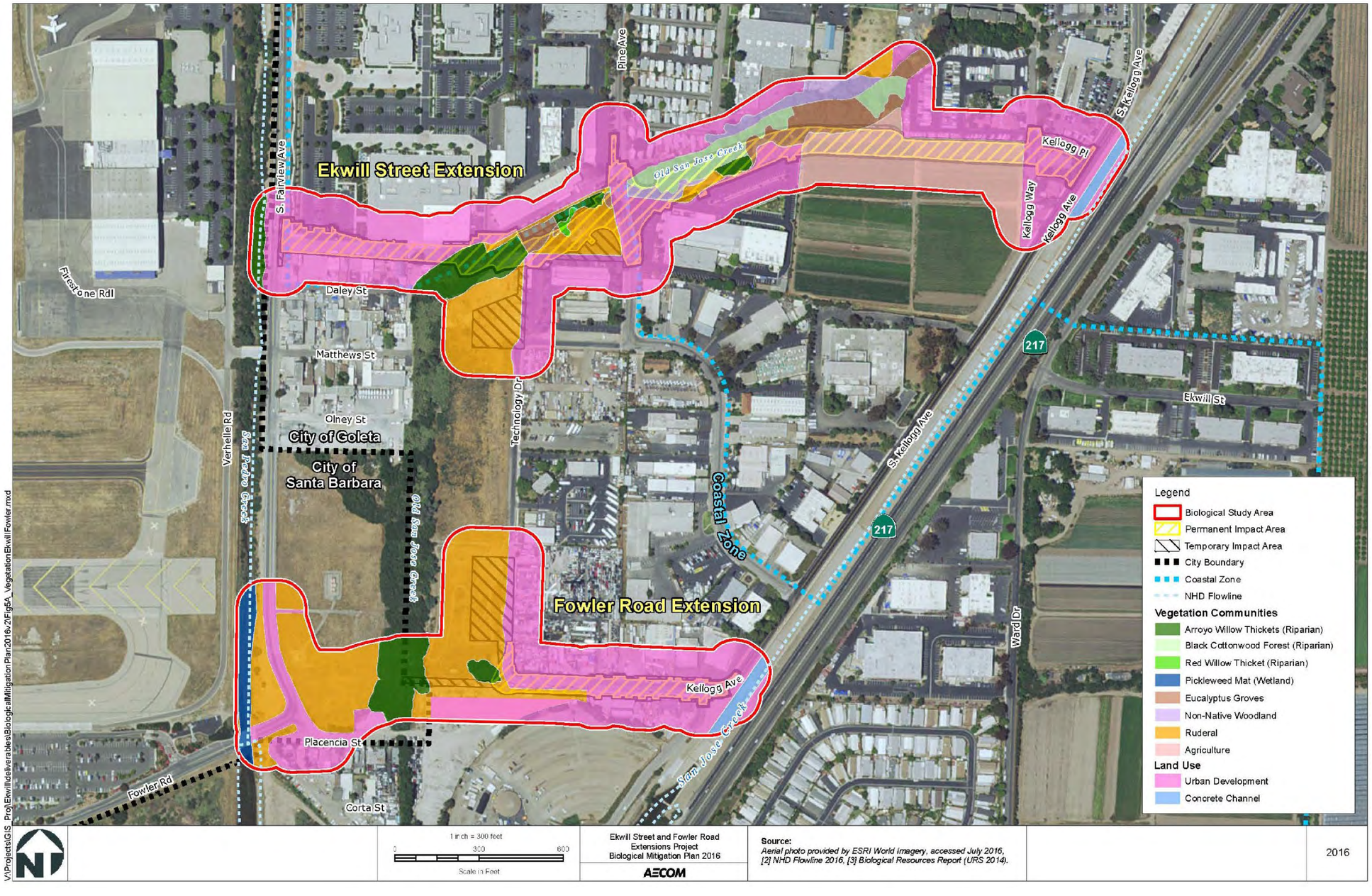
Source: AECOM 2018

Figure 4c Jurisdictional Determination: Hollister Avenue



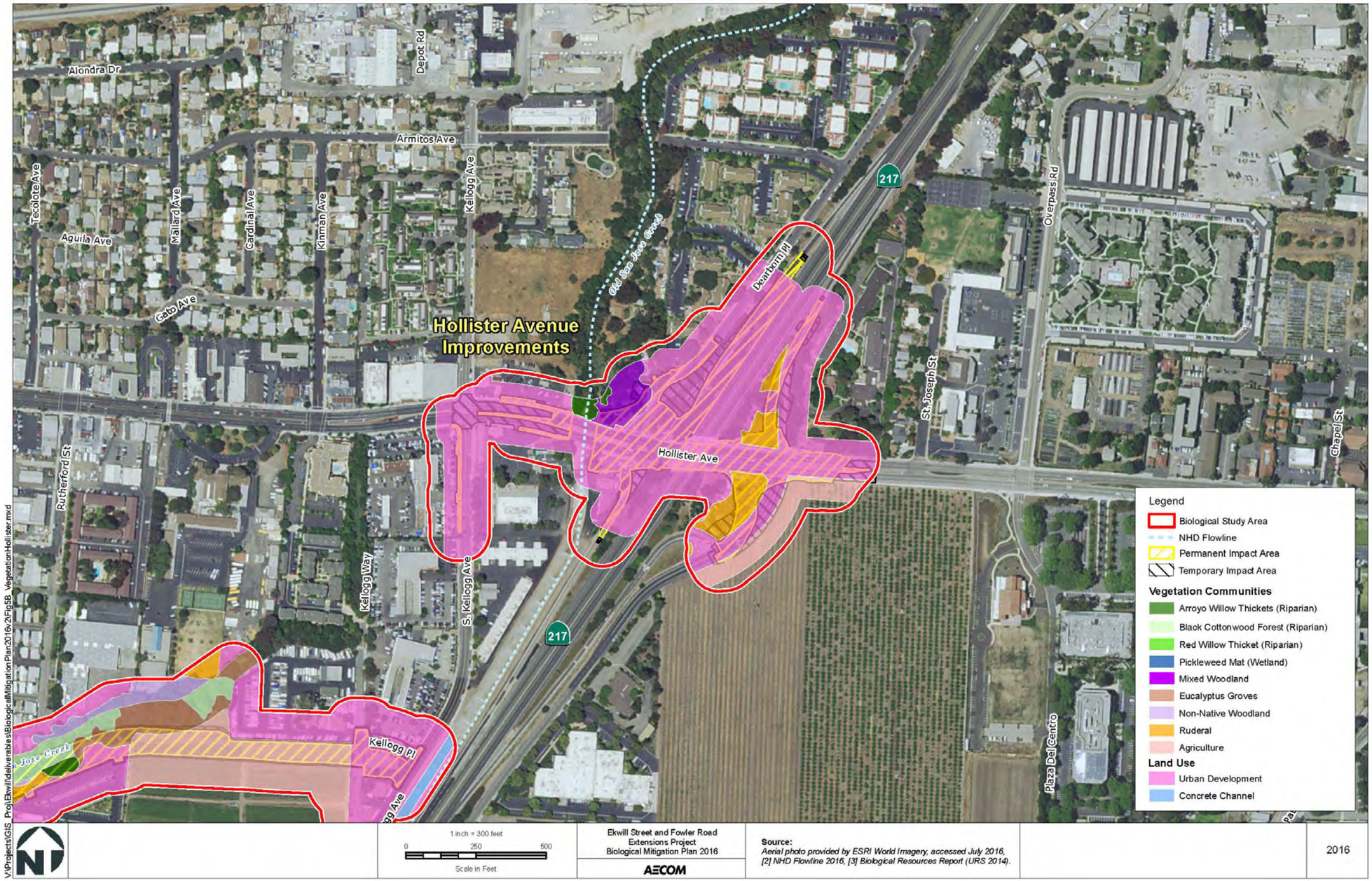
Source: AECOM 2018

Figure 5a Vegetation Communities: Ekwill Street and Fowler Road



Source: AECOM 2017, 2018

Figure 5b Vegetation Communities: Hollister Avenue



Source: AECOM 2018

Area consists of native pickleweed mats (*Salicornia pacifica* herbaceous alliance), a sensitive natural community, along San Pedro Creek. Other types of vegetation within the Study Area include mixed woodland, non-native eucalyptus groves, non-native woodland, and ruderal areas. See Figure 5a and Figure 5b for the vegetation communities and land covers. Old San Jose Creek provides habitat for many birds, including raptors; however, habitat for other wildlife is limited. The City of Goleta General Plan/Coastal Land Use Plan identifies Old San Jose Creek as an Environmentally Sensitive Habitat Area (ESHA) due to its potential to support raptors. A complete list of wildlife species observed within the Study Area is provided in the Biological Resources Report. Seven special-status wildlife species, one invertebrate and six birds, were observed within the Study Area as detailed in the Biological Resources Report.

1.5 Project Jurisdictions and Regulatory Permits

The Project components would traverse several distinct jurisdictions requiring permits, notices, and approvals from the City of Goleta and state agencies, as shown in Table 3 below and illustrated on Figure 1 and Figure 2. The majority of the Project is within the jurisdiction of the City of Goleta, and the Hollister Avenue/State Route 217 interchange (on- and off-ramps) are within the Caltrans right-of-way. In addition, because the City of Goleta does not have a Local Coastal Program certified by the CCC, the CCC has jurisdiction over those portions of the Project within the Coastal Zone, encompassing the Fowler Road Extension component and portions of the Ekwill Street Extension.

Table 3 Land Use Permitting – Project Jurisdictions

Project Component	City of Goleta	Coastal Commission	Caltrans
Fowler Road Extension	X	X	
Ekwill Street Extension	X	X	
Hollister Avenue Improvements	X		X

Several agencies have permitting authority over various components of the Project. The federal, state, and local agencies/authority, and associated permits, notices, and approvals that have been issued or are in the process of being obtained prior to construction are listed below:

- City of Goleta
  - Development Plan
  - GC 65402 finding
  - Land Use Permit
- Santa Barbara County Air Pollution Control District
  - Permit or exemption for construction emissions and fugitive dust releases
- California Coastal Commission
  - Coastal Development Permit - No. 14-17-0264
- California Department of Fish and Wildlife
  - Section 1600 Streambed Alteration Agreement - No. 1600-2014-0138-R5
- California Department of Transportation
  - Roadway Encroachment Permit

- California Office of Historic Preservation
  - Section 106 Consultation
- State Water Resources Control Board
  - Construction General Permit Order No. 2009-0009-DWQ
- Central Coast Regional Water Quality Control Board
  - Section 401 Water Quality Certification – No. 34214WQ08
- U.S. Army Corps of Engineers
  - Section 404 Permit – No. SPL-2014-00509

2 Compensatory Mitigation Plan

This section fulfills EIR Mitigation Measures NA-1 (Protection and Replacement of Riparian Habitat) and WE-2 (Wetland Habitat Restoration), which state that impacts to riparian habitat, streams, and wetlands must be mitigated. This compensatory mitigation plan provides details on mitigation requirements identified in the EIR and methods for implementing the mitigation. Additionally, this Biological Mitigation and Monitoring Plan satisfies requirements of the CCC, Corps, CDFW, and RWQCB. As described above, the regulatory agencies will review this Biological Mitigation and Monitoring Plan, and the City of Goleta will implement the plan in cooperation with a City of Goleta-approved biologist.

2.1 Mitigation Objectives

The objectives of this compensatory mitigation plan are to fulfill the requirements of EIR Mitigation Measure NA-1 in order to compensate for the loss of riparian habitat associated with the Project, and to satisfy requirements of the CCC, Corps, CDFW, and RWQCB, which have jurisdiction over activities affecting jurisdictional waters within the Project Area. In accordance with City of Goleta policy, impacts to riparian habitat within the City of Goleta will be mitigated within the City of Goleta, and impacts within the Coastal Zone will be mitigated within the Coastal Zone.

The Project would permanently impact 1.17 acres and temporarily impact 0.32 acre of riparian habitat as displayed in Figure 3. As required by Mitigation Measure NA-1, permanent loss of riparian vegetation, both within and outside the Coastal Zone, must be mitigated at a ratio of 3:1 with riparian habitat creation and/or restoration. Temporary impacts to riparian vegetation, both within and outside the Coastal Zone, must be mitigated at a ratio of 2:1 with riparian habitat creation and/or restoration. The mitigation area must include sufficient habitat creation to ensure no net loss of riparian vegetation. Table 4 below provides a summary of the permanent and temporary impacts to riparian vegetation within and outside of the Coastal Zone. Table 5 provides the mitigation requirements based on these impacts.

A total of 4.78 acres of riparian habitat will be restored to fulfill the mitigation requirements associated with the Project, comprised of 4.16 acres of mitigation associated with impacts to riparian vegetation and an additional 0.62 acre of mitigation associated with impacts to individual native trees as described below. Within the Coastal Zone, the Project will require 1.18 acres of mitigation for permanent impacts and 0.34 acre for temporary impacts, for a total of 1.51 acres of coastal riparian mitigation. Outside of the Coastal Zone, the Project will require 2.35 acres of mitigation for permanent impacts and 0.30 acre for temporary impacts, for a total of 2.65 acres of riparian mitigation.

Table 4 Project Impacts to Vegetation

Vegetation Community	Coastal Zone		Non-coastal Zone		Total Project Impact	
	Permanent Impact (Acres)	Temporary Impact (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)	Permanent Impact (Acres)	Temporary Impact (Acres)
Riparian						
Arroyo willow thickets	0.37	0.15	0.34	0.03	0.70	0.18
Black cottonwood forest	0	0	0.45	0.12	0.45	0.12
Red willow thickets	0.02	0.02		0	0.02	0.02
Subtotal	**0.39**	**0.17**	**0.78**	**0.15**	**1.17**	**0.32**
Wetland[1]						
Pickleweed mats	0	0	N/A	N/A	0	0
Subtotal	**0**	**0**	**0**	**0**	**0**	**0**
Non-native/Naturalized						
Eucalyptus grove	0.12	0.06	0.33	0.10	0.46	0.16
Mixed woodland	0	0	0.24	0.09	0.24	0.09
Non-native woodland	0	0	0.19	<0.001	0.19	<0.001
Ruderal	0.72	2.09	0.82	0.22	1.55	2.31
Subtotal	**0.85**	**2.15**	**1.59**	**0.41**	**2.43**	**2.56**
Total	**1.24**	**2.32**	**2.37**	**0.56**	**3.61**	**2.88**

[1] Wetland vegetation community as defined by CCC guidelines for wetland habitat. Not and indication of a Corps jurisdictional wetland.

Note: Ekwill Street and Fowler Road vegetation information is based on the Biological Resources Report (URS 2014) and the Hollister Avenue vegetation information is based on the EIR (Caltrans 2010), field data (URS 2013), and native tree inventory. Exact acreages were calculated using GIS, small discrepancies within the table are due to rounding.

Table 5 Summary of Riparian Habitat Mitigation Requirements

Impact Area	Mitigation Required for Permanent Impact (3:1 Ratio) (acres)	Mitigation Required for Temporary Impact (2:1 Ratio) (acres)	Total Riparian Mitigation Required (acres)
Coastal Zone	1.18	0.34	1.51
Non-coastal Zone	2.35	0.30	2.65
Total Project	**3.52**	**0.64**	**4.16**

Note: Exact acreages were calculated using GIS. Small discrepancies within the table are due to rounding.

Of the 4.16 acres required for mitigation for impacts to riparian vegetation, 3.94 acres is associated with the Ekwill Street Extension, 0.21 acre is associated with the Fowler Road Extension, and 0.01 acre is associated with the Hollister Avenue Improvements. In addition, 0.62 acre of mitigation lands are needed to further accommodate replacement trees that are required due to the removal of individual native trees.

Approximately 3.98 acres will be restored at the off-site mitigation site, and approximately 0.80 acre will be restored at the Project site, for a total of 4.78 acres. Additionally, restoration of approximately 0.13 acre will occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to project-related activities. Notably, the full acreage required for mitigation (4.78 acres) will be accounted for at the off-site mitigation site and in areas adjacent to the Project site where no construction work will take place to ensure that adequate habitat, space, and timing for replacement trees is available without the need to rely on the temporary impact areas associated with the Project site. When completed, the proposed restoration of 5.1 acres would ensure a net gain in the acreage and function of coastal riparian habitat within the City of Goleta.

2.2 Site Selection

The EIR states that permanent loss of willow riparian woodland habitat must be mitigated by restoring riparian habitat, with top priority given to restoring areas along Old San Jose Creek where native riparian habitat is lacking due to invasion of non-native species. Habitat and trees removed in the Coastal Zone must be mitigated, with priority given to mitigation within the Coastal Zone. The EIR states that mitigation of impacts within the Coastal Zone must give priority to the following mitigation sites, listed in order of priority:

- Replacing patches of non-native species in the Project right-of-way with native riparian willows or scrub within the Old San Jose Creek corridor to expand the existing riparian canopy.
- Enhancing the habitat quality of Old San Jose Creek by removing invasive species and revegetating with native riparian species. There would be a substantial benefit to riparian habitat quality by removing highly invasive species such as giant reed (*Arundo donax*) from the entire Old San Jose Creek corridor.

The EIR further indicates that mitigation of impacts outside the Coastal Zone must include the following: enhancement, restoration, or a combination of the two, as described above.

Mitigation was first pursued in appropriate areas within the immediate vicinity of the Project. Two sites were identified near the Project Site (Fowler Road Drainage Ditch and Old San Jose Creek, Old San Jose Creek near East Ekwill Street) for a total of 0.80 acres. However, there were not enough suitable areas within the San Jose Creek and Old San Jose Creek watersheds to reach the full

mitigation acreage needed. Other areas under investigation in the vicinity were too small, fragmented, not owned by the City of Goleta, or not available for purchase.

Once the options for restoration along San Jose Creek and Old San Jose Creek were exhausted, the site located outside the watershed that was previously identified and approved in the 2016 Biological Mitigation and Monitoring Plan (Devereux Creek and its northwestern tributary on Ellwood Mesa) was expanded to meet the required mitigation acreage. Devereux Creek and its tributary on Ellwood Mesa were selected by the City of Goleta to serve as the largest mitigation site because the riparian corridors are highly degraded due to invasion by non-native plants, restoration of erosional scars would improve water quality and reduce erosion, the site offers greater opportunities for public appreciation and involvement, and the site offers opportunities to improve habitat for the monarch butterfly (*Danaus plexippus*), a sensitive species.

For these reasons, 0.49 acre will be restored along Fowler Road Drainage Ditch and Old San Jose Creek, which is located within the Coastal Zone and City of Goleta; 0.31 acre will be restored along Old San Jose Creek near East Ekwill Street, which is located near the Coastal Zone and within the City of Goleta; and 3.98 acres will be restored along the Devereux Creek and its tributary on Ellwood Mesa, which is located within the Coastal Zone and City of Goleta (see Section 2.4.1 and Figure 2). Although a minimum of 1.51 acres of mitigation is required to be within the Coastal Zone, a majority of the mitigation acreage (4.47 acres) will occur within the Coastal Zone. Photographs of the mitigation sites are provided in Appendix A.

In summary, mitigation for impacts associated with the Project will largely occur at Devereux Creek and its northwestern tributary (Ellwood Mesa), supplemented at Fowler Road Drainage Ditch and Old San Jose Creek, and Old San Jose Creek (East Ekwill Street). The full acreage needed for mitigation will be accounted for at the off-site mitigation site and in areas adjacent to the Project site where no construction work will take place to ensure that adequate habitat, space, and timing for replacement trees is available without the need to rely on the on-site temporary impact areas. See Table 6 for a summary of the alignments and associated mitigation sites.

Table 6 Summary of Mitigation Requirements by Project Component

	Total Mitigation (acres)
Mitigation Required for Impact to Riparian Vegetation	
Ekwill Street Extension	3.94
Fowler Road Extension	0.21
Hollister Avenue Improvements	0.01
Subtotal	**4.16**
Additional Mitigation Required for Impact to Individual Native Trees	
All alignments	0.62
Total Mitigation Proposed[1]	**4.78**

Note: exact acreages were calculated using GIS, small discrepancies within the table are due to rounding.

[1] Approximately 3.98 acres will be restored at the off-site mitigation site, and approximately 0.80 acre will be restored at the Project site, for a total of 4.78 acres. Additionally, restoration of approximately 0.13 acre will occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to project-related activities, for a grand total of 5.1 acres.

2.3 Site Protection Instrument

The mitigation site along Devereux Creek and its tributary on Ellwood Mesa is located within City-owned property designated as open space by the City of Goleta and managed via the Ellwood-Devereux Coast Open Space and Habitat Management Plan (URS et al. 2004). The legal arrangements and instrument through which the other two mitigation sites will be protected long-term are in development and will be finalized prior to construction.

2.4 Mitigation Work Plan

This section details the restoration preparation and installation methods for the three proposed mitigation sites: Fowler Road Drainage Ditch and Old San Jose Creek, Old San Jose Creek at East Ekwill Street, and Devereux Creek and its northwestern tributary at Ellwood Mesa. Restoration preparation and implementation elements include the restoration approach, source of plant materials, seed storage, plant propagation, non-native plant removal, erosion control, plant installation methods, and plant protection. Maintenance and monitoring elements include the performance criteria, maintenance plan, monitoring plan, reporting requirements, and the restoration schedule.

The entirety of the riparian mitigation will occur within and near the Coastal Zone at the three proposed mitigation sites. Restoration will also occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to Project-related activities.

2.4.1 Restoration Approach

As described above, a total of 4.78 acres of riparian habitat must be restored to fulfill the mitigation requirements associated with the Project (see Table 6). Approximately 2.44 acres has been identified for enhancement and 2.34 acres has been identified for creation (See Table 7). This Biological Mitigation and Monitoring Plan distinguishes riparian habitat creation from riparian enhancement based on the presence or absence of an existing riparian plant community. If riparian species are present in the area, but opportunities for improvement exist, restoration activities in the area are considered “enhancement” as the degraded aquatic resource (riparian vegetation) will be improved and restored. However, if the area currently lacks riparian vegetation, restoration activities in the area are considered “creation” as the aquatic resource (riparian vegetation) will be established. A summary of habitat to be enhanced and created is provided in Table 7.

When completed, the proposed restoration would ensure a net gain in the acreage and function of coastal riparian habitat. Riparian, marsh, and coastal scrub Environmentally Sensitive Habitat Areas (ESHA) will be enhanced as part of mitigation activities and monarch butterfly roosting, raptor roosting, and native grassland ESHA will be preserved. The restored lands will function similarly to the surrounding lands in terms of topography, hydrology, vegetation types, sensitive species present, and use by wildlife.

Table 7 Summary of Habitat to be Enhanced and Created

Habitat	Riparian Enhancement (acres)	Riparian Creation (acres)	Total
Old San Jose Creek and Fowler Road Ditch			
Arroyo Willow Woodland Understory	0.17		0.17
Channel Bank Mix		0.11	0.11
Channel Bottom		0.04	0.04
Coast live oak/Black walnut/Elderberry woodland mix		0.15	0.15
Riparian		0.02	0.02
Subtotal	**0.17**	**0.32**	**0.49**
Old San Jose Creek (Ekwill Street)			
Arroyo Willow Woodland		0.31	0.31
Devereux Creek and Northwestern Tributary (Ellwood Mesa)			
Arroyo willow/black cottonwood/sycamore woodland and seasonal wetland mix	2.44	0.03	2.47
Coast live oak/black walnut/elderberry woodland mix		0.92	0.92
Sandbar willow/Mulefat erosion control mix		0.40	0.40
Sandbar willow/Mulefat		0.20	0.20
Subtotal	**2.44**	**1.54**	**3.98**
Total	**2.62**	**2.16**	**4.78**

Note: The total acreage required for riparian mitigation is 4.16 acres for impacts within and outside the Coastal Zone. Approximately 3.98 acres will be restored at the off-site mitigation sites, and approximately 0.80 acre will be restored at the Project site, for a total of 4.78 acres. Additionally, restoration of approximately 0.13 acre will occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to project-related activities, for a grand total of 5.1 acres. Exact acreages were calculated using GIS, small discrepancies within the table are due to rounding.

2.4.1.1 Fowler Road Drainage Ditch and Old San Jose Creek

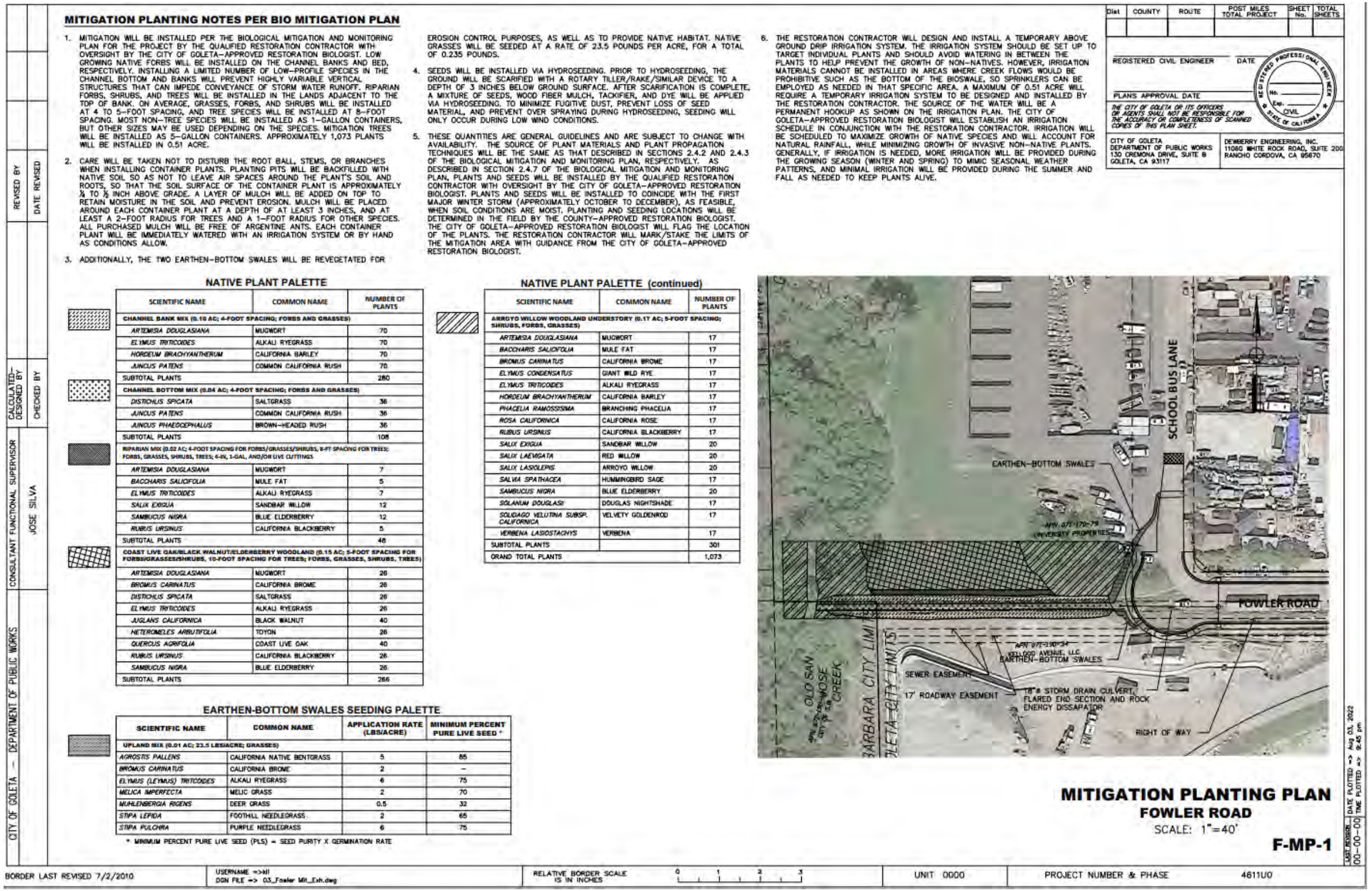
Fowler Road Drainage Ditch and Old San Jose Creek, located within the Coastal Zone, will be restored as described below (see Figure 6a, Figure 6b, and Figure 6c). At the request of CCC staff, the Fowler Road Drainage Ditch Restoration Plan (AECOM 2017a) was submitted and approved by CCC as part of issuance of the Costal Development Permit in March 2018 after the 2016 Biological Mitigation and Monitoring Plan was approved. The Fowler Road Drainage Ditch Restoration Plan, summarized herein, provided further details on the design of the bioswale proposed along the drainage ditch between the western terminus of the Fowler Road Extension and Old San Jose Creek. Subsequent to CCC approval of the original Fowler Road Drainage Ditch Restoration Plan, the restoration site has been expanded in size to accommodate further riparian restoration.

Baseline Conditions

At the western terminus of the Fowler Road Extension, an unnamed ditch drains to Old San Jose Creek. The drainage ditch is dominated by ruderal plant species throughout most of its length; however, there is a small arroyo willow (*Salix lasiolepis*) thicket present at its eastern terminus.

Arroyo willow thickets occur along both sides of Old San Jose Creek within the Fowler Road Biological Study Area. Dominant species within the herbaceous layer include native understory species California blackberry (*Rubus ursinus*), mugwort (*Artemisia douglasiana*), poison oak

Figure 6a Restoration Plan: Fowler Road Drainage Ditch and Old San Jose Creek (Engineering Planting Plan)



SCIENTIFIC NAME	COMMON NAME	NUMBER OF PLANTS
CHANNEL BANK MIX (0.19 AC; 4-FOOT SPACING; FORBS AND GRASSES)		
ARTEMISIA DOUGLASIANA	MUGWORT	70
ELYMUS TRITICOIDES	ALKALI RYEGRASS	70
HORDEUM BRACHYANTHERUM	CALIFORNIA BARLEY	70
JUNCUS PATENS	COMMON CALIFORNIA RUSH	70
SUBTOTAL PLANTS		280
CHANNEL BOTTOM MIX (0.04 AC; 4-FOOT SPACING; FORBS AND GRASSES)		
DISTICHLIS SPICATA	SALTGRASS	36
JUNCUS PATENS	COMMON CALIFORNIA RUSH	36
JUNCUS PHAEOCEPHALUS	BROWN–HEADED RUSH	36
SUBTOTAL PLANTS		108
RIPARIAN MIX (0.02 AC; 4-FOOT SPACING FOR FORBS/GRASSES/SHRUBS, 8-FT SPACING FOR TREES; FORBS, GRASSES, SHRUBS, TREES; 4-IN, 1-GAL, AND/OR LIVE CUTTINGS		
ARTEMISIA DOUGLASIANA	MUGWORT	7
BACCHARIS SALICIFOLIA	MULE FAT	5
ELYMUS TRITICOIDES	ALKALI RYEGRASS	7
SALIX EXIGUA	SANDBAR WILLOW	12
SAMBUCUS NIGRA	BLUE ELDERBERRY	12
RUBUS URSINUS	CALIFORNIA BLACKBERRY	5
SUBTOTAL PLANTS		48
COAST LIVE OAK/BLACK WALNUT/ELDERBERRY WOODLAND (0.15 AC; 5-FOOT SPACING FOR FORBS/GRASSES/SHRUBS, 10-FOOT SPACING FOR TREES; FORBS, GRASSES, SHRUBS, TREES)		
ARTEMISIA DOUGLASIANA	MUGWORT	26
BROMUS CARINATUS	CALIFORNIA BROME	26
DISTICHLIS SPICATA	SALTGRASS	26
ELYMUS TRITICOIDES	ALKALI RYEGRASS	26
JUGLANS CALIFORNICA	BLACK WALNUT	40
HETEROMELES ARBUTIFOLIA	TOYON	26
QUERCUS AGRIFOLIA	COAST LIVE OAK	40
RUBUS URSINUS	CALIFORNIA BLACKBERRY	26
SAMBUCUS NIGRA	BLUE ELDERBERRY	26
SUBTOTAL PLANTS		266

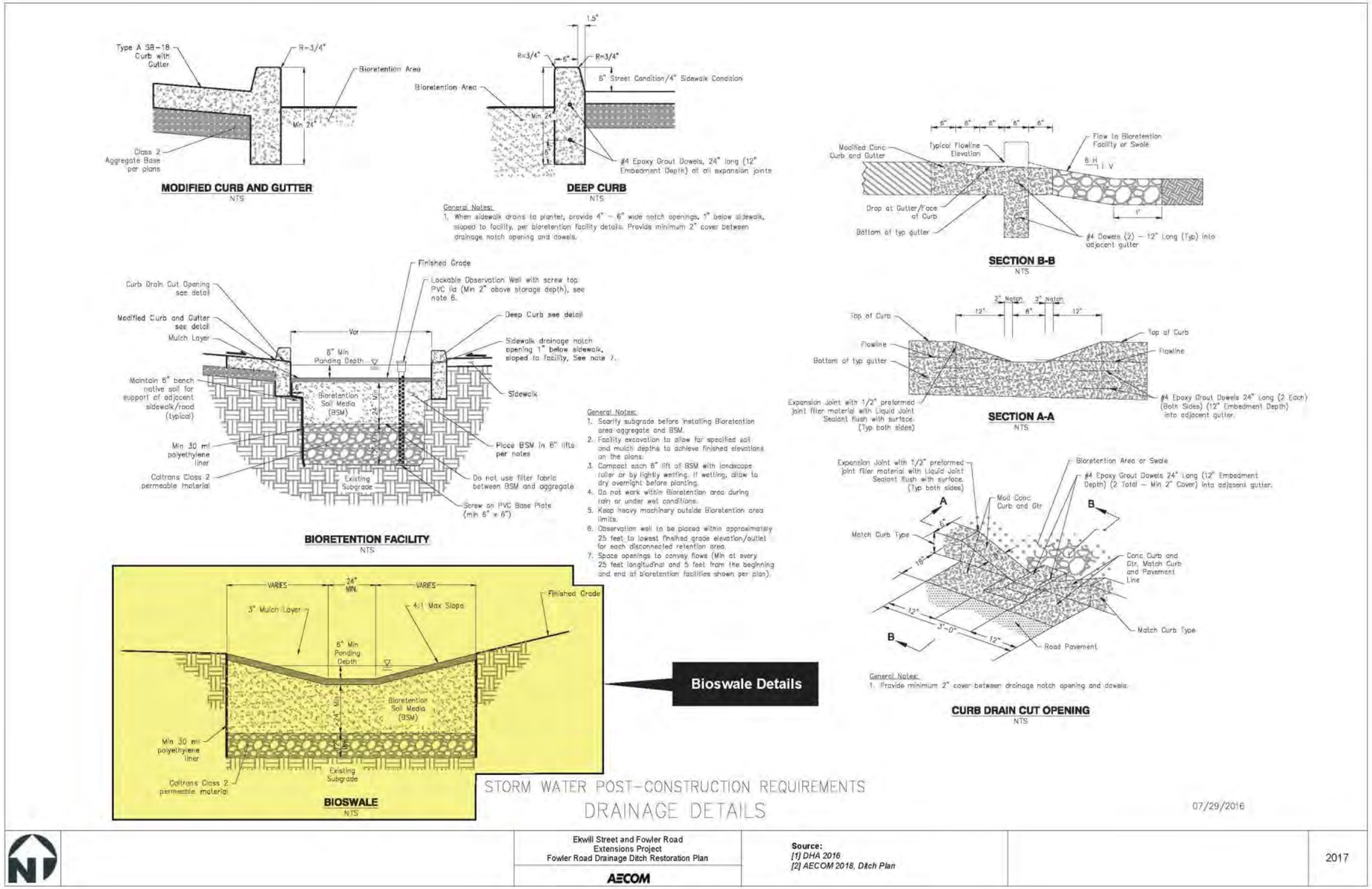
SCIENTIFIC NAME	COMMON NAME	NUMBER OF PLANTS
ARROYO WILLOW WOODLAND UNDERSTORY (0.17 AC; 5-FOOT SPACING; SHRUBS, FORBS, GRASSES)		
ARTEMISIA DOUGLASIANA	MUGWORT	17
BACCHARIS SALICIFOLIA	MULE FAT	17
BROMUS CARINATUS	CALIFORNIA BROME	17
ELYMUS CONDENSATUS	GIANT WILD RYE	17
ELYMUS TRITICOIDES	ALKALI RYEGRASS	17
HORDEUM BRACHYANTHERUM	CALIFORNIA BARLEY	17
PHACELIA RAMOSSISIMA	BRANCHING PHACELIA	17
ROSA CALIFORNICA	CALIFORNIA ROSE	17
RUBUS URSINUS	CALIFORNIA BLACKBERRY	17
SALIX EXIGUA	SANDBAR WILLOW	20
SALIX LAEVIGATA	RED WILLOW	20
SALIX LASIOLEPIS	ARROYO WILLOW	20
SALVIA SPATHACEA	HUMMINGBIRD SAGE	17
SAMBUCUS NIGRA	BLUE ELDERBERRY	20
SOLANUM DOUGLASII	DOUGLAS NIGHTSHADE	17
SOLIDAGO VELUTINA SUBSP. CALIFORNICA	VELVETY GOLDENROD	17
VERBENA LASIOSTACHYS	VERBENA	17
SUBTOTAL PLANTS		301
GRAND TOTAL PLANTS		1,073

SCIENTIFIC NAME	COMMON NAME	APPLICATION RATE (LBS/ACRE)	MINIMUM PERCENT PURE LIVE SEED *
UPLAND MIX (0.01 AC; 23.5 LBS/ACRE; GRASSES)			
AGROSTIS PALLENS	CALIFORNIA NATIVE BENTGRASS	5	85
BROMUS CARINATUS	CALIFORNIA BROME	2	–
ELYMUS (LEYMUS) TRITICOIDES	ALKALI RYEGRASS	6	75
MELICA IMPERFECTA	MELIC GRASS	2	70
MUHLENBERGIA RIGENS	DEER GRASS	0.5	32
STIPA LEPIDA	FOOTHILL NEEDLEGRASS	2	65
STIPA PULCHRA	PURPLE NEEDLEGRASS	6	75

* MINIMUM PERCENT PURE LIVE SEED (PLS) = SEED PURITY X GERMINATION RATE

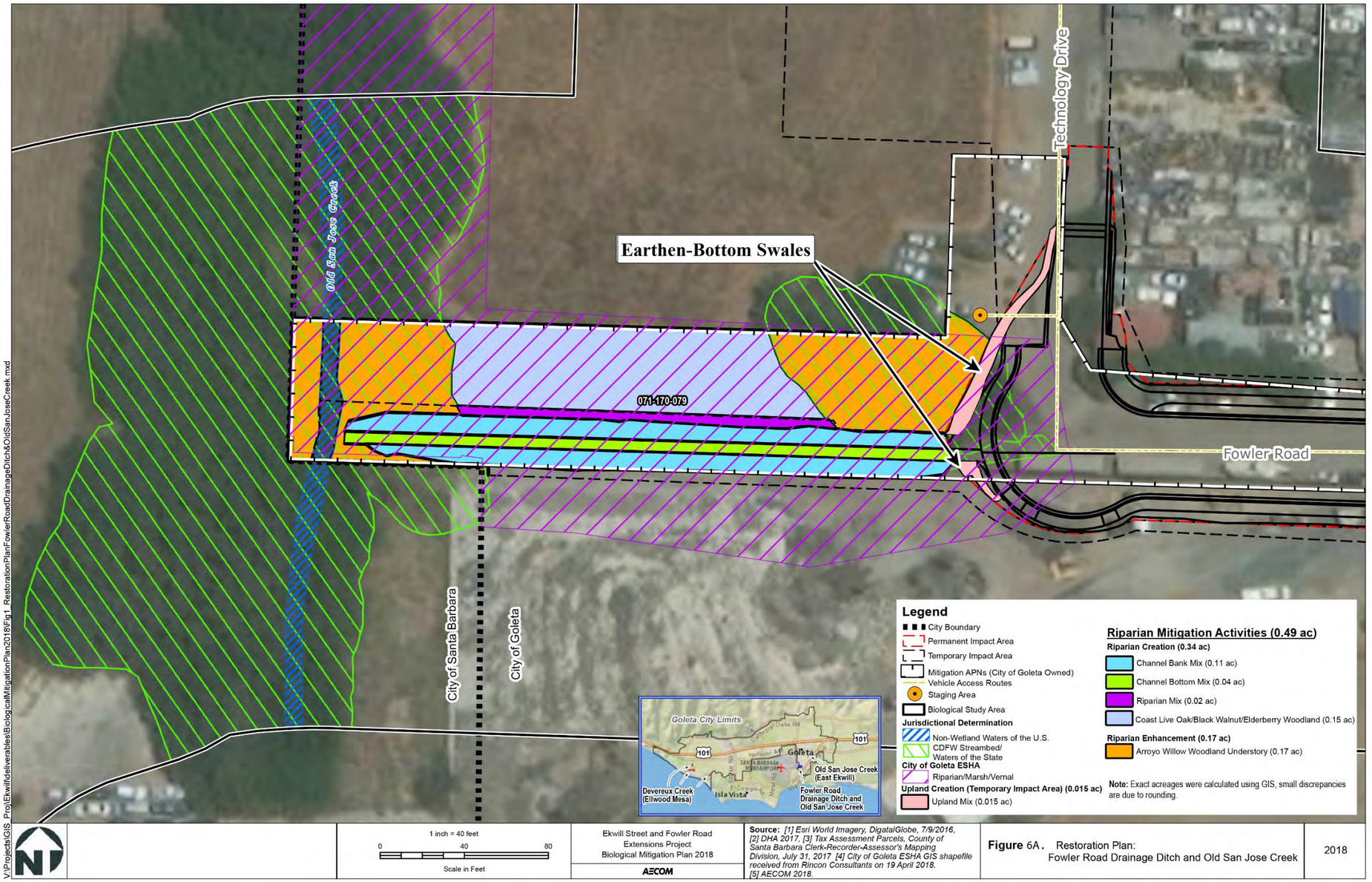
Source: DHA 2022

Figure 6b Restoration Plan: Fowler Road Drainage Ditch and Old San Jose Creek (Engineering Drainage Details)



Source: AECOM 2018, DHA 2022

Figure 6c Restoration Plan: Fowler Road Drainage Ditch and Old San Jose Creek (Restoration Layout)



Source: AECOM 2018, DHA 2022

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(*Toxicodendron diversilobum*), and branching phacelia (*Phacelia ramosissima*), and non-native species including giant reed (*Arundo donax*), cape ivy (*Delairea odorata*), nasturtium (*Tropaeolum majus*), periwinkle (*Vinca major*), and castor bean (*Ricinus communis*), among others. Additionally, small native black cottonwood (*Populus trichocarpa*) trees occur as a component of the arroyo willow thickets. Elevations range from 5 feet in the western portion of the site to 15 feet in the eastern portion.

Bioswale Engineering Design

For the required treatment of post-construction runoff from impervious surfaces, the Project will implement a natural filtration device (bioswale) that will be sited roughly within the same limits as the unnamed drainage ditch that currently provides a natural path for runoff between the end of the existing roadway to Old San Jose Creek (see Figure 6a). The bioswale will allow infiltration of storm water into the soil for water quality treatment, as well as temporary storage of peak runoff flows from the additional impervious surface resulting from the extension of Fowler Road. This type of passive/natural capture and filtration design is superior to mechanical or proprietary device options, which pose maintenance problems and may not treat all of the pollutants of concern, and often do not treat runoff as efficiently. Additionally, the proposed design would provide riparian habitat.

The bioswale will be constructed to the dimensions shown on the plans (see Figure 6b) by excavating the native soils to depth and installing a polyethylene liner along the edges. The polyethylene liner will facilitate infiltration of the treated runoff into the soil and support the reestablishment of vegetation along the ditch. Following installation of the polyethylene liner, 12 inches of permeable material will be laid, followed by bioretention soil media (BSM). Select native material that meets the specifications for BSM will be augmented with imported material and placed above the permeable material. A layer of mulch will be added on top to retain moisture in the soil and prevent erosion. Plants selected for their ability to withstand periodic inundation will be planted in the bioswale to help treat and absorb the runoff from the adjacent roadway. The bioswale was designed so that long-term or future maintenance of the feature will not be required, i.e., construction of the swale will be a one-time effort conducted during installation, nor will vegetation be pruned or cleared.

Runoff from the western end of Fowler Road will be conveyed to the bioswale from a roadside bioretention area and curb and gutter system through an 18-inch-diameter pipe (see Figure 6c). An approximate 2-foot by 3-foot splash pad or energy dissipater will be placed at the downstream terminus of the pipe to slow flows prior to their release into the bioswale. Two narrow and shallow earthen-bottom swales will be constructed to convey direct rainfall and localized flows not captured by the stormwater system to the bioswale (see Figure 6a). The earthen-bottom swales will be designed to perpetuate the existing drainage pattern that would otherwise be disrupted by the construction of the road. These conveyance systems are included within the permanent impact footprint as shown on Figure 4b.

Restoration Treatments

Approximately 0.49 acres of City of Goleta property is proposed for mitigation along Fowler Road Drainage Ditch and Old San Jose Creek (see Figure 6c). Restoration of this area aims to expand the extent and functional capacity of the riparian corridor by increasing native species diversity and abundance along an otherwise unvegetated or non-native species-dominated drainage ditch. The edge of the riparian woodland would be expanded and enhanced with a variety of native tree

species that provide important food and shelter sources for a variety of wildlife species. The function of the Old San Jose Creek riparian corridor would be improved as it is highly invaded by non-native plants and shows altered hydrology from land uses in the immediate vicinity. The creation of the bioswale will allow infiltration of stormwater into the soil for water quality treatment, as well as attenuation of peak runoff flows from adjacent impervious areas.

Approximately 0.17 acres have been identified for riparian habitat enhancement. Along the main stem of Old San Jose Creek and the eastern end of the drainage ditch, the understory of the existing arroyo willows will be restored with riparian and seasonal wetland species.

Approximately 0.32 acre has been identified for riparian habitat creation. The native plant species selected for installation within the bioswale were carefully chosen for their ability to tolerate temporary inundation as well as their ability to effectively filter pollutants. Low growing native forbs will be installed on the channel banks and bed. Installing a limited number of low profile species in the channel bottom and banks will prevent highly variable vertical structures that can impede conveyance of storm water runoff. Riparian forbs, shrubs, and trees will be installed in the lands adjacent to the top of bank, including arroyo willow and sandbar willow (*Salix exigua*). In the highly disturbed ruderal area to the north, transitional riparian habitat suited for drier conditions will be restored with coast live oaks (*Quercus agrifolia*), Southern California black walnut (*Juglans californica*), blue elderberry (*Sambucus nigra*), and an understory of riparian woodland species will be installed. Figure 6a, Figure 6b, and Figure 6c illustrates the location of each restoration habitat type and Table 8 provides the mix of plants and quantities proposed for each riparian/wetland habitat type to be created or enhanced. These plant quantities, with the exception of the number of trees required to be replaced as detailed in Section 3.0, are general guidelines and are subject to change with the development of more detailed landscape plans, and are dependent on the availability of container stock propagated in the nursery. See Sections 2.4.2 through 2.4.8 for details on preparation and installation techniques.

Additional restoration techniques proposed for the enhancement and creation areas include removing non-native understory species and removing trash and debris throughout the entirety of the mitigation site.

Revegetation Treatments (Not Part of Mitigation Effort)

Although not part of the riparian mitigation effort, the two earthen-bottom swales that lead to the bioswale will be revegetated for erosion control purposes, as well as to provide native habitat. As these swales will be constructed in uplands and only convey water during storms, riparian vegetation would not persist. Therefore, native upland grasses will be installed. The area to be revegetated within the proposed earthen-bottom swales totals approximately 0.01 acre. Native grasses will be seeded at a rate of 23.5 pounds per acre, for a total of 0.235 pounds. Figure 6c illustrates the location of the revegetation treatment and Table 9 provides the species and quantities proposed. These quantities are general guidelines and are subject to change with availability.

Seeds will be installed via hydroseeding. Prior to hydroseeding, the ground will be scarified with a rotary tiller/rake/similar device to a depth of 3 inches below ground surface. After scarification is complete, a mixture of seeds, wood fiber mulch, tackifier, and dye will be applied via hydroseeding. To minimize fugitive dust, prevent loss of seed material, and prevent over spraying during hydroseeding, seeding will only occur during low wind conditions.

Table 8 Plant Palette – Fowler Road Drainage Ditch and Old San Jose Creek

Scientific Name	Common Name	Number of Plants
Arroyo Willow Woodland Understory (0.17 ac; 5-foot spacing; shrubs, forbs, grasses)		
Artemisia douglasiana	mugwort	17
Baccharis salicifolia	mule fat	17
Bromus carinatus	California brome	17
Elymus condensatus	giant wild rye	17
Elymus triticoides	alkali ryegrass	17
Hordeum brachyantherum	California barley	17
Phacelia ramossisima	branching phacelia	17
Rosa californica	California rose	17
Rubus ursinus	California blackberry	17
Salix exigua	sandbar willow	20
Salix laevigata	red willow	20
Salix lasiolepis	arroyo willow	20
Salvia spathacea	hummingbird sage	17
Sambucus nigra	blue elderberry	20
Solanum douglasii	Douglas nightshade	17
Solidago velutina subsp. *californica*	velvety goldenrod	17
Verbena lasiostachys	verbena	17
Subtotal		**301**
Coast Live Oak/Black Walnut/Elderberry Woodland (0.15 ac; 5-foot spacing for forbs/grasses/shrubs, 10-foot spacing for trees; forbs, grasses, shrubs, trees)		
Artemisia douglasiana	mugwort	26
Bromus carinatus	California brome	26
Distichlis spicata	saltgrass	26
Elymus triticoides	alkali ryegrass	26
Juglans californica	black walnut	40
Heteromeles arbutifolia	toyon	26
Quercus agrifolia	coast live oak	40
Rubus ursinus	California blackberry	26
Sambucus nigra	blue elderberry	26
Subtotal		**266**
Channel Bank Mix (0.10 ac; 4-foot spacing; forbs and grasses)		
Artemisia douglasiana	Mugwort	70
Elymus triticoides	Alkali ryegrass	70
Hordeum brachyantherum	California barley	70
Juncus patens	Common California rush	70
Subtotal		**280**

Scientific Name	Common Name	Number of Plants
Channel Bottom Mix (0.04 ac; 4-foot spacing; forbs and grasses)		
Distichlis spicata	Saltgrass	36
Juncus patens	Common California rush	36
Juncus phaeocephalus	Brown-headed rush	36
Subtotal		**108**
Riparian Mix (0.02 ac; 4-foot spacing for forbs/grasses/shrubs, 8-ft spacing for trees; forbs, grasses, shrubs, trees; 4-in, 1-gal, and/or live cuttings)		
Artemisia douglasiana	Mugwort	7
Baccharis salicifolia	Mule fat	5
Elymus triticoides	Alkali ryegrass	7
Salix exigua	Sandbar willow	12
Sambucus nigra	Blue elderberry	12
Rubus ursinus	California blackberry	5
Subtotal		**48**
Total		**1,003**

Table 9 Seeding Palette – Earthen-bottom Swales

Scientific Name	Common Name	Application Rate (lbs/acre)	Minimum Percent Pure Live Seed[1]
Upland Mix (0.01 ac; 23.5 lbs/acre; grasses)			
Agrostis pallens	California native bentgrass	5	85
Bromus carinatus	California brome	2	–
Elymus (*Leymus*) *triticoides*	Alkali ryegrass	6	75
Melica imperfecta	Melic grass	2	70
Muhlenbergia rigens	Deer grass	0.5	32
Stipa lepida	Foothill needlegrass	2	65
Stipa pulchra	Purple needlegrass	6	75

[1] Minimum Percent Pure Live Seed (PLS) = Seed Purity x Germination Rate

2.4.1.2 Old San Jose Creek at East Ekwill Street

Old San Jose Creek at East Ekwill Street, located outside yet near the Coastal Zone, will be restored as described below (see Figure 6b).

Baseline Conditions

Within the Ekwill Street Extension Biological Study Area, arroyo willow thickets are dominant along the southern section of Old San Jose Creek, with few smaller populations located within the riparian area upstream. Red willow (*Salix laevigata*) thickets are the dominant vegetation community along Old San Jose Creek east of Pine Avenue. This community is dominated by red willow in the tree and sapling/shrub layer with intermittent individuals of native mugwort and California blackberry, and non-native species including castor bean, Bermuda grass (*Cynodon dactylon*), cheeseweed (*Malva parviflora*), poison hemlock (*Conium maculatum*), and cape ivy are present within the herbaceous layer. Black cottonwood (*Populus trichocarpa*) forest occurs east of Pine Avenue; the black

cottonwood trees are mature, reaching up to 100 feet (30 meters) in height. California blackberry (*Rubus ursinus*) and mugwort (*Artemisia douglasiana*) are dominant in the understory. Anthropogenic debris can be common in the upstream portion of the creek. Elevation is 20 feet.

Restoration Treatments

Approximately 0.31 acres of City of Goleta property is proposed for mitigation along Old San Jose Creek adjacent to the Ekwill Street alignment (see Figure 6b). Restoration of this area aims to expand the extent and functional capacity of the riparian corridor by increasing native species diversity and abundance along an otherwise non-native species-dominated creek. The edge of the riparian woodland would be expanded and enhanced with a variety of native tree species, which provide important food and shelter sources for a variety of wildlife species.

Approximately 0.31 acres have been identified for riparian habitat creation. Along the outer edge of the existing riparian canopy, a highly disturbed area will be restored with arroyo willow woodland. Native riparian tree species, including arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), black cottonwood (*Populus trichocarpa*), and western sycamore (*Platanus racemosa*), and an understory of seasonal wetland species will be installed.

Figure 6b illustrates the location of each restoration habitat type and Table 10 provides the mix of plants and quantities proposed for each riparian/wetland habitat type to be created or enhanced. These plant quantities, with the exception of the number of trees required to be replaced as detailed in Section 3.0, are general guidelines and are subject to change with the development of more detailed landscape plans and dependent on the availability of the species propagated in the nursery. See Sections 2.4.2 through 2.4.8 for details on preparation and installation techniques.

Additional restoration techniques proposed for the enhancement and creation areas include removing non-native understory species and removing trash and debris throughout the entirety of the mitigation site.

A monarch butterfly aggregation site was recently documented along Old San Jose Creek in the mature eucalyptus trees that are located to the west and beyond the proposed restoration site and to the north and beyond the Ekwill Street footprint. This site is known as Site 114 and is fully described in Monarch Butterfly Overwintering Sites, Santa Barbara County (Meade et al. 2017). The site is an autumnal site, or a transitory site, meaning monarchs temporarily roost here before moving onto more suitable overwintering habitat. The site has been surveyed regularly since 2015, with the number of monarchs ranging widely with zero in 2015, 140 in 2016, 0 in 2017, and 2 in 2018 (Xerces Society 2019). The eucalyptus trees that comprise this site will not be removed during restoration activities or Project-related construction. Although these eucalyptus will not be removed as part of Project-related activities, the City of Goleta-approved biologist will conduct pre-construction surveys for this monarch site and employ avoidance measures per Mitigation Measure AN-4 (Monarch Butterfly Surveys and Avoidance) as described in Sections 4.2 and 5.3 of this Biological Monitoring and Mitigation Plan. If roosting monarch populations are discovered during pre-construction surveys or during construction activities, the City of Goleta will be notified and these areas will be will be marked on an aerial map that will be provided to the construction crew on a weekly basis. Additionally, the area occupied by monarchs will be fenced off with environmentally sensitive area fencing per Mitigation Measure NA-1 (Protection of Riparian Habitat) as described in Section 5.1 of this Biological Monitoring and Mitigation Plan.

Table 10 Plant Palette – Old San Jose Creek at East Ekwill Street

Scientific Name	Common Name	Number of Plants
Arroyo Willow Woodland Understory (0.31 ac; 4-foot spacing for forbs/grasses/shrubs, 8-foot spacing for trees; forbs, grasses, shrubs, and trees)		
Artemisia douglasiana	mugwort	40
Baccharis salicifolia	mule fat	40
Bromus carinatus	California brome	35
Distichlis spicata	saltgrass	50
Elymus condensatus	giant wild rye	30
Elymus triticoides	alkali ryegrass	50
Hordeum brachyantherum	California barley	30
Juncus patens	common California rush	40
Phacelia ramosissima	branching phacelia	30
Platanus racemosa	western sycamore	50
Populus trichocarpa	black cottonwood	100
Rosa californica	California rose	30
Rubus ursinus	California blackberry	35
Salix exigua	sandbar willow	12
Salix laevigata	red willow	50
Salix lasiolepis	arroyo willow	100
Salvia spathacea	hummingbird sage	30
Sambucus nigra	blue elderberry	12
Solanum douglasii	Douglas nightshade	30
Solidago velutina subsp. *californica*	velvety goldenrod	30
Verbena lasiostachys	verbena	30
Total		**854**

2.4.1.3 Devereux Creek at Ellwood Mesa

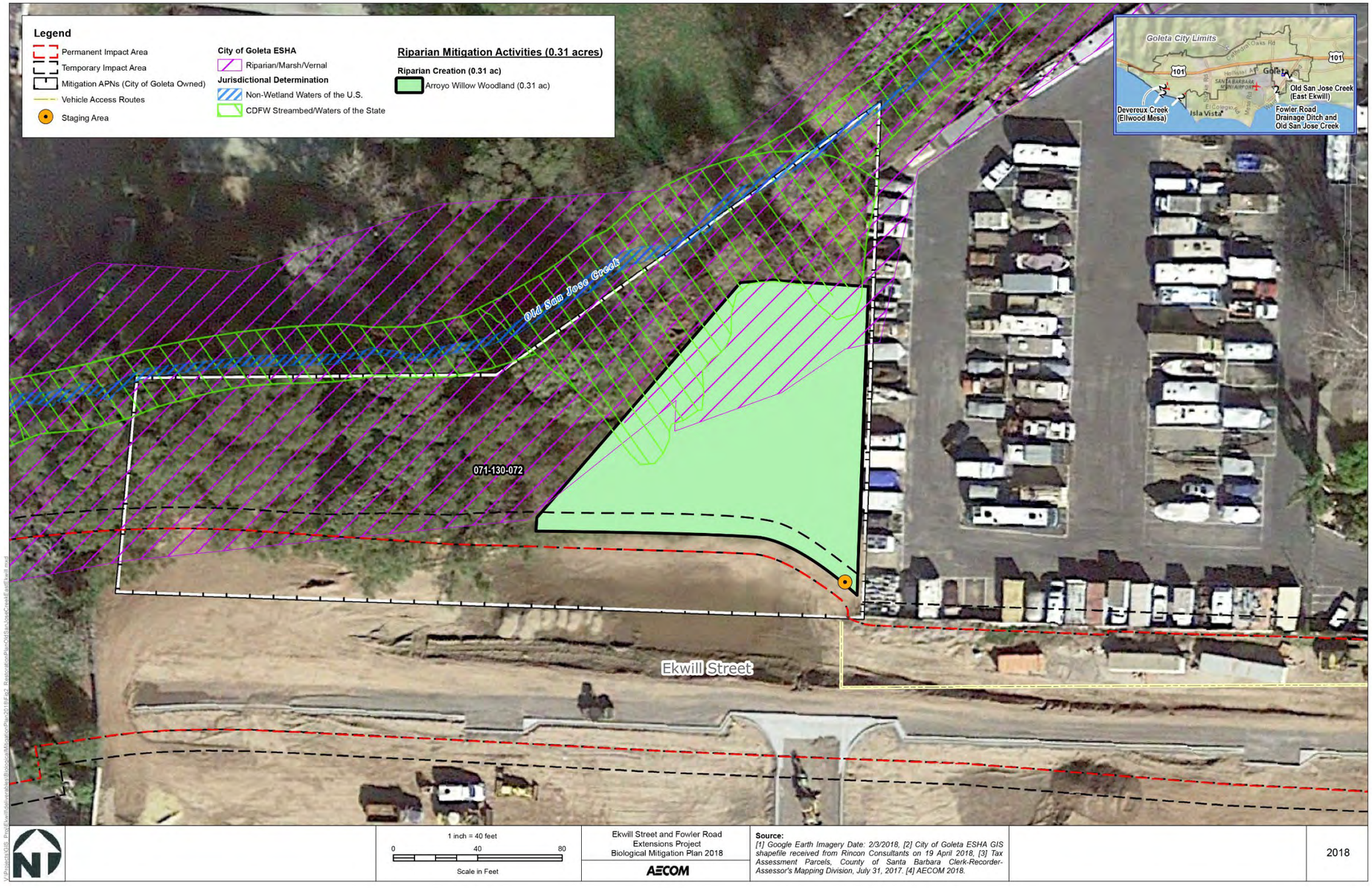
Devereux Creek and its northwestern tributary on Ellwood Mesa, located within the Coastal Zone, will be restored as described below (see Figure 6d).

Baseline Conditions

The majority of Devereux Creek is dominated by eucalyptus trees (*Eucalyptus* spp.) with a mix of other ornamental trees (primarily a non-native ash species [*Fraxinus uehdei*]), and a highly invasive understory consisting primarily of cape ivy (*Delairea odorata*), English ivy (*Hedera helix*), garden nasturtium (*Tropaeolum majus*), and Bermuda buttercup (*Oxalis pes-caprae*). Because the non-native eucalyptus trees throughout Devereux Creek and its tributaries provide habitat for the monarch butterfly, it is important that this habitat remains and restoration implementation minimizes impacts to and enhances habitat for the monarch butterfly. Native monarch butterfly nectar sources are extremely limited, as are native tree, understory, and wetland species. Elevations range from 6 feet in the eastern portion of the site, to 50 feet in the western portion, to 60 feet in the northern portion.

The portion of the mitigation site along the northwestern tributary to Devereux Creek is dominated by non-native species in some areas and is devoid of vegetation in other areas due to pedestrian traffic. Two erosional scars direct water into the tributary; a large scar is located to the north, and a

Figure 6d Restoration Plan: Old San Jose Creek at East Ekwill Street



Source: AECOM 2018

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smaller scar is located to the south. The erosional scars support some degree of native vegetation, including coyote brush (*Baccharis pilularis*) and California sagebrush (*Artemisia californica*). Adjacent to these scars are highly disturbed ruderal areas dominated by non-native grasses.

The western portion of the mitigation site along the main stem of Devereux Creek is partially restored, yet the area is highly disturbed along the channel and floodplain. Although limited native vegetation is present, non-native species, such as fennel (*Foeniculum vulgare*) and Bermuda grass (*Cynodon dactylon*), have become established throughout the area. Adjacent and to and northeast of this area is a highly disturbed ruderal area dominated by non-native grasses.

The eastern portion of the mitigation site along the main stem of Devereux Creek supports some native herbaceous vegetation, yet the adjacent floodplain is highly disturbed. One erosional scar directs water into the creek; the scar is located to the southwest. The erosional scar supports some degree of native vegetation, including coyote brush, but a majority of it is barren and some fennel has become established. Adjacent to these scars are highly disturbed ruderal areas dominated by non-native grasses.

Although eucalyptus trees are located adjacent to portions of the mitigation site, none are established within the mitigation site. These adjacent individuals are not expected to be problematic for restoration in regards to shading or allelopathic interference.

Restoration Treatments

Approximately 3.98 acres of City of Goleta property are proposed for mitigation along Devereux Creek and along a northwestern tributary near Kestrel Lane (see Figure 6e).

Restoration of this area aims to expand the extent and functional capacity of the riparian corridor by increasing native species diversity and abundance along an otherwise non-native species-dominated creek, as well as three partially unvegetated erosional scars. The edge of the riparian woodland would be expanded and enhanced with a variety of native tree species, such as coast live oaks (*Quercus agrifolia*) and Southern California black walnut (*Juglans californica*), which provide important food and shelter sources for a variety of wildlife species. Monarch butterfly habitat will also be enhanced by providing nectar species, as well as potential future roosting habitat, for the individuals that currently roost and cluster in the adjacent eucalyptus stands. Monarch butterfly nectar species such as bush monkeyflower (*Mimulus aurantiacus*), velvety goldenrod (*Solidago velutina* subsp. *californica*), and verbena (*Verbena lasiostachys*) will be installed throughout the restoration areas. Several erosional features will be revegetated, reducing sediment deposition and improving water quality. Riparian, marsh, and coastal scrub ESHA will be enhanced. Monarch butterfly roosting, raptor roosting, and native grassland ESHA will be preserved.

Approximately 2.44 acres have been identified for riparian habitat enhancement. Along the main stem of Devereux Creek, the partially restored reach retains some disturbed channel and floodplain that will be restored with arroyo willow woodland and seasonal wetland habitat. Native riparian tree species, including arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), black cottonwood (*Populus trichocarpa*), and western sycamore (*Platanus racemosa*), and an understory of seasonal wetland species will be installed.

Approximately 1.54 acres have been identified for riparian habitat creation. Along the northwestern tributary to Devereux Creek, several highly disturbed erosional features will be restored with riparian woodland habitat specifically designed to reduce erosion. Species will include shrubs and grasses with beneficial erosion control properties. Native riparian tree species, including arroyo

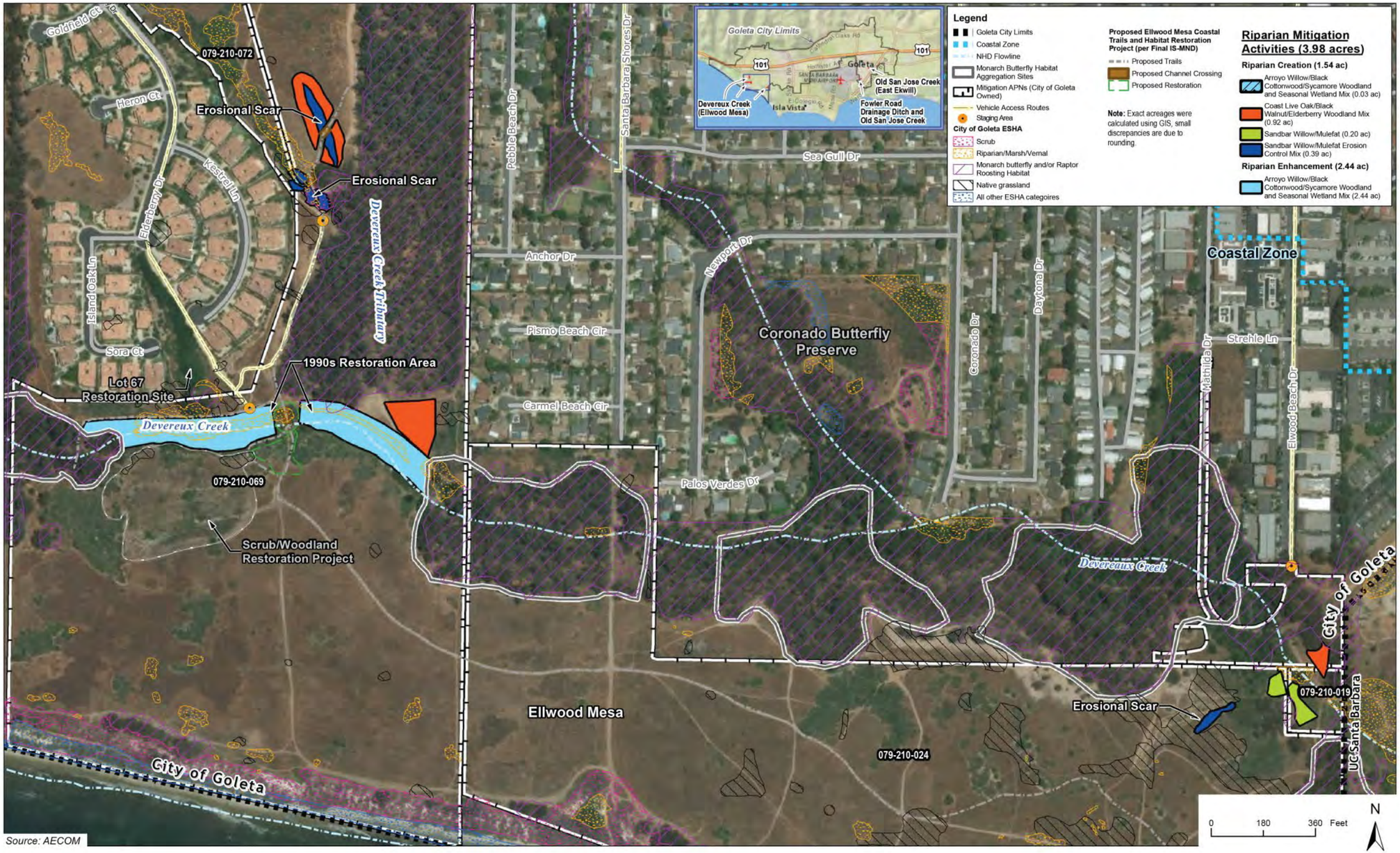
willow, red willow, black cottonwood, and western sycamore, and an understory of seasonal wetland species will be installed along the wetter portion of the tributary to Devereux Creek, specifically in the southern-most erosional scar. The associated adjacent ruderal areas will be restored with coast live oak habitat. Along the western and eastern portions of the restoration areas along Devereux Creek, the upland areas adjacent to the mainstem will be restored with coast live oak woodland habitat where ruderal vegetation is currently present. Coast live oaks, Southern California black walnut, blue elderberry, and an understory of riparian woodland species will be installed. Along the eastern portion of the restoration area along Devereux Creek, sandbar willow and mulefat will be installed along the floodplain terrace, which is situated slightly higher in elevation than the mainstem. The erosional scar that feeds into the eastern portion of the restoration site along Devereux Creek will be restored with riparian woodland habitat specifically designed to reduce erosion. Species will include shrubs and grasses with beneficial erosion control properties.

Figure 6e illustrates the location of each restoration habitat type and Table 11 provides the mix of plants and quantities proposed for each riparian/wetland habitat type to be created or enhanced. These plant quantities, with the exception of the number of trees required to be replaced as detailed in Section 3.0, are general guidelines and are subject to change with the development of more detailed landscape plans and dependent on the availability of container stock propagated in the nursery. See Sections 2.4.2 through 2.4.8 for details on preparation and installation techniques.

Additional restoration techniques proposed for the enhancement and creation areas include removing non-native understory species, removing a few non-native ash trees, and removing trash and debris throughout the entirety of the mitigation site. No eucalyptus trees or mature non-native trees other than ash will be removed, in an effort to preserve monarch butterfly habitat.

The proposed restoration approach is consistent with the proposed City of Goleta's Ellwood Mesa/Sperling Preserve Open Space Monarch Butterfly Habitat Management Plan (City of Goleta 2019a) because the proposed restoration avoids siting native tree installation activities in areas with known monarch habitat aggregations, avoids eucalyptus removal, and avoids affecting the entirety of the existing eucalyptus groves on Ellwood Mesa. Installing trees or large shrubs within monarch habitat aggregations may negatively affect monarchs, as large species could fill the mid-story, thereby eliminating the open air space/pathways used by monarchs. As described above, eucalyptus trees or large non-native trees other than ash trees will not be removed in an effort to preserve monarch butterfly habitat. Monarch butterflies utilize the eucalyptus trees on Ellwood Mesa for patrolling, basking, and nectaring, and for overwintering. Since it is difficult to determine how removal of any viable eucalyptus trees would impact monarch butterfly habitat, no trees will be removed or trimmed. Removal of a few non-native ash trees is proposed because it is likely to be helpful to the monarchs since these trees clog the mid-story, reducing open air space/pathways. As mature trees, ash trees spread seeds through airborne dispersal mechanisms, readily multiplying and further degrading the riparian habitats. Tree removal will not occur during the monarch butterfly aggregation season (October 1 through March 31). The proposed restoration approach is also consistent with the proposed Ellwood Mesa Trails and Habitat Restoration Project (AMEC 2014) by avoiding areas that will be restored as part of that effort.

Figure 6e Restoration Plan: Devereux Creek at Ellwood Mesa



Source: AECOM 2018

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Table 11 Plant Palette – Devereux Creek at Ellwood Mesa

Scientific Name	Common Name	Arroyo Willow/ Black Cottonwood/ Sycamore Woodland and Seasonal Wetland Mix	Coast Live Oak/ Black Walnut/ Elderberry Woodland Mix	Sandbar willow/ Mulefat	Sandbar Willow and Mulefat Erosion Control Mix	Subtotal
Riparian Trees						
Juglans californica	Black walnut		200			200
Platanus racemosa	Western sycamore	100				100
Populus trichocarpa	Black cottonwood	100	100			200
Quercus agrifolia	Coast live oak		200			200
Quercus lobata	Valley oak					0
Salix exigua	Sandbar willow			100	120	220
Salix laevigata	Red willow	50				50
Salix lasiolepis	Arroyo willow	102				102
Sambucus nigra	Blue elderberry	50	200		120	370
Riparian Shrubs, Grasses, and Forbs						
Artemisia douglasiana	Mugwort		65		100	130
Baccharis salicifolia	Mule fat			32	100	132
Bromus carinatus	California brome		65			103
Elymus condensatus	Giant wild rye		65		60	131
Elymus triticoides	Alkali ryegrass	50	65	32	60	213
Heteromeles arbutifolia	toyon		65			
Hordeum brachyantherum	California barley		65	32		103
Phacelia ramosissima	Branching phacelia		65			71
Rosa californica	California rose		65		60	131
Rubus ursinus	California blackberry		65		60	131
Salvia spathacea	Hummingbird sage		65			71
Solanum douglasii	Douglas nightshade		65			71
Solidago velutina subsp. californica	Velvety goldenrod		65			71

Scientific Name	Common Name	Arroyo Willow/ Black Cottonwood/ Sycamore Woodland and Seasonal Wetland Mix	Coast Live Oak/ Black Walnut/ Elderberry Woodland Mix	Sandbar willow/ Mulefat	Sandbar Willow and Mulefat Erosion Control Mix	Subtotal
Verbena lasiostachys	Verbena		65			71
Seasonal Wetland Forbs and Grasses						
Anemopsis californica	Yerba mansa	52				77
Carex barbarae	Santa Barbara sedge	52				77
Cyperus eragrostis	Umbrella-sedge	52				77
Distichlis spicata	Saltgrass	52		32		109
Eleocharis macrostachya	Common spikerush	52		32		77
Euthamia occidentalis	Western goldenrod	52		32		109
Frankenia salina	Alkali heath	52				77
Juncus patens	Common California rush	52	65	32		180
Juncus phaeocephalus	Brown-headed rush	52				77
Juncus textilis	Basket rush	52				77
Juncus xiphioides	Iris-leaved rush	52				77
Paspalum distichum	Knot grass	52				77
Total Number of Plants		**1,076**	**1,610**	**324**	**680**	**3,625**
Total Acres per Plant Mix		**2.47**	**0.92**	**0.20**	**0.39**	**3.98**

Note: 5-foot spacing for forbs/grasses/shrubs, 10-foot spacing for trees

The proposed restoration approach is compatible with other restoration efforts in the immediate area, such as University of California Santa Barbara (UCSB) North Campus Open Space (NCOS) and City of Goleta restoration to the south. The UCSB NCOS restoration project is located immediately downstream and to the southeast of the proposed Devereux Creek mitigation site on Ellwood Mesa. The NCOS restoration project is currently in its implementation phase, and aims to provide public access and passive recreation, as well as connect several existing preserved properties (UCSB 2016a). Notably, the Devereux Creek mitigation sites are upstream, and comprised entirely of freshwater habitats with no current tidal influence. Although the NCOS restoration project proposes to convert freshwater habitat to tidal habitat where ecologically feasible, tidal influence is not anticipated to extend past the NCOS property or upstream to the Devereux Creek mitigation sites (UCSB 2016b).

2.4.1.4 Temporary On-site Impact Areas

The entirety of the riparian mitigation will occur within and near the Coastal Zone at the three proposed mitigation sites as described above. Restoration will also occur at the Project site to mitigate for temporary impacts to jurisdictional areas due to Project-related activities.

The temporary disturbance will occur along San Jose Creek and Old San Jose Creek, therefore the restoration approach in these areas will be similar to that described in Section 2.4.1.2 for Old San Jose Creek at East Ekwill Street. Installation will occur after disturbance is complete, and at a time that is biologically appropriate for plant installation, i.e., in late fall or early winter, before the first rainy season.

2.4.2 Source of Plant Materials

Plant stock will be collected by a qualified native nursery contractor, with oversight by the City of Goleta-approved biologist. To preserve the integrity of local gene pools, ensure adaptation to site-specific conditions, and avoid inadvertent introduction of inappropriate species or pathogens, the majority of native plant material used for revegetation will be collected primarily from each of the mitigation sites, or within the respective watersheds. If sufficient seeds or plant material cannot be collected from these areas alone, plant stock from within a 15-mile radius, limited to the coastal side of the Santa Ynez Mountains, may also be acceptable. More specific areas for collection of native plant materials will be defined in the field, taking into account the following:

- Ecological similarity of the area to the Project site
- Proximity to the Project site
- Land ownership
- Accessibility
- Abundance and availability of target species
- Need to ensure genetic diversity of source material (i.e., seed will be collected from a diverse sample of the parent plants within the collection zone)

2.4.3 Seed Storage and Plant Propagation

Plant stock will be stored and propagated by a qualified native nursery contractor with oversight by the City of Goleta-approved biologist. Seeds will be stored in a proper container in a cool, dry place. If necessary to eradicate insects, seeds will be treated with freezing temperatures by putting seeds in the freezer for 2 or 3 days; this technique will only be conducted for those species that would not

be negatively affected by freezing. If excess moisture is present, seeds will be treated with low heat or a de-humidifier. All seed containers will be labeled with the scientific name, date, and location of collection.

Seeds will be sown or cuttings will be used to establish container plants. In turn, these container plants can either be planted in the field or used to create additional seeds or cuttings in the nursery. The qualified native landscape contractor will either directly transplant salvaged plants or take them to the nursery and maintain them for later transplanting. Nursery plants must be maintained in a healthy condition until delivery. All plants obtained from the native plant nursery will be free of Argentine ants (*Linepithema humile*).

2.4.4 Access Routes and Staging Areas

Access routes and staging areas for each of the mitigation sites are described below.

2.4.4.1 Fowler Road Drainage Ditch and Old San Jose Creek

The Fowler Road Drainage Ditch and Old San Jose Creek mitigation site will be accessed by vehicle via two proposed access routes, Technology Drive or Fowler Road. At the terminus of the vehicle access route, a small staging area will be established and further access will be on foot. Staging areas will be contained to the smallest footprint possible and will not disturb native vegetation.

2.4.4.2 Old San Jose Creek (East Ekwill Street)

The Old San Jose Creek mitigation site located near east Ekwill Street will be accessed by vehicle via the proposed Ekwill Street alignment. At the terminus of the vehicle access route, a small staging area will be established within the disturbance footprint and further access will be on foot. Staging areas will be contained to the smallest footprint possible and will not disturb native vegetation.

2.4.4.3 Devereux Creek and Northwestern Tributary (Ellwood Mesa)

The Devereux Creek mitigation site on Ellwood Mesa will be accessed by vehicle via two proposed access routes, Elderberry Drive and Ellwood Beach Drive. With permission from the owners of the private residential community, the western portion of the mitigation site will be accessed via Elderberry Drive. From the southern terminus of Elderberry Drive, the mitigation site will be accessed by vehicle along the existing dirt road and paths, terminating at the first intersection with the restoration sites. The eastern portion of the mitigation site will be accessed by vehicle from Ellwood Beach Drive. At the terminus of the vehicle access routes, small staging areas will be established along existing footpaths and further access will be on foot. Staging areas will be contained to the smallest footprint possible and will not disturb native vegetation.

2.4.5 Non-native Plant Removal

Prior to plant installation, non-native plants will be removed throughout the entirety of each mitigation site by a qualified native landscape contractor with oversight by the City of Goleta-approved biologist. Non-native plants (with the exception of mature trees) will be removed to the greatest extent possible, primarily using hand removal methods, e.g., hand-held weed whips, loppers, and hoes. If hand removal is not feasible due to the characteristics of the species, such as resistance to hand removal methods, the size of the plants, or the number of plants, perennial

invasive non-native species may be treated with herbicides. Herbicide application will be limited to the smallest extent possible while maintaining effectiveness. Only individual plants will be treated; no blanket spraying efforts will be allowed. If herbicide is applied, it will be applied during dry and low wind conditions in order to prevent conveyance of herbicide into drainages or other non-targeted areas. Herbicide application must be performed by a licensed applicator that can identify the species to be treated and is experienced in the handling and application of herbicides. Herbicides must be approved for use by the City of Goleta and allowed under permit and property conditions. Only herbicides approved for use near or in water, such as AquaMaster™ or equivalent, will be used if necessary. Rodenticides containing any anticoagulant compounds (including, but not limited to, Warfarin, Brodifacoum, Bromadiolone, or Diphacinone) will not be used.

Large vegetation with potential to contain bird nests will not be removed during the breeding bird season (March 1 to September 15) unless the City of Goleta-approved biologist determines that it does not contain active bird nests.

Specifically within the Devereux Creek and Northwestern Tributary (Ellwood Mesa) mitigation site, a few non-native ash trees will be removed within the restoration area and may be chipped on-site. Chipped trees may be used as mulch after they have dried out. To preserve monarch butterfly habitat, eucalyptus trees and other non-native trees other than ash will not be removed. Tree removal will not occur during the monarch butterfly aggregation season (October 1 through March 31).

Long term non-native plant removal will be conducted as described in Section 2.6.1.

2.4.6 Erosion Control

If deemed necessary, erosion control materials will be installed by a qualified contractor with oversight by the City of Goleta-approved biologist. It may be necessary to install erosion control materials in select areas, such as larger barren areas or highly eroded areas, until plant cover is sufficient to stabilize the slopes. Erosion control devices may include low silt fences, hay bales at the base of slopes, and/or straw wattle. Erosion control materials containing plastics will not be used due to the hazards they pose to wildlife. Erosion control materials will be certified as weed free. If large plants (e.g., shrubs) need to be removed in order to install erosion control materials, it will not be removed during the breeding bird season (March 1 to September 15) unless the City of Goleta-approved biologist determines that it does not contain active bird nests. The erosion control materials will be maintained during the 5-year maintenance period or until plants are well established.

2.4.7 Plant Installation Methods

Plants will be installed by the qualified native landscape contractor with oversight by the City of Goleta-approved biologist. Plants will be installed to coincide with the first major winter storm (approximately October to December), as feasible, when soil conditions are moist.

Planting locations will be determined in the field by the County-approved restoration biologist. On average, shrubs, grasses, and wetland plants will be installed at 4- to 5-foot spacing. Most non-tree species will be installed as 1-gallon containers, but other sizes may be used depending on the species. On average, tree species will be installed at 8- to 10-foot spacing. A portion of Devereux Creek assumed an average 10-foot spacing as noted in Section 2.4.7.1. Mitigation trees will be installed mainly as 5-gallon containers, with some being installed as 1-gallon containers in select areas, in accordance with Mitigation Measure NA-2 and as further described in Section 3.3. Any

trees installed as an addition to the mitigation trees will be installed as 1-gallon containers or live stakes. Tables 7, 8 and 10 provide the mix of plants and quantities proposed for each riparian habitat type to be created or enhanced.

Care will be taken not to disturb the root ball, stems, or branches when installing container plants. Planting pits will be backfilled with native soil so as not to leave air spaces around the plant's soil and roots, so that the soil surface of the container plant is approximately ¼ to ½ inch above grade. After installation, wood mulch will be placed around each plant in areas where water movement will not disrupt the mulch to prevent non-native plants from establishing and to help increase soil moisture. Mulch will be placed around each container plant at a depth of at least 3 inches, and at least a 2-foot radius for trees and a 1-foot radius for other species. Mulch placement within the bioswale at Fowler Road drainage ditch will be installed as outlined in Section 2.4.1.1. If generated, the mulch from the removed non-native trees would be allowed some time to dry and then would be used around installed plants as feasible. Additional mulch originating from Santa Barbara may be acquired as needed, such as mulch available from the County's South Coast Recycling and Transfer Station. All purchased mulch will be free of Argentine ants.

Each container plant will be immediately watered with an irrigation system or by hand as conditions allow. Long term irrigation will be applied as described in Section 2.6.2.

Site-specific plant installation details for Devereux Creek are described below.

2.4.7.1 Devereux Creek and Northwestern Tributary (Ellwood Mesa)

Some native species have established within the portion of Devereux Creek where a previous restoration site was installed. Within this area, it is assumed that approximately 50 percent of the area can be planted; therefore, the number of plants to be installed was adjusted accordingly. For conceptual planning purposes, an overall average of 10-foot spacing was used to calculate the number of plants needed.

2.4.8 Plant Protection

Individual container plantings will not have any specific protection; however, signage and temporary construction fencing will be placed around the mitigation sites to inform people to stay out of the restoration area to minimize trampling of native plants. The temporary fencing will be made of green construction mesh-like fence approximately 4 feet high and t-posts (or similar). Fencing will follow the outer borders of each planting area. Planting areas are displayed in Figure 6c, Figure 6b, Figure 6c). If herbivory becomes substantially problematic, wire cages would be placed around container plants where feasible.

2.5 Performance Criteria

Performance criteria will be used to determine if the Project is successful during the 5-year maintenance and monitoring period (described in Sections 2.6 and 2.7). Per the CDFW Streambed Alteration Agreement, the following performance criteria have been established for the restored mitigation sites. These criteria are typical for the region and biologically appropriate for the sites.

- All plantings shall have a minimum of 80% survival the first year and 100% survival thereafter.
- All plantings shall attain 75% cover after three years and 90% cover after five years.

- The mitigation site shall be entirely without supplemental irrigation for a minimum of two years.
- No single species shall constitute more than 50% of the vegetative cover.
- No woody invasive species shall be present.
- Herbaceous invasive species shall not exceed 5% cover.
- If the survival, cover and other requirements described in this Agreement and in the submitted documents have not been met, Permittee is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements for five years after planting.

The City of Goleta-approved biologist will monitor to determine if performance criteria are being achieved as described in Section 2.5. If performance criteria are not being achieved, the City of Goleta may be required to replant, as necessary, to ensure performance criteria are met.

2.6 Maintenance Plan

Maintenance will be conducted by the qualified native landscape contractor with oversight by the City of Goleta-approved biologist. The mitigation sites will be maintained for a 5-year period, beginning after initial restoration installation is completed. Changes may be made as necessary based on annual monitoring reports, per the City of Goleta General Plan. Maintenance activities will be adjusted with oversight by the City of Goleta-approved biologist to assure that the performance criteria for the mitigation sites are achieved. All maintenance will be managed by the City of Goleta. Maintenance will include non-native plant removal; watering; replanting; and repairing damage to plants, erosion control devices, fencing, and/or signs that result from erosion or vandalism.

2.6.1 Long-term Maintenance Methods and Schedule

During the 5-year maintenance period, the maintenance contractor will conduct routine activities to maintain the plantings in a healthy condition, control erosion of the site, and ensure performance criteria are being achieved throughout the entirety of the mitigation sites. Non-native plant removal will be performed throughout the entirety of the mitigation sites to comply with the performance criteria as described in Section 2.4.5. Herbicides may be used as described in Section 2.4.5. The majority of invasive non-native plant removal efforts will be conducted during the peak growing seasons (winter and spring), when non-native plant species are most prevalent. A regular but lower level of effort during the rest of the year is recommended to minimize the spread of non-native plant seeds. The maintenance schedule and crew size will be adjusted based on the abundance of non-native plants on-site and the effort it takes to remove them before going to seed.

The City of Goleta-approved biologist will monitor to determine if performance criteria are being achieved as described in Section 2.5. If performance criteria are not being achieved, the City of Goleta may be required to replant, as necessary, to ensure performance criteria are met.

2.6.2 Long-term Irrigation Methods and Schedule

Where feasible, a temporary irrigation system may be installed in areas where creek flows would not be prohibitive. If employed, the irrigation system would be set up to target individual plants, and would avoid watering in between the plants to help prevent the growth of non-natives. Irrigation options may include: 1) installing a drip emitter system, 2) watering by hand via hose in conjunction with deep pipe irrigation tubes installed next to each plant, 3) watering by hand via

hose, or 4) utilizing a water truck with side sprayers. The source of the water may be a permanent hookup, or a temporary water source such as a holding tank or water truck.

The City of Goleta-approved biologist will establish an irrigation schedule in conjunction with the landscape contractor. Irrigation will be scheduled to maximize growth of native species and will account for natural rainfall, while minimizing growth of invasive non-native plants. Generally, if irrigation is needed, more irrigation will be provided during the growing season (winter and spring) to mimic seasonal weather patterns, and minimal irrigation will be provided during the summer and fall as needed to keep plants alive.

Towards the end of spring of the second year, the irrigation schedule will be gradually reduced over several weeks to wean the plants to adapt to a reduced watering schedule over the summer and fall. The irrigation system will be used for up to two years and plants will be completely weaned from the irrigation prior to the end of the second year. If irrigation materials are installed, they will be removed once the plants are weaned.

2.6.3 Maintenance Restrictions (AN-6)

Large plants with potential to contain bird nests will not be removed during the breeding bird season (March 1 to September 15) unless the City of Goleta-approved biologist determines that it does not contain active bird nests.

Within the Devereux Creek mitigation site located on Ellwood Mesa, no eucalyptus trees or other non-native trees, other than ash, will be removed to preserve monarch butterfly habitat. Tree removal will not occur during the monarch butterfly aggregation season (October 1 through March 31).

2.7 Monitoring Plan

Monitoring will be conducted by City of Goleta-approved biologist. The entirety of the mitigation sites will be monitored for a 5-year period to ensure successful establishment. Each year of the 5-year monitoring and maintenance period is defined as a 12-month period starting when restoration installation is complete. Changes may be made as necessary based on annual monitoring reports, per the City of Goleta General Plan.

2.7.1 Monitoring Methods and Schedule

The mitigation sites will be qualitatively monitored by the City of Goleta-approved biologist monthly of each year (beginning at the completion of restoration installation), and quantitatively once in the spring and once in the winter of each year during the 5-year monitoring period.

Monthly monitoring will qualitatively assess the success of the mitigation sites. Visual estimates of percent cover of native and non-native plants will be made to determine if performance criteria are being met, or likely to be met, by the end of Year 5. Additionally, monitoring will document how the mitigation site compares to the surrounding lands in terms of topography, hydrology, vegetation types, sensitive species present, and use by wildlife. The City of Goleta-approved biologist will ensure the qualified native landscape contractor limits use of herbicide and applies supplemental water as appropriate.

Photographs will be taken each year during the spring and winter monitoring to qualitatively document plant establishment, hydrologic conditions, and other site conditions. Permanent photo-

documentation points will be established throughout the mitigation sites, primarily prior to installation. Each photo point location will be documented using global positioning system (GPS) and marked in the field with PVC pipes anchored by rebar, or a similar mechanism, which will be removed after completion of the 5-year monitoring period. The photographs will be included in the annual monitoring report to allow comparison between monitoring years.

Spring and winter monitoring will quantitatively assess the success of the mitigation sites. Fixed-line transects will be installed throughout the mitigation sites to sample the following parameters via the point-intercept method (10 centimeter intervals):

- Species occurring within the transect and whether the species is native or non-native
- Percent absolute plant cover, and cover of native versus non-native species

Each transect location will be documented using GPS and marked in the field with PVC pipes anchored by rebar, or similar mechanism, which will be removed after completion of the monitoring period. Transect locations will be selected systematically to sample different habitat types across the sites so that statiscially significant bological data can be obtained. Photographs will be taken at each transect during the quantitative monitoring events. The photographs will be included in the annual monitoring report to allow comparison between monitoring years.

The number of dead container plants will also be recorded during the spring and winter quantitative monitoring events. If replacement plants are installed, they will be monitored for a minimum of 3 years (within the 5-year monitoring period) to ensure successful establishment.

Qualitative information about the weather conditions and mitigation site conditions (e.g., wildlife use, vegetation establishment trends, non-native plant invasion, evidence and extent of erosion, and the need for corrective actions) will also be collected during all monitoring activities. Recommendations for maintenance needs will be made to the qualified native landscape contractor based on observations made during the monitoring activities.

Upon completion of the 5-year monitoring period, the City of Goleta will conduct a final inspection. Any outstanding items will need to be completed before the regulatory agencies give final approval and accept the restoration project as complete.

2.8 Reporting Requirements

Reports will be prepared by the City of Goleta-approved biologist and transmitted to the appropriate permitting agencies, i.e., CCC, Corps, CDFW, and RWQCB. As described above, the restored mitigation sites will be monitored and maintained for a 5-year period with changes made as necessary based on annual monitoring reports, per the City of General Plan. Annual monitoring reports will be prepared within 1 month of the end of each year (a 12-month period) of the 5-year monitoring and maintenance period, which begins when restoration installation is complete. Annual reports will document the “As Built” condition of the mitigations sites, maintenance efforts, and monitoring methods and results. The annual reports will also contain a quantitative analysis of performance criteria achievement and progress toward meeting final performance criteria. Lastly, the annual reports will also provide photographs taken at photo documentation points, photographs taken at transects, and relevant GIS-based maps. The 5th and final annual report will be noted as such and will summarize activities throughout the 5-year maintenance and monitoring period as described above.

2.9 Restoration Schedule

A proposed schedule for restoration preparation, implementation, maintenance, and monitoring is presented in Table 12. This schedule reflects that initial restoration installation will be conducted in spring 2023 and replacement planting will be conducted in fall/winter of 2023/2024 as needed. Additionally, the schedule will be dependent on availability of 5-gallon replacement trees and scheduling for the restoration of the mitigation areas near Fowler Road and Ekwill Street are dependent upon adjacent construction activities. Construction of the Project components is scheduled to begin in the May 2023 and end in approximately December 2025.

Table 12 Restoration Schedule

Timing	Task	Corresponding Report Section
Preparation		
Through spring 2023	Collect native seeds and propagate plants for initial and replacement planting	Sections 2.4.2 and 2.4.3
Through spring 2023	Initial non-native plant removal Install erosion control as applicable Maintenance restrictions apply	Section 2.4.5 Section 2.4.6 2.4.5 and 2.6.3
Prior to spring 2023	Set up photopoints for baseline photo monitoring	Section 2.7.1
Installation		
Spring 2023	Install container plants Install drip irrigation system, where feasible	Section 2.4.7 Section 2.6.2
Fall/winter 2023/2024	Replacement planting as necessary	Section 2.6.1
Maintenance (Year 1 through Year 5[1])		
January 2023 to December 2027	Conduct site maintenance Maintenance restrictions apply	Section 2.6 Sections 2.4.5 and 2.6.3
Monitoring and Reporting (Year 1 through Year 5[1])		
January 2023 to December 2027	Monthly qualitative monitoring	Section 2.7
Each spring and winter; 2023 through 2027	Photograph monitoring	Section 2.7
Each spring and winter; 2023 through 2027	Quantitative transect monitoring	Section 2.7
Each January; 2025 through 2028	Prepare annual monitoring reports	Section 2.8

[1] The calendar year is used herein to simplify and convey the 5-year maintenance and monitoring period schedule. The 5-year maintenance and monitoring period will commence upon completion of installation, which may not follow the calendar year.

2.10 Long-term Management Plan and Financial Assurances

The City of Goleta will be responsible for ownership and all long-term management of the mitigation sites. Financial assurances through which the mitigation sites will be successfully completed are in development and will be finalized prior to construction.

2.11 Adaptive Management Plan

As described in Section 2.7, the City of Goleta-approved biologist will monitor to determine if performance criteria described in Section 2.5 are being achieved. Changes to the restoration implementation and maintenance approach may be made as necessary based on annual monitoring reports, per the City of Goleta General Plan. If performance criteria are not being achieved, the City of Goleta may be required to replant, as necessary, to ensure performance criteria are met. If replanting occurs, restoration elements that may be changed include the plant species and quantities used and the location of the installed container plants, dependent on species. Additionally, maintenance measures such as non-native plant removal, irrigation, erosion control, and/or plant protection may need to be modified to help ensure the success of the mitigation sites.

If the compensatory mitigation plan (Section 2) cannot be implemented as approved, and is significantly modified as a result, the City of Goleta will obtain approval of the revised portions of the compensatory mitigation plan from the CCC, Corps, CDFW, and RWQCB.

If monitoring or other information indicates that the compensatory mitigation plan is not progressing towards meeting its performance criteria (see Section 2.5), the City of Goleta will notify the CCC, Corps, CDFW, and RWQCB as soon as possible. The City of Goleta will work with these agencies to address deficiencies in the compensatory mitigation plan and apply appropriate measures to ensure performance criteria are met, which may include extending the maintenance and monitoring period.

The Responsible Party acknowledges and agrees that there are always unforeseen effects on a restoration project in the event that a fire, flood, or other natural disaster should have a significantly negative impact on the restoration areas during the maintenance period. The Responsible Party and Restoration Specialist will coordinate with the applicable regulatory agencies in the event of any such unforeseen event, and contingency measures will be developed in coordination with the applicable regulatory agencies. Modifications to this Mitigation Plan may be required and additional remedial actions may need to be implemented.

2.12 Notification of Restoration Completion

Once restoration criteria are complete, the Responsible Party's selected individual or firm will submit a final report, as documented in Section 2.8, to the applicable regulatory agencies, summarizing restoration work completed and documenting post-Project site conditions. Once the City and applicable agencies have agreed that success criteria defined in this Mitigation Plan have been met, no additional work will be required.

3 Native Tree Inventory and Protection Plan

As discussed in Section 1.4, the Project area includes riparian woodland habitats including arroyo willow thickets, red willow thickets, and black cottonwood forest. These riparian habitats consist of several species of native riparian trees that will be mitigated in accordance with Mitigation Measure NA-1 and Mitigation Measure NA-2, and installed as discussed in Section 2.0 of this Biological Mitigation and Monitoring Plan. This section includes a summary of the methods and results of the native tree inventory within the Project area and a tree protection plan based on the tree inventory results as required by Mitigation Measure NA-2.

3.1 Native Tree Inventory Methodology

A native tree inventory was conducted within the temporary and permanent impact areas by in November 2012 and February 2014. All native trees within the study area were identified to species and the location of each main tree trunk was recorded with a Trimble GeoXT (Geoexplorer 6000 Series) GPS unit capable of sub-meter accuracy. The total cross-sectional diameter at breast height (DBH) (measured at a height 4.5 feet above the ground) was measured for each native tree using a DBH tape where feasible and by visual estimates where the trunk could not be reached. In the case of multiple trunks, the DBH of the largest trunk was measured. Where trees were situated on sloping or uneven ground, the 4.5-foot height was measured from the uphill side of the tree. Some areas were inaccessible due to poison oak, dense vegetation (i.e., willow tree thickets), and/or steep slopes. Impassable areas were surveyed visually from the edge of the impassable barrier, and if possible, approximate number of trees and associated DBH range were estimated. In the case of dense willow thickets where it was difficult to observe individual willow trees and give an accurate estimate, the footprint of the willow thickets was mapped in addition to approximating the number of trees. A detailed description of the tree inventory methodology is provided in the Biological Resources Report (URS 2014).

3.2 Native Tree Inventory Results

All native trees mapped were plotted in geographic information system (GIS) to create maps showing the location of each native tree within the Project area (see Figure 7a through Figure 7c). In addition, detailed data from the native tree inventory are provided as a table in Appendix B. The County Deciduous Oak Tree Protection and Regeneration Ordinance (County of Santa Barbara 2003) protects deciduous oak trees measuring 4 inches DBH or greater. Although the Project is not required to meet the standards of this ordinance, and since the EIR does not state the definition of a mature native tree, and to err on the conservative side, any oak or other native tree measured to be 4 inches or greater in DBH was considered mature and given the status of “protected.” Protected tree species include coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), Southern California black walnut (*Juglans californica*), western sycamore (*Platanus racemosa*), black cottonwood (*Populus trichocarpa*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and blue elderberry (*Sambucus nigra*) and are indicated on see Figure 7a through Figure 7c. Protected trees requiring mitigation are discussed further in Section 3.3. Trees with less than 4 inches DBH are considered “not protected” and do not need to be mitigated. Table 13 below is a summary of the total number of protected trees that will be impacted within the Coastal Zone and outside the Coastal Zone for each alignment.

Approximately 238 protected trees occur within the Study Area, 84 of which are located within the Coastal Zone and 154 are located outside of the Coastal Zone. Approximately 198 protected trees occur within the impact area, of which 147 protected trees are located in the permanent impact area and 51 protected trees are located in the temporary impact area. Protected trees that require mitigation include 7 southern California black walnuts, 2 western sycamores, 27 black cottonwoods, 18 coast live oaks, 8 red willows, 131 arroyo willows, and 5 blue elderberries. The number of impacted trees may be reduced if during construction it is determined that some of the trees can be preserved in place, which may be the case for the trees located within the temporary impact area.

3.3 Native Tree Protection Plan

This section outlines the requirements of the native tree protection plan. In accordance with Mitigation Measure NA-2, the native tree protection plan requires the following:

- Any mature native trees damaged or removed are to be replaced at a ratio of 10:1.
- Any trees lost in the Coastal Zone shall be replaced in the Coastal Zone.
- Suitable restoration areas for native trees will be selected along Old San Jose Creek or San Jose Creek. (Note: As described in Section 2.0, the mitigation sites have been established along Old San Jose Creek and Devereux Creek.)
- Native trees shall be grown from local seed stock in 5-gallon containers and planted at 8- to 10-foot spacing. (Note: As described in the Addendum to the FEIR [City of Goleta 2019b], 1-gallon containers will be used in select areas; within the erosional scars along Devereux Creek, 1-gallon containers are more appropriate since installing larger containers may cause additional erosional issues and space is restrained along the bottom of the incised erosional scars.)
- All mitigation restoration areas shall be monitored and maintained for a 5-year period to ensure successful establishment.
- The plan shall be submitted to the City of Goleta and resource agencies for review prior to construction.
- Prior to construction, the above measures shall be incorporated into the construction contract document.
- City of Goleta staff or the authorized monitor shall inspect the Project site to verify implementation of the approved tree protection plan during construction.

Table 13 Approximate Number of Impacted Protected Trees – Coastal Zone and Outside Coastal Zone

		Coastal Zone			Outside Coastal Zone			Grand
Scientific Name	**Common Name**	**Ekwill**	**Fowler**	**Subtotal**	**Ekwill**	**Hollister**	**Subtotal**	**Total**
Juglans californica	Black walnut	1		1		6	6	7
Platanus racemosa	Western sycamore	1		1	1		1	2
Populus trichocarpa	Black cottonwood		2	2	25		25	27
Quercus agrifolia	Coast live oak				9	9	18	18
Salix laevigata	Red willow	8		8				8
Salix lasiolepis	Arroyo willow	58	6	64	65	2	67	131
Sambucus nigra	Blue elderberry	5		5				5
Total number of impacted protected trees		**73**	**8**	**81**	**100**	**17**	117	198

In addition to the standards defined in the EIR, although not a requirement for the Project, the City of Goleta Municipal Code Section 15.09.080, Appendix A Grading Ordinance Guidelines for Native Oak Tree Removal (City of Goleta 2013), and "the County Deciduous Oak Tree Protection and Regeneration Ordinance" (County of Santa Barbara 2003), were utilized to provide additional guidance for native tree establishment. The following standards have been adapted from the above guidance and ordinance documents to be implemented as part of the native tree protection plan for all native trees requiring mitigation (in accordance with the EIR):

- Provide the replanting schedule and nurturing regime for the trees.
- Replacement trees that are planted must come from nursery stock grown from locally-sourced acorns/seeds, or use acorns/seeds gathered locally, preferably from the same watershed in which they are planted.
- Replacement trees shall be established in a location suitable for their growth and survival as determined by a certified arborist or restoration biologist.
- The replacement trees shall be nurtured for 5 years, the last 2 without supplemental watering, using techniques for oak trees consistent with the most current version of the University of California publication "How to Grow California Oaks" (University of California 2016) and for other native trees the watering will be determined by the restoration biologist. At the end of the 5 years, 10 trees for every protected tree removed must be alive, in good health as determined by the certified arborist/restoration biologist, and capable of surviving without nurturing and protection.
- Each replacement tree must be protected against damaging ground disturbance, soil compaction, or over-irrigation within the dripline. It must be fenced to protect it from grazing or browsing by animals both below and above ground until it has reached a minimum of 8 feet in height. (Note: Fencing is not anticipated to be necessary in the proposed mitigation sites due to lack of grazing animals in the area.)
- Where conditions warrant and where agreed to by the certified arborist/restoration biologist, tree planting designs and nurturing practices (e.g., protective structures, watering schedules) may be adjusted to improve the probability that replacement trees will be established successfully.
- All replacement trees are considered protected trees regardless of size.

Tree removal is defined as causing a native tree to die, be uprooted or removed from the ground by any means, including, but not limited to, cutting, uprooting, poisoning, or burning (unrelated to controlled burns). Excessive pruning or topping, or severing a tree's roots enough to lead to the death of the tree, will also be considered tree removal. Death by natural causes (e.g., sudden oak death syndrome) or removals required due to disease or regulatory requirements will not be considered a removal. The removal of protected native trees that are naturally dead or uprooted, or that pose an immediate threat to safety will not be counted towards removal thresholds (County of Santa Barbara 2003).

If removed, each individual protected tree must be compensated at a 10:1 ratio by replacement planting. If all individual protected trees identified in the permanent and temporary impact areas are removed, 1,980 trees will be replaced within the mitigation sites (herein referred to as "replacement trees"). Table 14 shows how many trees will be impacted, how many trees are required for mitigation assuming all trees will be impacted, and how many trees are estimated for installation per this Biological Mitigation and Monitoring Plan. See Figure 7a through Figure 7c for the location of existing trees and Figure 6a through Figure 6c for the restoration plan.

Table 14 Number of Replacement Trees by Species

Scientific Name	Common Name	Trees Removed[1]	Required Replacement Trees[1,2]	Estimated Replacement Trees per Site			
				Old San Jose Creek and Fowler Road Drainage Ditch	Old San Jose Creek (East Ekwill)	Devereux Creek and Northwestern Tributary (Ellwood Mesa)	Total
Juglans californica	Southern California black walnut	7	70	40	0	200	240
Platanus racemosa	Western sycamore	2	20	0	50	100	150
Populus trichocarpa	Black cottonwood	27	270	0	100	200	300
Quercus agrifolia	Coast live oak	18	180	40	0	200	240
Salix exigua	Sandbar willow	0		44	0	220	264
Salix laevigata	Red willow	8	80	20	50	50	120
Salix lasiolepis	Arroyo willow	131	1,310	20	100	102	222
Sambucus nigra	Blue elderberry	5	50	74	0	370	444
Total		**198**	**1,980**	**238**	**300**	**1,442**	**1,980**

[1] Assumes all trees identified within the Project area will be removed. This number may be reduced if during construction it is determined that some of the trees can be saved in place. Approximately 198 protected trees occur within the impact area, of which 147 protected trees are located in the permanent impact area and 51 protected trees are located in the temporary impact area.

[2] Individual trees will be replaced at 10:1.

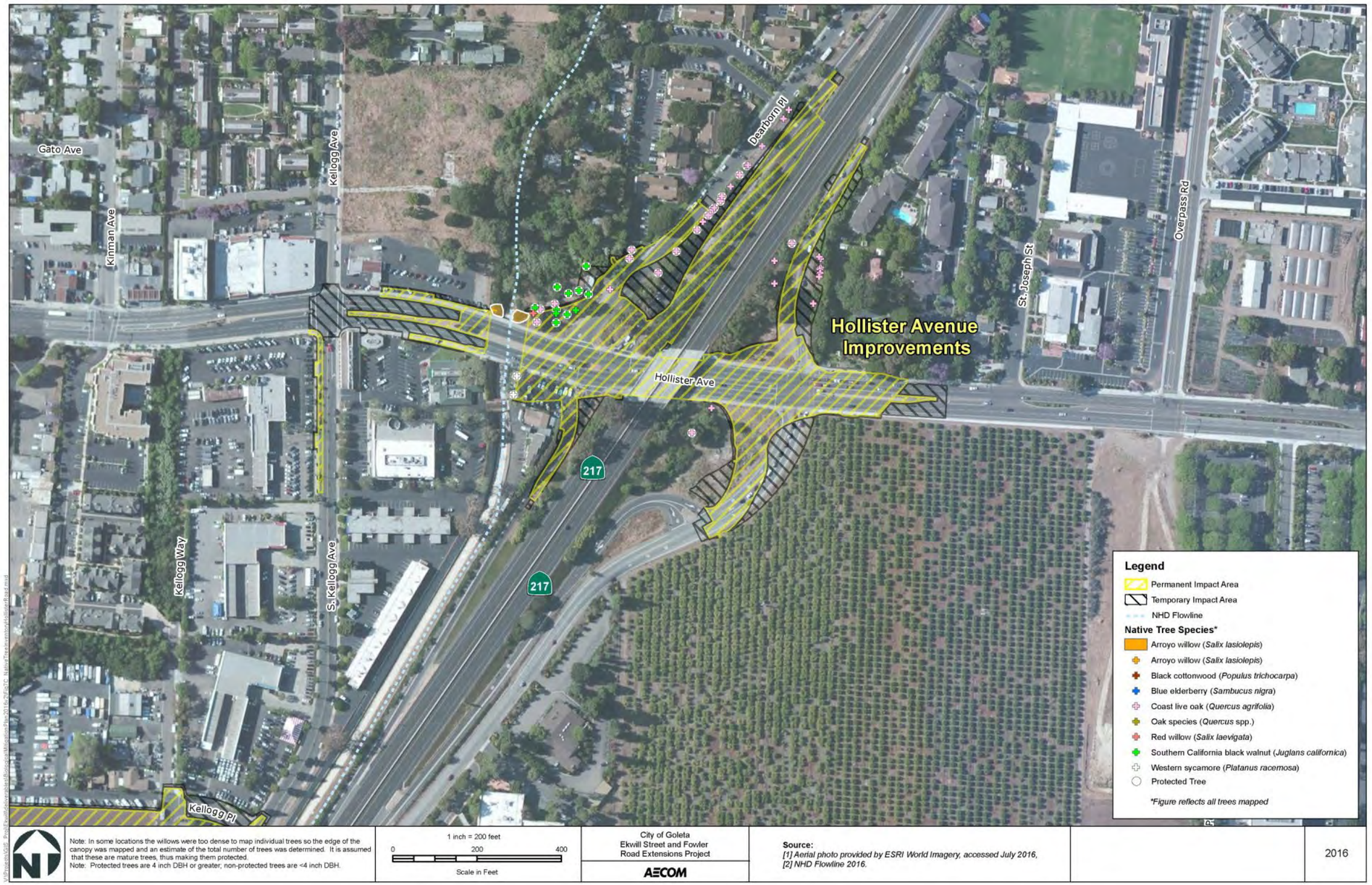
Figure 7a Native Tree Inventory and Protection Plan: Ekwill Street

Source: AECOM 2018

Figure 7b Native Tree Inventory and Protection Plan: Fowler Road

Source: AECOM 2018

Figure 7c Native Tree Inventory: Hollister Avenue



Source: AECOM 2018

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As described above, the number of impacted trees may be reduced if during construction it is determined that some of the trees can be preserved in place, which may be the case for the trees located within the temporary impact area. For purposes of this Biological Mitigation and Monitoring Plan, it is assumed that all trees within the permanent and temporary impact area will be removed and need to be mitigated.

A City of Goleta-approved biologist will be present during all tree removal or trimming activities during Project construction and work with the construction crew to ensure that the number of native trees removed or impacted is minimized. The City of Goleta-approved biologist will compare the native trees identified in See Figure 7a through Figure 7c and Appendix B with those observed in the field and will make adjustments to the native tree inventory as necessary. If the contractor can avoid native trees assumed to be impacted then these trees do not need to be mitigated. Alternatively, if additional native protected trees not identified in this Biological Mitigation and Monitoring Plan need to be removed, then they will be added to the quantity of trees requiring mitigation. Native trees to be protected and avoided during construction will be marked with temporary construction fencing to designate the work area outside of the critical root zone of the tree. The City of Goleta-approved biologist will guide installation of the fencing.

An authorized biological monitor will work with the contractor during construction to determine together in the field if any trees can be avoided during construction. The native tree inventory maps will be reviewed and adjustments will be made as feasible to avoid as many protected native trees as possible, but an effort will also be made to avoid non-protected trees as well. Trees that are determined to be avoidable will be marked with flagging and/or construction fencing will be placed around the outside edge of the canopy. If trees can be avoided but work must occur under the canopy which would potentially impact the roots and cause damage to the tree, the tree will need to be monitored for a period of 6 months or as necessary based on the City of Goleta-approved biologist's assessment to determine whether or not it will survive the damage to the roots. The tree will be determined to be saved or impacted, and if it is determined that it has been impacted, then it will be considered a removed tree and need to be mitigated the same as other removed trees.

3.3.1 Preparation and Installation

Since most of the replacement trees must be in 5-gallon containers per Mitigation Measure NA-2, it is anticipated it will take about 2 years of growing the trees at a nursery to reach this size for most of the tree species. Therefore, it is recommended that a nursery should begin growing the replacement trees as soon as the Biological Mitigation and Monitoring Plan is approved. The maximum number of replacement trees (1,980 trees) will be grown and installed at the Devereux Creek mitigation sites, even if it is determined during construction that a lesser number of replacement trees are needed due to a lesser number of trees being impacted (see Tables 14 and 15 for species and quantities of impacted and replacement trees respectively). Additionally, supplemental replacement trees will be installed within the temporarily impacted areas associated with the Project. Notably, the full number of replacement trees required for mitigation (1,980) will be accounted for at the off-site mitigation sites to ensure that adequate habitat, space, and timing for replacement trees is available without the need to rely on the temporary impact areas associated with the Project site. If it is determined during construction that some protected trees can be avoided, then the number of replacement trees can be reduced and the excess trees can be applied toward the riparian mitigation and installed as 5-gallon or 1-gallon containers, or as live stakes. Table 15 shows the number of replacement trees needed for each species.

In order to adhere to the standards above, the source of the plant materials, seed storage, and plant propagation will be conducted as described in Sections 2.4.2 and 2.4.3. Access routes and staging areas are described in Section 2.4.4. The non-native plant removal will be conducted prior to planting as described in Section 2.4.5. All replacement trees will be installed to coincide with the first major winter storm (approximately October to December), as feasible, when soil conditions are moist. The trees will be installed as described in Section 2.4.7. Replacement trees will be protected as described in Section 2.4.8.

3.3.2 Performance Criteria, Maintenance, and Monitoring

Replacement trees will adhere to the Project performance criteria as described in Section 2.5. Replacement trees will be maintained and monitored the 5-year monitoring and maintenance period as described in Section 2.6 and 2.7, respectively.

4 Pre-construction Biological Surveys

This section discusses methods for implementing pre-construction biological surveys at the mitigation areas as required by Mitigation Measures PL-1 Pre-construction Floristic Surveys and Compensation, AN-4 Conduct Monarch Butterfly Surveys and Avoidance, AN-9 Conduct Breeding Bird Surveys, and AN-8 Conduct Pre-construction Protocol Surveys for Least Bell's Vireo. A City of Goleta-approved biologist will conduct all the required pre-construction surveys. The City of Goleta-approved biologist will prepare and submit a written report of the findings of each pre-construction survey to resource agencies and City of Goleta staff for review. All identified protective measures must be implemented prior to construction. Construction restrictions must be included in the construction contract document. City of Goleta staff or authorized monitor must verify compliance prior to commencement of construction activities and conduct inspections to ensure compliance during construction.

4.1 Floristic Surveys (PL-1)

Pre-construction surveys will be conducted where suitable habitat is present within the permanent and temporary construction footprints by a City of Goleta-approved biologist during the blooming period (April through September) of special-status plant species with potential to occur at the Project site as described in the Biological Resources Report. A list of all plant species observed during the survey will be recorded. Where vegetation is too dense, it may not be feasible to conduct a pre-construction survey; in that case, special-status plant species will be searched for by a City of Goleta-approved biologist that is monitoring while vegetation is being cleared during construction.

If special-status plant species are encountered, avoidance and mitigation will occur as described in Section 5.2.

4.2 Monarch Butterfly Surveys (AN-4)

Construction impacts to monarch butterflies will be avoided or minimized by performing site-specific surveys for roosting butterflies prior to removal of large eucalyptus trees. Surveys will be conducted within areas of suitable eucalyptus groves by a City of Goleta-approved biologist during the aggregation season between October 1 and March 31. Surveys will be conducted only along the Ekwill Street extension since this is the only portion of the Project where there are moderate groves of eucalyptus trees.

If roosting monarchs are encountered, avoidance and mitigation will occur as described in Section 5.3.

4.3 Breeding Bird Surveys (AN-9)

If construction must take place near riparian areas or other areas with potential for breeding birds (as described in the Biological Resources Report) during the breeding season (March 1 to September 15), weekly breeding bird surveys will be conducted by a City of Goleta-approved biologist for the 30-day period prior to construction. Surveys will be conducted within the active construction area and within a 300-foot buffer zone for passerines and a 500-foot buffer for raptors. The City of

Goleta-approved biologist will record all birds observed, note breeding behaviors, and search for bird nests within areas of suitable breeding bird habitat in the construction zone.

If breeding birds are discovered within 300 feet of the construction zone for passerines, or 500 feet for raptors, avoidance and mitigation will occur as described in Section 5.4.

4.4 Protocol Surveys for Least Bell's Vireo (AN-8)

If Project construction must take place within a 300-foot buffer of riparian areas during the breeding season for least Bell's vireo (April 10 to July 31), a USFWS protocol-level survey must be conducted by a City of Goleta-approved biologist the year prior to construction to determine presence/absence of this species. AECOM biologists conducted a protocol-level survey within the Project area in 2012 and none were found (see the Biological Resources Report for details); however, another survey will be required during the spring prior to the start of construction.

If least Bell's vireo are found within 300 feet of the construction zone, avoidance and mitigation will occur as described in Section 5.5.

5 Avoidance and Minimization Measures During Construction

This section discusses methods for implementing avoidance and minimization measures that will be implemented during construction of the mitigation areas as required by Mitigation Measures NA-1 Protection and Replacement of Riparian Habitat, WE-1 Avoid Environmentally Sensitive Habitat Areas, PL-2 Plant Restoration, AN-4 Conduct Monarch Butterfly Surveys and Avoidance, AN-1 Construction Restrictions for Riparian Birds and Raptors, AN-6 Maintenance Restrictions, AN-7 Avoid/Minimize Impacts to Least Bell's Vireo, AN-2 Minimize Construction Noise, WE-3 Construction House Keeping, AN-3 Construction Zone House Keeping, AN-5 Use Low-level Lighting Near Riparian Habitats, AN-10 Dry Season Construction and Stormwater Pollution Prevention Plan, NA-3 Avoid Landscaping Use of Invasive Plants, NA-4 Invasive Species Management, CUL-1 Archaeological Monitoring and Discovery, and CUL-2 Crew Education. City of Goleta staff or an authorized monitor will verify compliance prior to commencement of construction activities and inspect the construction site to verify implementation of the following measures during Project construction. These construction restrictions and associated plans will be included in the construction contract document.

5.1 Protection of Riparian Habitat (NA-1) and Avoid Environmentally Sensitive Habitat Areas (WE-1)

ESHAs occurring within or near the Project area include riparian habitat, wetlands, and monarch butterfly roost sites. Avoidance measures for riparian habitat and wetlands are discussed below, while avoidance measures for monarch roost sites are described in Section 5.3.

Areas of disturbance along Old San Jose Creek will be limited according to the following measures. In areas of dense willow riparian woodland, the work area will be limited to the least amount of area needed to build the culverts at the creek crossings. The construction area will be designated and fenced off with environmentally sensitive area fencing, and no ground disturbance in riparian areas outside the designated construction area will be permitted. Environmentally sensitive area fencing will be installed in coordination with the City of Goleta-approved biologist. In addition, a biological monitor will be present during the removal of dense vegetation to ensure that no sensitive species are present in the area.

Excavation work within or near ESHAs or near individual native trees will be avoided according to the following measures. With the exception of the culvert crossings of Old San Jose Creek at the Ekwill Street and Fowler Road Extensions, and the construction of the Hollister Improvements over Old San Jose Creek, all ground disturbance and vegetation removal will be prohibited within a minimum of 25 feet from the top of bank or the outer edge of the riparian habitat of Old San Jose Creek and San Jose Creek, a minimum of 50 feet from wetlands outside the Coastal Zone, and 100 feet from wetlands inside the Coastal Zone. In areas where work must occur within these buffers, a boundary of the least amount of area required for construction will be established. Construction and staging areas will be set back from wetland areas with protective fencing to such an extent that wetland areas will not be impacted by construction activities. Construction will occur only within the fenced area except during construction of Project elements within the riparian areas. Fencing will be

installed prior to any earth movement and will be installed in coordination with the City of Goleta-approved biologist.

Pesticide and herbicide use will be prohibited in ESHAs during construction unless other less damaging means of control have been found infeasible. Herbicides may be used as described in Section 2.4.6.

Environmentally sensitive areas where construction work is to be avoided or limited will be fenced and plotted on construction plans.

5.2 Plant Restoration (PL-2)

If special-status species are encountered, the City of Goleta will be notified and efforts will be taken to avoid damage and removal. Locations will be marked on an aerial map and provided to the construction crew on a weekly basis after the survey is conducted. However, if special-status species within the construction footprint cannot be avoided, the extent of any impacts will be recorded and salvage and/or restoration planting of the impacted species will be implemented consistent with the compensatory mitigation plan in Section 2.0 to compensate for the loss. A supplement to the compensatory mitigation plan will be prepared by the City of Goleta-approved biologist that describes specific restoration methods for the sensitive plant discovered. For example, plant species can be transplanted and kept at a suitable nursery until they could be replanted at Project-related restoration mitigation sites. Alternatively, seed can be collected from plants prior to disturbance or individual plants could be transplanted to a nursery until their seeds can be harvested and broadcasted in flat and open disturbed areas that will be revegetated after construction. If necessary, more plants will be propagated in a greenhouse from a local seed source and planted in suitable mitigation sites in order to ensure the successful reestablishment of as many plants as were disturbed. The City and regulatory agencies will review the supplement to the compensatory mitigation plan prior to implementation.

5.3 Monarch Butterfly Avoidance (AN-4)

If roosting monarch populations are discovered during pre-construction surveys (AN-4) or during construction activities and are determined to be impacted during construction, the City of Goleta will be notified and these areas will be avoided and impacts will be minimized to the extent practicable. Locations will be marked on an aerial map and provided to the construction crew on a weekly basis. The City of Goleta-approved biologist will make recommendations for avoiding and minimizing impacts. Unavoidable tree removal will be delayed until the butterflies abandon the roosts (typically around April 1 to September 30).

5.4 Construction and Maintenance Restrictions for Riparian Birds and Raptors (AN-1 and AN-6)

If construction must take place near riparian areas or other areas with potential for breeding birds (as described in the Biological Resources Report) during the breeding season (March 1 to September 15), and if breeding birds are discovered within 300 feet of the construction zone for passerines, or 500 feet for raptors, the City of Goleta will be notified and work activities will cease within an appropriate buffer area from the nest until a qualified biological monitor, in consultation with resource management agencies, has determined that it is safe for construction to proceed, or until

the monitor has determined that the young have fledged the nest. Active nest locations will be marked on an aerial map and provided to the construction crew on a weekly basis after each survey is conducted. If appropriate, temporary construction fencing may be installed to mark the buffer area around active nests to prevent construction activities from occurring in the buffer area.

5.5 Avoidance and Minimization Measures for Least Bell's Vireo (AN-7)

If construction must take place near riparian areas or other areas with potential for breeding birds (as described in the Biological Resources Report) during the breeding season (March 1 to September 15), and if least Bell's vireo are discovered during pre-construction surveys (AN-8) or during construction activities, work activities will cease within the 300-foot buffer area and the City of Goleta will be notified. Because the Project is federally funded, a Section 7 consultation pursuant to the Endangered Species Act would be necessary if the species were detected. The USFWS and CDFW will be notified and avoidance and minimization measures will be determined by USFWS in conjunction with the City of Goleta-approved biologist to avoid potential effects to least Bell's vireo. Work activities will not commence within the 300-foot buffer area until a qualified biological monitor, in consultation with resource management agencies, has determined that construction may proceed. Active nest locations will be marked on an aerial map and provided to the construction crew on a weekly basis after each survey is conducted. In addition, establishment of a 300-foot buffer zone around riparian areas and buffer zones will be plotted on construction maps. Noise from construction will not exceed an hourly Leq of 60 dBA within 300 feet of riparian habitat as established by the USFWS. Additional measures may be required by USFWS.

5.6 Minimize Construction Noise (AN-2)

During construction, noise will be minimized to the extent feasible at all times near riparian areas to reduce disturbance to potential nesting and non-nesting passerines and raptors. The following measures will be incorporated to reduce the impact of construction noise:

- All construction equipment will have properly maintained sound control devices, and no equipment will have an unmuffled exhaust system.
- Contractors will implement appropriate additional noise measures, including but not limited to:
  - Changing the location of stationary construction equipment
  - Shutting off idling equipment
  - Installing acoustic barriers around substantial sources of stationary construction noise

City of Goleta Planning and Environmental Services staff will review the grading and building permits prior to issuance to verify compliance.

5.7 Construction Zone Housekeeping (WE-3 and AN-3)

During construction, all food waste and trash will be kept in trash cans in work areas and disposed off-site at the end of each work day to avoid attracting wildlife which could result in an increase of predators of sensitive riparian birds.

To minimize pollutants that may impact downstream water bodies or habitat, no debris, soil, silt, sand, bark, slash, sawdust, rubbish, construction waste, cement or concrete or washings thereof, oil or petroleum products, or other organic or earthen material from construction or associated activity of any nature will be allowed to enter into, or be placed where it may be washed by rainfall or runoff into, waters of the state (see Figure 4a through Figure 4c). When operations are completed, any excess materials or debris will be removed from the work area. No construction waste or other refuse will be deposited within 150 feet of the high water mark of any stream. Furthermore, use of fertilizers, pesticides, and herbicides will be prohibited near wetland areas unless other less damaging means of control have been found infeasible. Routine trash cleaning will be implemented around riparian areas adjacent to roads.

The construction site, including staging and storage areas, will be identified on the drainage and grading plans and included in the construction contract document. City of Goleta staff or authorized monitor will regularly inspect the construction site to verify that staging and storage areas are those depicted on the approved drainage and grading plans and that construction site housekeeping is taking place as required.

5.8 Use Low-Level Lighting Near Riparian Habitats (AN-5)

Only low-level lighting will be used near riparian areas to reduce disturbance to riparian passerines and raptors. The locations of all exterior lighting fixtures and arrows showing the direction of light being cast by each fixture and the height of each fixture will be depicted on lighting plans and reviewed by City of Goleta prior to construction. City of Goleta staff or authorized monitor will inspect all exterior lighting to verify that fixtures have been installed consistent with their depiction on the final lighting plan.

5.9 Dry Season Construction and Stormwater Pollution Prevention Plan (AN-10)

Construction (installation) of Project components located over Old San Jose Creek will occur during the dry season, generally from April 1 to October 31, when steelhead would not be moving through the creek at the proposed bridge location. Although no steelhead would be present during construction, a Stormwater Pollution Prevention Plan that includes efficient erosion control and spill control measures to prevent indirect impacts to the creek must be approved by resource agencies, the City of Goleta, and Caltrans, as appropriate, prior to bridge-related construction.

The Stormwater Pollution Prevention Plan will be prepared by a qualified environmental scientist. The plan will be submitted for review to the City of Goleta, resource agencies, including the RWQCB, prior to construction, including any bridge-related construction.

5.10 Avoid Landscaping Use and Promotion of Invasive Plants (NA-3 and NA-4)

Invasive plants are non-native species that have negative impacts to native habitats and for the purpose of this Biological Monitoring and Mitigation Plan are considered those plants identified on the California Invasive Plant Council's website under the current Invasive Plant Inventory List for the

Southwest region (Cal-IPC 2014). To reduce the impacts of invasive plants colonizing adjacent native habitats, the landscaping and erosion control plans associated with the Project will be reviewed by the City of Goleta-approved biologist to ensure provisions for the control of invasive plant species.

Provisions for the control of invasive plant species will include: 1) review and screening of proposed plant palettes and planting plans by the City of Goleta-approved biologist to identify and avoid the use of invasive plant species especially near developed and/or natural interface areas and ensure the plant palette consists of native drought-tolerant plants; 2) non-native plant removal prior to the initial planting of landscaped areas; 3) installation of low-volume, efficient irrigation systems; 4) minimization of fertilizer, pesticides, and herbicides to minimize opportunities for invasive species to colonize landscaped area; 5) monitoring for and removal of non-native plants and other invasive plant species as part of ongoing landscape maintenance activities; and 6) the removal of soils found to contain invasive species' seed banks and a disposal method both on- and off-site. The frequency and method of monitoring for invasive species will be determined by the City of Goleta-approved biologist. Privately owned staging areas will be subject to the erosion control portions of the proposed measures, but in lieu of replanting, reseeding with appropriate native plants will be acceptable.

During installation and maintenance of landscaped areas, City of Goleta staff or authorized monitor will inspect installation of the landscaping and erosion control periodically to confirm requirements of the landscape or erosion control plan are followed for the first year or as described in the maintenance and monitoring program in the landscape or erosion control plan.

5.11 Archaeological Monitoring and Discovery (CUL-1)

Although no resources have been identified within the mitigation areas, the project site is generally sensitive for cultural resources. Therefore, this measure will require that the archeologist and Chumash Native American monitor will be present on the first day of ground disturbing activities for each of the three planting areas shown in Figure 6c (western portion of Devereux Creek, eastern portion of Devereux Creek, and northwestern portion of the Devereux Creek tributary) to examine soils, to the depth of proposed planting, for their potential to yield cultural resources deposits. Should the soils appear to be sterile for cultural resources, monitoring will cease on the first day of the initial disturbance and a full-time monitor will not be required for the Deveraux Creek/Ellwood Mesa areas. Should a discovery of cultural resources be made during the ground disturbing activities during the first or subsequent days, measure CUL-1 of the FEIR will be applied which provides measures for the unanticipated discovery of cultural resources and requires a full-time Chumash Native American monitor to be present. The full-time monitoring, as described in CUL-1, will only apply in the case of a discovery during ground disturbing activities of the Devereux Creek and Ellwood Mesa mitigation areas.

5.12 Crew Education (CUL-2)

Although no resources have been identified within the mitigation areas, the project site is generally sensitive for cultural resources. Therefore, a crew education program will be established to be implemented prior to construction. The education program will describe the roles and responsibilities of the archaeologist and Native American monitor, identify what types of resources may be found in the area, procedures to follow in the event of a find, and discuss the regulatory

protections for resources and identify the penalties for the destruction or unauthorized collection of cultural resources.

6 References

AECOM Technical Services, Inc. (AECOM) (formerly URS Corporation). 2018. Project figures for the Ekwill Street and Fowler Road Project, Biological Mitigation and Monitoring Plan. August 2018.

____. 2017. Fowler Road Drainage Ditch Restoration Plan for the Ekwill Street and Fowler Road Extensions Project. July 2017.

____. 2017b. Biological Resources Report, May 2017 Addendum for the Ekwill Street and Fowler Road Extensions Project. May 2017.

____. 2016a. Biological Mitigation and Monitoring Plan for the Ekwill Street and Fowler Road Extensions Project. Prepared for the City of Goleta. September 2016. Approved by CDFW and Central Coast RWQCB in January 2017.

AMEC Environment & Infrastructure, Inc. (AMEC). 2014. Final Initial Study and Mitigated Negative Declaration for the Ellwood Mesa Coastal Trails & Habitat Restoration Project. Prepared for the City of Goleta. Prepared June 2014. Accessed online at http://www.cityofgoleta.org/city-hall/planning-and-environmental-review/advance-planning-division/environmental-programs/ellwood-trails-and-habitat-restoration-project.

Baldwin, B., D. Goldman, D. Kel, R. Patterson, T. Rosatti, and D. Wilken. 2012. *The Jepson Manual of Higher Plants of California.* Second Edition. University of California Press, Berkeley, Los Angeles, London.

Bing Maps Hybrid. 2013. Microsoft. Available online at http://www.bing.com/maps/. Accessed through February 2014.

California Coastal Commission (CCC). 2013. Letter to City of Goleta, Rosemarie Gaglione, Assistant City Engineer and Laura Bridley, Contract Planner, regarding incomplete application for Ekwill Street, Fowler Road, City of Goleta, File No. 4-13-0910.

____. 1994. Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. June 15.

____. 1981. Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas. February 4, 1981.

California Department of Transportation (Caltrans). 2010. Ekwill Street and Fowler Road Extensions Project Natural Environmental Study. USGS 7.5-Minute Quadrangle: Goleta. Goleta, California. District 5 – Santa Barbara – 217 – PM1.1-2.1. EA Number 461100. July.

California Invasive Plant Council (Cal-IPC). 2014. The California Invasive Plant Inventory Database for the Southwest region. Accessed online at http://www.cal-ipc.org/ip/inventory/weedlist.php. Visited through April 2014.

City of Goleta. 2019a. Final Ellwood Mesa/Sperling Preserve Open Space Monarch Butterfly Habitat Management Plan. March 2019. Accessed online at https://www.cityofgoleta.org/home/showdocument?id=21867.

____. 2019b. Ekwill Street and Fowler Roads Extensions Project, Addendum to Final Environmental Impact Report Case No. 04-121-DRB, -GRC, -DP and 11-EIR-02, State Clearinghouse No. 2004061072. May 2019.

____. 2013. Municipal Code, 15.09.080 Grading and Agricultural Practices, Appendix A. Grading Ordinance Guidelines for Native Oak Tree Removal, City of Goleta, California. Accessed online February 2014 at http://qcode.us/codes/goleta/.

____. 2011. Ekwill Street and Fowler Road Extension Project. Goleta, California. SCH No. 2004061072. Final Environmental Impact Report. November 16.

____. 2009. General Plan/Coastal Land Use Plan Figure 4-1. Special-Status Species and Environmentally Sensitive Habitat Areas. November.

County of Santa Barbara. 2011. Clerk-Recorder-Assessors Mapping Division Tax Assessment Parcels. February 2011.

County of Santa Barbara Deciduous Oak Tree Protection and Regeneration Article IX of Chapter 35 Santa Barbara County Code. Santa Barbara, California. June.

Drake Haglan & Associates Inc (DHA). 2022. Project figures for the Ekwill Street and Fowler Road Project, Biological Mitigation and Monitoring Plan. January 2019.

Dudek. 2014. Scrub/Woodland Restoration Project GIS data.

ESRI World Imagery. 2015 and 2018. High-resolution aerial.

____. 2018. Base map imagery.

Jepson Flora Project (Jepson). 2016. Jepson eFlora. Accessed online at http://ucjeps. berkeley.edu/IJM.html. Accessed through February 2016.

Meade, D.E., Griffiths, J., van der Heide, C. 2017. Monarch Butterfly Overwintering Sites, Santa Barbara County, California. Althouse and Meade Inc., Paso Robles, California.

Migratory Bird Treaty Act of 1918 (16 U.S.C. 704–712; Ch. 128; July 13, 1918; 40 Stat. 755).

National Geographic Society (NGS). 2018. Seamless, scanned images of USGS paper topographic 1:24,000-scale maps.

Sawyer, J., T. Keeler-Wolf, J. Evans. 2009. A Manual of California Vegetation. Second Edition. California Native Plant Society in Collaboration with California Department of Fish and Wildlife. Sacramento, California.

Smith, Clifton F. 1998. A Flora of the Santa Barbara Region, California, Second Edition. Santa Barbara Botanic Garden and Capra Press, Santa Barbara, California.

Stoecker, M.W. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California. Prepared for the Conception Coast Project.

University of California. 2016. University of California, Oak Woodland Management, How to Grow California Oaks. Originally published in Oaks ‘n’ Folks – Volume 4, Issue 2; authored by McCreary, D.D. in December 1989. Reissued online; prepared and edited by Harper, J.M. and Standiford, R.B. Accessed online at http://ucanr.edu/sites/oak_ range/Oak_Articles_On_Line/Oak_Regeneration_Restoration/How_to_Grow_California_Oaks/. Visited through February 2016.

University of California, Santa Barbara (UCSB). 2016a. North Campus Open Space Overview. Accessed online at http://www.openspace.vcadmin.ucsb.edu/overview. Accessed through August 2016.

____. 2016b. North Campus Open Space News & Announcements, June Planning Update. Accessed online at http://www.openspace.vcadmin.ucsb.edu/. Accessed through August 2016.

URS Corporation (URS) (now AECOM). 2014. Biological Resources Report. Ekwill Street and Fowler Road Extensions Project, Goleta, California. Prepared for the City of Goleta. April 2014.

____. 2013. Field data collected at Hollister Bridge. Data collected for the City of Goleta.

____. 2012. Letter report to Rosemary Gaglione, City of Goleta Community Services Department re: Protocol Least Bell's Vireo Survey Report for City of Goleta's Ekwill Fowler Project.

URS Corporation, Baikal Consulting, Bioregional Planning Associates, Wallace Roberts & Todd, LLC (URS et al.). 2004. Ellwood-Devereux Coast Open Space and Habitat Management Plan. Prepared for the City of Goleta, County of Santa Barbara, and University of California, Santa Barbara. March 2004.

U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines.

U.S. Geological Survey (USGS). 2013. National Hydrography Dataset (NHD). NHD flowline map. Dated 10/17/12.

____. 1988. 7.5 Minute Quadrangle, Goleta, California.

Xerces Society. 2019. Western Monarch Thanksgiving Count database. https://www.westernmonarchcount.org/wp-content/uploads/2019/01/WMTC-Data-1997-2018_1.4.2019_final.pdf. Accessed April 2, 2019.

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Appendix A

Mitigation Site Photographs

Fowler Road Drainage Ditch and Old San Jose Creek

Photograph 1. View of eastern end of Fowler Road drainage ditch, view to east/upstream. May 29, 2014

Photograph 2. View of mid potion of Fowler Road ditch, facing east/upstream. April 20, 2017

Photograph 3. View of western end of Fowler Road ditch where it meets Old San Jose Creek, facing west/downstream. April 20, 2017

Photograph 4. View of San Jose Creek, facing south/downstream. April 20, 2017

Old San Jose Creek at East Ekwill Street

Photograph 1. Close up view of western end of proposed restoration site, view facing northeast. Construction site at the time of photo. Old San Jose Creek channel not visible, located to the left/north. April 20, 2017

Photograph 2. View of western end of proposed restoration site (yellow arrow), view facing northeast. Construction site at the time of photo. Old San Jose Creek channel not visible, located to the left/north. April 20, 2017

Devereux Creek at Ellwood Mesa

Photograph 1. View of tributary of Devereux Creek east of Kestrel Lane facing northwest (upstream). January 11, 2016

Photograph 2. View of tributary of Devereux Creek east of Kestrel Lane facing northwest (upstream). January 11, 2016

Photograph 3. View of tributary of Devereux Creek east of Kestrel Lane facing northwest (downstream). January 11, 2016

Photograph 4. View of west end of Devereux Creek facing west from the south side of the creek. February 1, 2013

Photograph 5. View of west end of Devereux Creek facing northeast on north side of creek, just south of the Bluffs housing development. February 1, 2013

Photograph 6. View of western portion of Devereux Creek facing northwest along the bottom of the creek from the south side. February 1, 2013

Photograph 7. View of western portion of Devereux Creek facing northwest along the bottom of the creek from the north side. February 1, 2013

Photograph 8. View of eastern portion of Devereux Creek facing southeast/downstream along the floodplain terrace. Devereux Creek not visible, located to left/north. April 25, 2018

Photograph 9. View of southeastern erosional scar, facing southwest/upstream. April 25, 2018

Photograph 10. View of transitional riparian area, facing southwest/upstream. Devereux Creek to left/southwest, uplands to right/northeast. April 25, 2018

Appendix B

Native Tree Inventory – Impacted Protected Trees

Alignment	Impact Area	Scientific Name	Common Name	GIS Identification	GPS Coordinates X (Feet)	GPS Coordinates Y (Feet)	DBH (Inches)	Approximat Number of Trees	Coastal Zone?
Ekwill	Permanent Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	47	Yes
Ekwill	Permanent Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	61	No
Ekwill	Permanent Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA1	6010663	1984423	12.0	1	Yes
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA70	6011081	1984585	4.3	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA33	6011210	1984661	4.5	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA46	6011136	1984648	4.5	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA48	6011126	1984650	5.0	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA38	6011145	1984625	6.2	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA52	6011114	1984642	7.0	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA51	6011115	1984630	9.2	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA16	6011260	1984693	13.3	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA53	6011097	1984634	14.0	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA14	6011243	1984696	15.0	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA10	6011274	1984693	22.0	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA36	6011164	1984637	24.5	1	No
Ekwill	Permanent Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA35	6011186	1984653	30.0	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG14	6011412	1984763	4.0	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG30	6011142	1984634	4.0	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG28	6011137	1984643	4.1	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG20	6011196	1984622	4.2	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG36	6011099	1984568	5.0	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG35	6011058	1984572	21.0	1	No
Ekwill	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG37	6010195	1984325	24.0	1	No
Ekwill	Permanent Disturbance Area	*Salix laevigata*	Red willow	SALLAE9	6010725	1984420	4.0	1	Yes
Ekwill	Permanent Disturbance Area	*Salix laevigata*	Red willow	SALLAE1	6010820	1984515	5.0	1	Yes

Alignment	Impact Area	Scientific Name	Common Name	GIS Identification	GPS Coordinates X (Feet)	GPS Coordinates Y (Feet)	DBH (Inches)	Approximat Number of Trees	Coastal Zone?
Ekwill	Permanent Disturbance Area	*Salix laevigata*	Red willow	SALLAE10	6010707	1984429	5.2	1	Yes
Ekwill	Permanent Disturbance Area	*Salix laevigata*	Red willow	SALLAE2	6010800	1984513	10.0	1	Yes
Ekwill	Permanent Disturbance Area	*Salix laevigata*	Red willow	SALLAE8	6010706	1984446	15.5	1	Yes
Ekwill	Permanent Disturbance Area	*Salix lasiolepis*	Arroyo willow	SALLAS14	6010816	1984548	5.0	1	Yes
Ekwill	Permanent Disturbance Area	*Salix lasiolepis*	Arroyo willow	SALLAS12	6010847	1984556	8.8	1	Yes
Ekwill	Permanent Disturbance Area	*Sambucus nigra*	Blue elderberry	SANI5	6010820	1984522	5.0	1	Yes
Ekwill	Permanent Disturbance Area	*Sambucus nigra*	Blue elderberry	SANI4	6010841	1984525	6.0	1	Yes
Ekwill	Permanent Disturbance Area	*Sambucus nigra*	Blue elderberry	SANI1	6010833	1984534	8.6	1	Yes
Ekwill	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	8	Yes
Ekwill	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	3	No
Ekwill	Temporary Disturbance Area	*Platanus racemosa*	Western sycamore	PLRA5	6010339	1984275	24.0	1	Yes
Ekwill	Temporary Disturbance Area	*Platanus racemosa*	Western sycamore	PLRA1	6011257	1984710	36.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA59	6011087	1984651	5.1	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA64	6011049	1984627	7.5	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA40	6011161	1984672	12.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA42	6011162	1984679	12.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA20	6011173	1984678	15.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA21	6011172	1984678	18.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA41	6011153	1984674	18.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA17	6011226	1984699	24.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA60	6011076	1984644	24.5	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA9	6011343	1984751	30.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA11	6011302	1984735	30.0	1	No
Ekwill	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA18	6011205	1984695	33.2	1	No
Ekwill	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG7	6011750	1984806	9.5	1	No
Ekwill	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG16	6011247	1984703	18.0	1	No

Alignment	Impact Area	Scientific Name	Common Name	GIS Identification	GPS Coordinates X (Feet)	GPS Coordinates Y (Feet)	DBH (Inches)	Approximat Number of Trees	Coastal Zone?
Ekwill	Temporary Disturbance Area	*Salix laevigata*	Red willow	SALLAE3	6010789	1984517	7.5	1	Yes
Ekwill	Temporary Disturbance Area	*Salix laevigata*	Red willow	SALLAE11	6010694	1984444	13.0	1	Yes
Ekwill	Temporary Disturbance Area	*Salix laevigata*	Red willow	SALLAE7	6010720	1984462	19.2	1	Yes
Ekwill	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow	SALLAS15	6010807	1984537	7.3	1	Yes
Ekwill	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow	SALLAS9	6011302	1984737	5.0	1	No
Ekwill	Temporary Disturbance Area	*Sambucus nigra*	Blue elderberry	SANI8	6010603	1984408	7.0	1	Yes
Ekwill	Temporary Disturbance Area	*Sambucus nigra*	Blue elderberry	SANI6	6010672	1984446	12.3	1	Yes
Fowler	Permanent Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	2	Yes
Fowler	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	4	Yes
Fowler	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA78	6010204	1982826	5.0	1	Yes
Fowler	Temporary Disturbance Area	*Populus trichocarpa*	Black cottonwood	POBA73	6010206	1982820	13.0	1	Yes
Hollister	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	4	No
Hollister	Permanent Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA10	6013295	1985930	7.3	1	No
Hollister	Permanent Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA9	6013320	1985918	9.1	1	No
Hollister	Permanent Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA12	6013293	1985899	13.0	1	No
Hollister	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG55	6013248	1985900	14.8	1	No
Hollister	Permanent Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG59	6013467	1986051	24.0	1	No
Hollister	Temporary Disturbance Area	*Salix lasiolepis*	Arroyo willow		Polygon	Polygon	>4	1	No
Hollister	Temporary Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA7	6013370	1985966	4.0	1	No

Alignment	Impact Area	Scientific Name	Common Name	GIS Identification	GPS Coordinates X (Feet)	GPS Coordinates Y (Feet)	DBH (Inches)	Approximat Number of Trees	Coastal Zone?
Hollister	Temporary Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA6	6013348	1985975	7.0	1	No
Hollister	Temporary Disturbance Area	*Juglans californica*	Southern California black walnut	JUCA4	6013365	1986033	9.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG54	6013536	1986017	4.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG64	6013654	1986154	5.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG60	6013473	1986072	9.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG62	6013628	1986119	9.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG65	6013665	1986167	10.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG56	6013256	1985931	18.0	1	No
Hollister	Temporary Disturbance Area	*Quercus agrifolia*	Coast live oak	QUAG61	6013579	1986068	20.0	1	No

Note: GIS Coordinates are in NAD_1983_StatePlane_California_V_FIPS_0405_Feet.

Attachment B

Santa Barbara Natives Plant Propagation Cost Estimate

Santa Barbara Natives Inc.

14900 Calle Real
Gaviota, CA 93117
805-729-3855

Estimate

Date	Estimate #
3/26/2021	1837

Name / Address
Rincon Consultants, Inc. Att: Julie Love 805 547 0900 EXT 108 www.rinconconsultants.com November 2022 delivery

Item	Description	Qty	Cost	Total
Anemopsis californica	One gallon	52	6.00	312.00T
Artemisia douglasiana	One gallon	328	6.00	1,968.00T
Baccharis salicifolia	One gallon	199	6.00	1,194.00T
Bromus carinatus	4"	138	3.00	414.00T
Carex barbarae	One gallon	52	7.00	364.00T
Cyperus eragrostis	One gallon	52	7.00	364.00T
Distichlis spicata	4"	186	2.75	511.50T
Eleocharis macrostachya	One gallon	84	6.00	504.00T
Euthamia occidentalis	One gallon	84	6.50	546.00T
Frankenia salina	One gallon	52	6.50	338.00T
Hordeum brachyantherum	4"	214	3.00	642.00T
Juglans californica	Five gallon, from seed genetics may not be local due to cross pollination	240	24.00	5,760.00T
Juncus patens	One gallon	295	6.00	1,770.00T
Juncus phaeocephalus	One gallon	88	6.00	528.00T
Juncus textilis	One gallon	52	6.00	312.00T
Juncus xiphioides	One gallon	52	6.00	312.00T
Paspalum distichum	4"	52	3.00	156.00T
Phacelia ramosissima	One gallon	112	6.50	728.00T
Platanus racemosa	Five gallon, cuttings from 120 year old trees	150	30.00	4,500.00T
Populus balsamifera subsp. tric	Five gallon	300	24.00	7,200.00T
Quercus agrifolia	1/2 gallon talls	240	5.50	1,320.00T

	Subtotal
	Sales Tax (7.75%)
	Total

Santa Barbara Natives Inc.

14900 Calle Real
Gaviota, CA 93117
805-729-3855

Estimate

Date	Estimate #
3/26/2021	1837

Name / Address
Rincon Consultants, Inc. Att: Julie Love 805 547 0900 EXT 108 www.rinconconsultants.com November 2022 delivery

Item	Description	Qty	Cost	Total
Rosa californica	One gallon	172	6.00	1,032.00T
Rubus ursinus	One gallon	208	5.50	1,144.00T
Salix exigua	One gallon	264	6.00	1,584.00T
Salix laevigata	One gallon	120	6.00	720.00T
Salix lasiolepsis	One gallon	222	6.00	1,332.00T
Salvia spathacea	One gallon	112	6.50	728.00T
Sambucus nigra ssp caerulea	Five gallon	444	30.00	13,320.00T
Solanum douglasii	One gallon	112	6.00	672.00T
Solidago velutina ssp. californ	One gallon	112	6.00	672.00T
Verbena lasiostachys	One gallon	112	5.50	616.00T
~~Delivery Charge~~	~~Delivery Charge $75 per $1000 of product~~	~~55~~	~~75.00~~	~~4,125.00T~~

Subtotal	$55,688.50
Sales Tax (7.75%)	$4,315.86
Total	$60,004.36

Ekwill St & Fowler Rd

Revised total w/o delivery	$ 55,879
Deposit paid by the City	$ 22,224
Remaining balance to be paid by the Restoration Contractor	$ 33,655
Portion of remaining balance to be allotted to on-site mitigation	$ 11,251
Portion of remaining balance to be allotted to off-site mitigation	$ 22,405