Appendix F
Mission Creek Habitat Restoration Project: Cultural Resources Technical Report

Mission Canyon Stream Habitat Restoration Project

Initial Study/Mitigated Negative Declaration

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NOVEMBER 2023

PREPARED FOR

Southern California Edison
Environmental Services Department

PREPARED BY

SWCA Environmental Consultants

MISSION CREEK HABITAT RESTORATION PROJECT: CULTURAL RESOURCES TECHNICAL REPORT

Prepared for

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SWCA Project No. 700120

SWCA Cultural Resources Report No. 22-106

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EXECUTIVE SUMMARY

Purpose: SWCA Environmental Consultants (SWCA) has prepared this cultural resources technical report for Southern California Edison (SCE) in support of the Mission Creek Habitat Restoration Project (project) within the Mission Canyon area of Santa Barbara County, California. SCE retained SWCA to provide an assessment of impacts to cultural resources for work activities located on Spyglass Ridge Road adjacent to Mission Creek. The 7.24-acre project site includes restoration treatment locations and a contingency buffer. The purpose of this study is to determine if cultural resources are present in the Area of Potential Impact (API), which is defined below, evaluate the significance of cultural resources within the API, and present recommendations for avoiding, minimizing, or mitigating potentially significant impacts resulting from the implementation of the proposed project.

Scope: SCE proposes to implement stream habitat restoration and monitoring activities within the Mission Canyon area. Restoration and monitoring activities would be conducted as described in the Mission Creek Habitat Restoration Plan (Creek HRMP; Helix Environmental Planning, Inc. 2023). In addition, the project includes the necessary construction areas and activities required for implementation of the project.

SWCA performed cultural resources desktop analysis, field surveys, evaluation, and monitoring. The fieldwork was conducted by archaeologists and architectural historians and included cultural resources surveys and monitoring for areas requiring restoration within the vicinity of the project site.

Regulatory Setting: This technical report is prepared in support of the environmental review of the proposed project pursuant to the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] 21000 et seq.). The proposed project requires a Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW). In their capacity as lead agency for the project, CDFW is completing an environmental review pursuant to CEQA (PRC 21000 et seq.) and relevant portions of PRC Section 5024.1, Title 14 California Code of Regulations (CCR) Section 15064.5 of the CEQA Guidelines (CCR Section 15000 et seq.), and PRC Sections 21083.2 and 21084.1.

Area of Potential Impact: The API encompasses 7.24 acres within Mission Canyon including 2.48 acres of Sidecast Removal and Habitat Restoration areas, 1.8 acres of Existing Maintenance Roads, 0.37 acre of unvegetated Parking/Storage Areas, 0.43 acre for Staging Areas, 0.5 acres of Berm Stabilization or Reconstruction and Revegetation, 0.12 acre for Habitat Restoration of Non-Sidecast Areas, and 1.27 acres of Habitat Enhancement. Additionally, 0.27 acre has been identified as Contingency Areas to allow for foot trails for crews to access sidecast piles and conduct removal operations safely. The vertical depth of the API is limited to the depth of ground disturbance necessary for the in-stream restoration work and drainage repairs. Although exact depths of disturbance are not yet known, the estimated depth of sidecast material is between 0 and 2.15 feet and it is assumed that the depth of disturbance related to tree planting will not exceed 3 feet below natural grade (Helix 2023: 2-17 and 2-18). Thus, the depth of ground disturbance is expected to be a maximum of 3 feet below natural grade throughout the project API, which constitutes the vertical extent of the API. The cultural resource survey work conducted for SCE over the course of 2020 through 2022 included 30.85 acres and encompassed the entirety of the project API.

Dates of Investigation: On October 22, 2021, SWCA conducted an intensive pedestrian survey within previously unsurveyed portions of the API with negative results. An initial Phase 1 surface inventory and update to the Tunnel Caretakers' Home Site (P-42-002722/CA-SBA-2722H; hereafter SBA-2722H) was completed on March 11 and 12, 2022. Fieldwork for the Phase 2 significance evaluation of SBA-2722H was conducted on April 25 through 29, 2022 (Millington and Sayre 2023).

Findings: Cultural resource studies conducted by SWCA in 2020 and 2021 on behalf of SCE in support of emergency repair activities and maintenance operations totaled approximately 30.85 acres, which overlapped the entirety of the project API (7.24 acres). Of the 30.85 acres studied in 2020 and 2021, approximately 98 percent (30.23 acres) was surveyed in 2020 and March 2021 and resulted in the submittal of four technical reports and one California Department of Parks and Recreation (DPR) site update form for site SBA-2722. SWCA inventoried the remaining 2 percent (0.62 acre) in October 2021. No newly identified or previously recorded cultural resources were observed during the October 2021 survey.

SWCA reviewed archival documents and records search results from SCE's subscription database of California Historic Resource Information System (CHRIS) records. Results of the records search indicated that three previously recorded resources are located within the project API; however, one of the previously recorded resources, the Mission Tunnel (P-42-002683), is a subterranean structure of historic age which is located underneath the project API. No resource components were observed on the ground surface within the API during the pedestrian survey. One historic-era structural resource component, the Mission Canyon Trail Bridge—part of the larger previously recorded Mission Tunnel Water System Features (P-42-001712)—was recorded in more detail, including a significance evaluation as a contributing element for the resource in the report and a DPR site update form for the bridge element only. The remaining previously recorded resource mapped within the project API is SBA-2722H, which was identified during initial Phase 1 surveys in 2021 and updated during an additional Phase 1 survey and Phase 2 significance evaluation in 2022.

CDFW conducted tribal consultation under Assembly Bill 52 (AB 52). Multiple consulting tribal parties requested that tribal monitoring occur during ground-disturbing activities in and adjacent to Mission Creek. Tribal Cultural Resources Applicant Proposed Measures (APMs) have been developed to accommodate these requests.

Investigation Constraints: Some portions of the API are steeply sloped, precluding intensive pedestrian survey of these locations; however, a reconnaissance-level survey was conducted in these areas. The surface inventory and significance evaluation of SBA-2722H were constrained because of access limitations within the site and surrounding areas due to safety concerns (poison oak, steep and uneven terrain, heavy vegetation, tree roots, exposed sandstone bedrock, and rattlesnakes) and the need to avoid a rare plant species—the Santa Barbara honeysuckle (*Lonicera subspicata*).

Conclusions and Recommendations: SWCA's cultural resources investigation for the proposed project included a review of archival documents and records search results from CHRIS and revealed that three cultural resources have been previously recorded within the project API. No other cultural resources were recorded within the project API.

- The Mission Tunnel (P-42-002683) is a subsurface resource that passes tens to hundreds of feet under the API. Although the resource is mapped within the API, the top of the tunnel is well below the maximum depth of the vertical extent of the API, which is 3 feet below natural grade, and therefore will not be impacted by the project. Because it is beyond the vertical limits of the project API, its potential eligibility for the California Register of Historical Resources (CRHR) and the potential for project impacts are not considered in this analysis.
- The Mission Canyon Trail Bridge (a component of P-42-001712) was recommended not eligible for the CRHR. Because it is not a historical resource for the purposes of CEQA, project impacts are not further considered.
- The Tunnel Caretakers' Home Site (SBA-2722H) was identified during survey and evaluated for significance. SWCA recommends SBA-2722H eligible to the CRHR under Criterion 4. SWCA finds it retains integrity, as a whole, to convey its significance under CEQA. The project

proposes tree planting within a portion of the site with few resources and already diminished integrity. The vertical extent of the API is 3 feet below natural grade; therefore, any subsurface archaeological deposits present within SBA-2722H have the potential to be impacted by project activities. In order to mitigate this impact, SWCA recommends that all new tree locations are determined in coordination with an archaeological monitor and that archaeological monitoring is conducted during all tree planting activities within SBA-2722H. The potential to impact the cultural resource is less than significant with implementation of the Cultural APMs. Therefore, SWCA finds the project will not result in a change to the significance of SBA-2722H.

Based on the cultural resources studies, the potential for impact to cultural resources from the proposed project is expected to be less than significant with the implementation of the general environmental requirements, the cultural resources protection measures described in the Creek HRMP, and additional recommendations suggested by SWCA. SWCA recommends that prior to initiating ground-disturbing activities, construction personnel should be trained through a Worker Environmental Awareness Program (WEAP) on the possibility of encountering buried prehistoric or historic-era cultural materials or human remains. Personnel should be advised that upon discovery of buried cultural deposits, work in the immediate vicinity of the find should stop and the SCE cultural resource specialist should be notified immediately. The tree planting proposed within a small portion of the Tunnel Caretakers' Home Site (SBA-2722H) should be monitored by an archaeologist. Additionally, if human remains are uncovered, work in the immediate vicinity of the find should stop and the County Coroner should be notified immediately per Section 5097.98 of the California PRC. Disposition of Data: The final report and any subsequent related reports will be submitted to SCE and the Central Coastal Information Center, located at the Santa Barbara Museum of Natural History, Santa Barbara, California. Research materials and the report are also on file at the SWCA office in Pasadena, California.

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Appendices

Tables

1 INTRODUCTION

In December 2019, Southern California Edison (SCE) performed maintenance operations that consisted of road grading and widening along Spyglass Ridge Road (the "December 2019 work") in the Mission Canyon area of Santa Barbara County, California (Appendix A, Figures A-1 and A-2). The purpose of the maintenance was to widen the road and reduce the risk of rock falls in order to maintain access to existing infrastructure such as transmission towers and associated transmission lines located in the foothills along the access road. During grading activities, rock and spoils were discharged beyond the road prism and downslope, into jurisdictional areas within Mission Creek and two unnamed tributaries (Road Areas 1 and 2) to Mission Creek. The disposal caused impacts to the streambed, trees, sensitive plants, and native habitats. While smaller rocks and fine sediment material have settled on the slopes above the creek, larger rocks and additional fine material have settled in the creek and tributary bottoms. The objective of the proposed Mission Creek Habitat Restoration Project (project) is to remove sidecast material and restore impacted habitat within the project site and the area of potential impact (API), including Mission Creek stream habitat, such that it may support native fish use to levels that existed prior to the December 2019 work incident. The project objective will be fulfilled by implementation of the Mission Creek Habitat Restoration and Mitigation Plan (herein called the Creek HRMP; Helix Environmental Planning, Inc. [Helix] 2023).

SWCA Environmental Consultants (SWCA) has prepared this cultural resources technical report for SCE in support of the project. SCE proposes to implement stream habitat restoration and monitoring activities within the Mission Canyon area. Restoration and monitoring activities would be conducted as described in the Creek HRMP (Helix 2023). In addition, the project includes the necessary construction areas and activities required for implementation of the project. The project site is defined as the restoration treatment location and a contingency buffer as defined in the Creek HRMP (Helix 2023). This technical report is prepared in support of the environmental review of the proposed project pursuant to the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] 21000 et seq.).

The following study was conducted to determine if cultural resources are present in the project API, assess the potential for impacts, and present recommendations for avoiding potential impacts to cultural resources resulting from project implementation. The project API is defined as the restoration treatment locations and a contingency buffer, which make up the project site as defined in the Creek HRMP and summarized below (Helix 2023). The total project API comprises 7.24 acres. Although exact depths of disturbance are not yet known, the estimated depth of sidecast material is between 0 and 2.15 feet and it is assumed that the depth of disturbance related to tree planting will not exceed 3 feet below natural grade (Helix 2023:2-17 and 2-18). Thus, the depth of ground disturbance is expected to be a maximum of 3 feet below natural grade throughout the project API, which constitutes the vertical extent of the API.

1.1 Project Description

This section describes the project and identifies goals, strategies, and activities proposed by SCE to restore the resources impacted by the December 2019 work. The project is specifically designed for the full removal of sidecast rock and sediments deposited in regulatory and upland areas, to restore stream hydrology (e.g., pools and riffles) and habitat within the project site to support native fish use to levels that existed prior to the December 2019 work, and to stabilize creek banks and slopes. The project site includes the areas subject to restoration activities, staging areas, existing roads, existing berms, and contingency buffers.

The project will also restore impacted native vegetation habitats and promote the regrowth of chaparral and woodland/forest habitats, rehabilitate sensitive species populations within the project site, and remediate impacted trees within Mission Creek. Pre-project activities include a stream hydrology survey, seed collection, weed abatement, avoidance flagging of sensitive resources, and mobilizing equipment into approved staging and stockpiling locations. Restoration activities will begin with sidecast removal.

Restoration installation will be carried out under the direction of the restoration ecologist and supported by a stream fluvial morphology team (consisting of a stream restoration ecologist, a fluvial morphologist, and a stream hydrologist), as well as botanists, arborists, and wildlife biologists (Helix 2023). Following site preparation, the installation will be completed in the following phases:

1. removal of sidecast from regulatory and upland areas
2. tree remediation through the removal of sidecast material
3. restoration of stream hydrology and function
4. slope stabilization
5. hydroseeding
6. planting
7. cutting collection
8. cutting installation
9. post-planting watering
10. species-specific rehabilitation.

Following restoration installation, the restoration areas will be subject to a maintenance and monitoring program for a minimum of 5 years, contingent upon meeting success criteria. Developed areas are not subject to habitat restoration. Details of the project activities are described in the Creek HRMP (Helix 2023).

1.1.1 *Project Goals*

This section provides an overview of SCE's strategy to restore resources impacted in Mission Creek and associated tributaries, and meet the following goals as stated in the Creek HRMP:

- Full removal of all sidecast material
- Restore stream hydrology (e.g., pools and riffles) and habitat
- Remediate impacted trees within Mission Creek
- Stabilize creek banks and slopes
- Restore impacted woodland/forest and chaparral habitats
- Rehabilitation of sensitive plant species within the project site.

Habitat restoration is intended to consist of three main phases: restoration planning and preparation, installation, and the maintenance and monitoring program. Figure A-a through A-4j in Appendix A show areas subject to revegetation activities described in the Creek HRMP. Figure A-3 shows areas subject to project activities described in the Creek HRMP.

1.1.2 *Technical Implementation Plan*

Prior to sidecast removal in Creek Sites 1--4, the fluvial morphology team will develop a Technical Implementation Plan (TIP) (Helix 2023). The purpose of the TIP is to provide an execution document to guide the process of sidecast removal and the restoration and repair of habitat features within impacted areas of Creek Sites 1--4 (Helix 2023). The TIP will also present protocols to achieve the goals of the Creek HRMP while protecting and restoring the pre-impact natural stream topography, habitat, and function (Helix 2023). As sidecast removal begins, the construction operators will perform sidecast material removal under the direction and supervision of the fluvial morphology team to ensure that only sidecast material is removed (Helix 2023).

1.1.3 *Sidecast Removal*

Collectively, the total refined volume estimates from data collected in November 2020, September 2021, and September 2022 are summarized in Table 1 below. Per the Creek HRMP, the data represent the best approximation, after multiple field visits, individual site inspections, and detailed data collection, of the volumes of sidecast material deposited by SCE's December 2019 work. The total estimated volume of sidecast material (rock, sediment, and debris) deposited within Regional Water Quality Control Board (RWQCB) and California Department of Fish and Wildlife (CDFW) regulatory areas was approximately 1,413 cubic yards, inclusive of the total estimated 135.4 cubic yards of sidecast material within U.S. Army Corps of Engineers (USACE) regulatory areas (Helix 2023). The total estimated volume of sidecast material (rock, sediment, and debris) deposited within upland areas was approximately 1,521.85 cubic yards. Separately, approximately 600 cubic yards were subsequently used to construct roadside berms from the Gate Area through Road Area 9 (Helix 2023). Due to major rainstorm events that impacted the project API in 2023, the total volumes of sidecast material remaining on-site at the time of construction will likely be less than the estimated volumes included in Table 1.

Table 1. Sidecast Rock, Boulders, and Sediments within Mission Canyon

Site	Surface Area (square feet)	Total Sidecast Volume (cubic yards)	Volume within USACE Jurisdiction (cubic yards)	Volume within RWQCB/CDFW Jurisdiction (cubic yards)
Sidecast	108,230.65	2,331.80	135.40	1,413.00
Berms	0.00	600	0.00	0.00
Total	**108,230.65**	**2,931.80**	**135.40**	**1,413.00**

CONTINGENCY BUFFERS

Contingency buffers are areas where impacts may extend outside of the limits of the main sidecast areas. Contingency buffers have been included around the following portions of the project API:

- Road Area 1
- Sidecast 3 Rock Outliers
- Road Area 2
- Creek Sites 1--4

Contingency buffers were included in the archaeological resources survey areas. Expected impacts to cultural resources within these areas were assessed and will be fully avoided, minimized, or fully

mitigated by implementation of the project Applicant Proposed Measures (APMs). Contingency buffer areas are shown in Table 2.

The contingency buffers identified for each sidecast removal area are shown in Table 2. In accordance with the Creek HRMP, disturbances within the contingency buffer will be minimized, and sensitive resources will be flagged for avoidance. Following project activities, disturbance within the contingency buffer will be mapped and restored in accordance with the Creek HRMP (Helix 2023).

Table 2. Project Areas within RWQCB, CDFW, and USACE Jurisdiction

Project Area	RWQCB/CDFW (acres)	USACE (acres)
Road Area 1—Project Area	0.39	0.00
Road Area 1—Contingency	0.14	0.01
Sidecast 3 Rock Outliers Contingency	0.08	0.00
Road Area 2—Project Area	0.09	0.00
Road Area 2—Contingency	0.06	0.00
Mission Creek—Project Area (Creek Sites 1–4)	0.44	0.042
Mission Creek—Contingency (Creek Sites 1–4)	0.06	0.03
Mission Creek Site 7	0.00	0.00
Road Areas 5–9—Project Area	0.01	0.00
Total Project Area	*1.01*	*0.05*
Total Contingency	*0.27*	*0.04*
Total	**1.28**	0.09

Please note: Acres are shown as rounded to the nearest hundredth decimal place, yet totals reflect sums of the unrounded numbers.

SIDECAST REMOVAL METHODS

Per the Creek HRMP, SCE's sidecast removal methodologies were finalized through a comparative scoping analysis performed by SCE's project team in August 2022 (Helix 2023). Through this iterative process, four methods to extract sidecast materials deposited during the December 2019 work were selected to achieve maximum extraction of sidecast material without causing harm to sensitive environmental resources, while maintaining a safe working environment and protecting public safety long term (Helix 2023).

According to the Creek HRMP, the primary method identified for sidecast removal is the combination of manual or hand removal, and removal using vacuum or guzzler trucks (hand and guzzler removal technique) (Helix 2023). The hand and guzzler removal technique will be used in conjunction with machinery staged on the road to facilitate the removal of the larger rock (Helix 2023). Two additional sidecast removal methods were also described in the Creek HRMP—hand rock removal, and helicopter removal. Figure A-5 depicts the areas where specific sidecast removal methods are proposed. Table 3 summarizes sidecast removal methods by project site.

Table 3. Sidecast Removal Method by Project Site

Project Site	Sidecast Removal Method
Roadside Sidecast Areas 1–2, 4–16	Excavator with Hand and Guzzler
Sidecast 3	Helicopter Removal
Creek Sites 1–4, Road Areas 1–2	Forklift with Hand and Guzzler
Creek Site 7, Roadside Sidecast Areas 17–19	Hand Rock Removal

Hand and Guzzler Removal

Per the Creek HRMP, hand and guzzler removal is performed through manual removal by technicians in combination with vacuum or guzzler trucks and a small excavator and transported to an approved staging location. The construction contractor will use guzzler trucks (large vacuum trucks) staged from the existing access road/trail adjacent to work areas to remove fine materials and rock approximately 3 inches in diameter or smaller (Helix 2023). Manual manipulation of the hose will remove materials within the reach extent of the hose (Helix 2023).

Rocks greater than 3 inches in diameter would be carried out by hand or loaded into rock sacks and removed using the excavator (Helix 2023). Large rocks and boulders, greater than 24 inches in diameter, may be broken up into manageable pieces using sledgehammers, pickaxes, expansive rock-breaking agent (e.g., expanding grout), or jackhammers and lifted by the excavator (Helix 2023). The excavator may also be used to lift rocks bolted to a chain with shackles and position them onto the road for staging (Helix 2023). All material will be transferred to an approved stockpile location where soils will be stockpiled and managed for load out into small-scale "bobtail" dump trucks, hauled off following a designated route, and disposed of at a local landfill (Helix 2023).

Hand Rock Removal

Per the Creek HRMP, hand rock removal is performed by technicians, using high-incline rigging for fall protection, who will manually remove the sidecast rock and transfer it up the slope by hand (Helix 2023). Large rocks will be broken into smaller manageable pieces using hand tools before removal (Helix 2023). Smaller rocks or rock fragments may be transferred into rock sacks for easier removal and carried out using frame packs and manual means (Helix 2023). Rocks will be staged on the side of the roadway, where they will be collected using a small loader or comparable equipment and transported to an approved staging area where the material can be hauled away for disposal (Helix 2023).

Helicopter Removal

As described in the Creek HRMP, this method includes the use of a helicopter, such as a light-utility Bell 429, with a lift capacity of 1,500 to 2,000 pounds, fitted with enclosed steel baskets. The steel baskets can be covered with a safety net and lined to secure the rocks. Alternatively, the rocks can be placed into load bags and then loaded into the steel baskets (Helix 2023). Rocks will be transferred into rock sacks by ground crews and staged for the aerial operation to minimize flight time (Helix 2023). The helicopter will hover approximately 100 to 150 feet in the air while ground crews fill the basket with rock sacks (Helix 2023). Once the basket is full, the pilot will relocate the material to an approved staging location within the project API (Helix 2023). A landing zone and refueling location, such as the Santa Barbara Airport, must be located within 10 to 15 minutes of flight time from the project API (Helix 2023).

SCE anticipates the full removal of all sidecast material remaining in the project API, potentially excepting only minor areas where constraints to full removal may exist (Helix 2023).

SIDECAST REMOVAL IN UPLAND AREAS

Roadside Sidecast Areas 1–2 and 4–6: Excavator with Hand and Guzzler Removal

As described in the Creek HRMP, sidecast deposits, occurring along Road Area Gate and up to Road Area 3 (except for Sidecast Area [SC]-03), consist of thin layers of finer soil material intermixed with rocks and scattered boulders accumulated along the base of vegetation. These materials will be removed manually by technicians in combination with vacuum or guzzler trucks and a small excavator (Helix 2023). This method will be performed on 0.421 acre of sidecast deposits in SC 01 and SC 02, and SC 04 through SC 06 and is expected to result in the full removal of the sidecast material at these locations (Helix 2023). All removed sidecast material will be taken to an approved staging location.

SIDECAST REMOVAL FROM STREAM

Sidecast 03: Helicopter Removal

Large boulders and smaller rock and soil material are positioned in SC 03. This is located within Road Area 1 and covers 0.257 acre, approximately 300 feet from the roadside with no footpath or road access (Helix 2023). Due to these limitations, SCE proposes to remove the material using the helicopter removal method to relocate the material to an approved staging area (Helix 2023).

Creek Sites 1–4 and Road Areas 1 and 2: Forklift with Hand and Guzzler

As described in the Creek HRMP, the majority of sidecast deposits within Mission Creek, and in tributaries located at Creek Sites 1–4 and Road Areas 1 and 2, and totaling 0.935 acre, consist of a mixture of small and moderately sized rocks with finer soil material and scattered boulders. These materials will be removed using the hand and guzzler removal method and in combination with a long-reach forklift to extract material (Helix 2023). For large materials, technicians will manually break rocks and boulders into manageable pieces using sledgehammers, pickaxes, or, where necessary, drill and inject an expansive rock-breaking agent (e.g., expandable grout) to allow them to break into smaller pieces overnight (Helix 2023). Per the Creek HRMP, rocks will then be manually loaded into baskets and lifted by a 12k reach forklift with a 24-foot length and 38-foot reach. The forklift would be positioned at designated staging areas or along existing access roads to transport sidecast materials to an approved staging location prior to disposal. This method is expected to result in the full removal of the sidecast material at these locations; however, SCE noted potential constraints to the slopes within Creek Sites 2–4 (Helix 2023).

Creek Site 7, Roadside Sidecast 17–19: Hand Rock Removal

Per the Creek HRMP, sidecast deposits at Creek Site 7 and Roadside Sidecast Areas 17–19 are located on Trail Road Area 2 and consist of scattered rocks intermixed with existing vegetation. These sites are only accessible by foot; however, the low volume and manageable size of the rocks allow for manual removal using the Jesusita Trail to access the sidecast areas (Helix 2023). The hand removal method was selected as the least impactful to resources and is expected to be used to remove all sidecast material at these locations (Helix 2023).

Roadside Sidecast Areas 7–16: Excavator with Hand and Guzzler Removal

As described in the Creek HRMP, sidecast deposits, occurring along roadside slopes of Road Areas 5–9, consist of boulders and rocks intermixed with the roadside berms and deposits immediately downslope

of the roadside. These materials will be removed manually by technicians in combination with vacuum or guzzler trucks and a small excavator (Helix 2023). This method is expected for the full removal of the sidecast material at these locations, except in areas where sidecast was not deposited down slopes and, therefore, no removal is necessary. In such areas, berms will be adjusted to align with the specifications approved by Santa Barbara County and tamped down and stabilized.

Stabilize Stream Banks and Slopes

Per the Creek HRMP, if it is determined that the creek banks have been collapsed and/or scoured by the sidecast deposits, in addition to recontouring, it may be necessary to provide additional bank stabilization by hand-placing cobbles and boulders to secure the soil in place and prevent future occurrences of erosion. Bank stabilization features would be designed and submitted to CDFW for approval, consistent with the adaptive management process, and incorporated into the Monitoring and Reporting Program described in Section 8 of the Creek HRMP (Helix 2023).

1.1.4 *Habitat Restoration*

NATIVE TREE RESTORATION/MITIGATION

The project proposes to address native tree restoration/mitigation by: 1) completing remedial treatments to 30 impacted trees within Mission Creek, 2) planting trees within Mission Creek and Road Areas 1 and 2, and 3) planting acorns in upland habitat areas. Remedial treatments to impacted trees are necessary to prevent further damage and stimulate recovery. These remedial treatments include the removal of rocks/soil from the base of the tree, pruning, and cutting or trimming roots (Table 4; see Figures A-4a through A-4j). These activities are described in detail in Section 6.1 of the Creek HRMP. Native tree remediation within the upland areas was completed in 2020 as a component of the Road Repair Project.

In addition to completing remedial treatments, the project will mitigate for impacted trees by planting a total of 90 trees or acorns. This planting quantity will achieve a mitigation ratio of 5:1 for impacts to trees whose impacts are considered "major" and a ratio of 1:1 for trees whose impacts are considered "moderate" as defined in Section 2.4 of the Creek HRMP. Within CDFW regulatory areas, the project will plant 49 of the 90 trees or acorns to offset previous impacts to trees within CDFW regulatory areas (Table 4). As a continuation of native tree restoration/mitigation in upland areas outside CDFW regulation, the project will plant the remaining 41 acorns or trees within transitional woodland areas. Planting will be completed as a component of the native vegetation restoration described below. The number of trees planted as saplings or acorns may be adjusted based on the availability of materials; however, mitigation quantities will be retained.

Overplanting may be implemented to ensure mitigation quantities are achieved. Planted trees and acorns will be subject to 5-year success criteria, as described in Section 8 of the Creek HRMP (Helix 2023). No trees will be removed as part of the project.

Table 4. Summary of Recommended Remediation for Trees within CDFW Regulatory Areas of Mission Creek

Tree Species	Trees with Recommended Remedial Actions	Leave as Snag	Remove Rocks/Soil	Prune	Trim/Cover Roots
Coast live oak (*Quercus agrifolia*)	18	0	14	8	0

Tree Species	Trees with Recommended Remedial Actions	Leave as Snag	Remove Rocks/Soil	Prune	Trim/Cover Roots
Bay laurel (*Laurus nobilis*)	14	2	13	3	1
Western sycamore (*Platanus racemose*)	7	0	7	2	0
Total	**39**	**2**	**34**	**13**	**1**

NATIVE VEGETATION RESTORATION

Temporary impacts to native vegetation will be restored in both woodland/forest and upland chaparral habitats along Mission Creek. Coast live oak woodland and California bay forest habitats are the dominant habitats within Mission Creek and Road Areas 1 and 2, while upland habitats are dominated by ceanothus chaparral and associated native plant communities. These areas will be restored through the application of a native seed mix, planting of shrubs, trees, and cuttings as described in Section 6 of the Creek HRMP (see Figures A-4a through A-4j). Restoration of woodland and forest habitats will focus on controlling erosion and restoration of forest canopy structure. Overall, non-native species cover within the woodland and forest habitats is low; however, efforts to control non-native species will be a component of the maintenance program in these habitats. Creek Site 7 also supports woodland habitat; however, due to the steep and unstable slopes, efforts will focus on the application of seed mix and erosion control. Approximately 1.06 acres of woodland and forest habitats will be restored as part of the project
(Table 5).

Upland chaparral habitats within the project API are largely dominated by various species of ceanothus, with the presence of occasional oak trees as the canyon transitions to woodland habitats. Upland habitats occur along Spyglass Road and will be restored through the application of a native seed mix, select use of container plantings, and planting of acorns in transitional woodland areas. Native vegetation restoration of the upland chaparral habitats will focus on erosion control and non-native species control during the maintenance period, specifically targeting mustards and other non-native perennial species. Species diversity and shrub canopy are expected to naturally recover with effective control of non-native species and erosion to minimize soil disturbance; however, this will be evaluated and addressed as part of Adaptive Management (see Section 8 of the Creek HRMP) if recovery is not observed. Approximately 1.45 acres of upland habitats will be restored as part of the project (see Table 5).

Table 5. Proposed Project Revegetation by Vegetation Community

Vegetation Community	Acres*
Big Pod Ceanothus (*Ceanothus megacarpus*) Chaparral Alliance	0.83
Big Pod Ceanothus Chaparral Alliance, *Ceanothus megacarpus–Salvia mellifera* Association†	0.08
California Bay Forest and Woodland Alliance†	0.08
Coast Live Oak Woodland Alliance, *Quercus agrifolia–Umbellularia* californica Association†	0.63
Coast Live Oak Woodland and Forest Alliance	0.35
Hairy Leaf–Woolly Leaf Ceanothus Chaparral Alliance, *Ceanothus oliganthus* Association†	0.02
Holly leaf cherry – toyon – greenbark ceanothus chaparral Alliance, *Ceanothus spinosus Association*	0.02

Vegetation Community	Acres*
Holly Leaf Cherry–Toyon–Greenbark Ceanothus Chaparral Alliance, *Ceanothus spinosus–Ceanothus megacarpus* Association	0.47
Developed/disturbed	0.0
Subtotal for Woodland and Forest Habitats	1.06
Subtotal for Upland (Chaparral) Habitats (excludes developed/disturbed)	1.42
Total	**2.48**

* Contingency buffers totaling 0.35 acre (see Figures A-4a through A-4j) are included in these totals and may be reseeded if disturbances to vegetation occurs during sidecast removal.

† Denotes a state sensitive natural community.

Woodland and upland revegetation activities are designed to meet the project goal of restoring impacts to native vegetation (see Figures A-4a through A-4j). Sensitive plants and native trees will be monitored for recovery as a component of the monitoring program for the respective habitats, as described in Section 8.1.5 and 8.1.6 of the Creek HRMP (Helix 2023). Restored areas will be evaluated annually and compared to unimpacted native habitats in adjacent areas. Implementation, materials, maintenance, monitoring, and reporting are described in the Creek HRMP (Helix 2023).

SENSITIVE SPECIES REHABILITATION

The project would restore sensitive plants presumed to be directly impacted as a result of the December 2019 work. These sensitive species include Santa Barbara honeysuckle, Plummer's baccharis (*Baccharis plummerae*), and Hubby's phacelia (*Phacelia hubbyi*). Seeds and cuttings from unimpacted sensitive plants will be collected as described in Section 4.8 of the Creek HRMP (Helix 2023) and seeded/planted in plots within suitable habitat integrated into the project API (see Section 6.8 of the Creek HRMP). Plots will be monitored and maintained and subject to a 5-year success criterion, as described in Section 8 of the Creek HRMP (Helix 2023).

One oscillated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*) was identified outside of the project API. There is no evidence of direct impacts to Humboldt lily, nor has habitat for the species within the project API been confirmed. However, annual presence/absence surveys will be conducted as described in Section 8.1.5 of the Creek HRMP (Helix 2023).

1.1.5 *Staging and Storage Areas*

Approximately 0.99 acre of developed/disturbed areas have been identified for use as staging, parking, and material storage adjacent to the project site. These areas are largely limited to compacted roadside and shoulders. However, if native vegetation was removed to support the road repair project (completed November 2020) or to support the project, these areas will be restored in accordance with the Creek HRMP (Helix 2023) and subject to ongoing monitoring and maintenance (see Figures A-4a through A-4j). Five of these staging areas, also previously used for the road repair project, will be restored to native habitats following project construction, as well as an additional area located at the south end of the intersection of Tunnel Trail Road and Mission Canyon Catway within Road Area 5 between SC 7 and SC 8 previously disturbed by an unknown party (non-SCE related), will also be restored to native habitats following project construction.

1.1.6 *Schedule*

In accordance with the Creek HRMP, it is anticipated that work may begin as early as summer 2023 (Helix 2023). As project work occurs within the creek and associated banks, it is essential that all removal, and associated revegetation and stabilization activities, occur under dry conditions to ensure work can be completed safely. Cutting installation and hydroseeding will be implemented prior to the rainfall season. If project activities are completed in a season not suitable for planting and seeding (i.e., summer), installation of these components would be postponed until an appropriate season as determined by the restoration ecologist. It is not anticipated that a hydromulch or tackifier will be needed prior to hydroseeding for stabilization, except possibly in the upland sidecast areas. Work may be paused and resumed in the following year if needed to avoid working during surface flows in Mission Creek.

1.2 Existing Conditions

1.2.1 *Environmental Setting*

The project is located within the Wester Transverse Range Lower Montane Shrub and Woodland subregion of the Southern California Mountains Ecoregion which has Mediterranean climate of hot dry summers and moist cool winters with vegetation such as chaparral and oak woodlands predominate. The climate has more marine influence than Southern California Mountain regions farther inland. Due to higher elevations (1,000–6,000 feet) compared to surrounding ecoregions, summers are slightly cooler, and precipitation is greater. These changes result in denser vegetation and some large areas of coniferous woodlands. Due to slope affect, south-facing slopes of the Transverse range receives more precipitation (30–40 inches) than the northern slope (15–20 inches), but high evaporation rates on the southern side contribute to a cover of chaparral. On the northern side of parts of the ecoregion, lower evaporation, lower annual temperatures, and slow snowmelt allows for a coniferous forest that blends into desert montane habitats. Some coastal sage scrub occurs at low elevations. The Western Transverse Range Lower Montane Shrub and Woodland ecoregion provides a transition from the Coast Ranges to the west to the rest of the Transverse Range. The geology of the subregion is primarily Tertiary and Cretaceous marine sedimentary rock (Griffith et al. 2016).

1.2.2 *Cultural Context*

The background prehistory and history, and cultural context of the region encompassing the project is described in detail in the SWCA report *Cultural Context for the Mission Canyon Work Area, Santa Barbara County, California* (Ainis and Mujica 2020). The report includes an overview of prehistoric patterns and traditions extending from the earliest record of human presence in the region to the time of European contact, and the subsequent acute disruption of Indigenous lifeways. It also contains ethnographic accounts and descriptions of Chumash lifeways as noted during the historic era that must necessarily be taken as only partial accounts of their traditional culture and lifeways; Chumash lifeways likely involved a wealth of traditions and practices beyond those recorded by the relatively few ethnographers and Native informants at the time. Additionally, the history of the Santa Barbara area following European contact is summarized by period, followed by a more detailed account of the history of water systems in the region, and water tunnels specifically. The report is included here in Appendix B.

1.2.3 *Records Search Results*

PREVIOUS STUDIES

Results of the records search indicate that 15 previous cultural resource investigations have been conducted within a 0.5-mile (0.8-kilometer [km]) radius of the project API. Of these studies, eight investigations include a portion of the current project API. Details pertaining to these investigations are listed in Table 6 and depicted in Figure A-6 and Figure A-7.

Table 6. Previous Cultural Resources Studies within 0.5 Mile of the Project API

Report No.	Author / Company	Year	Study Title	Relationship to Project API
SR-00407	Craig, S. / Human Environment Research Corporation	1981	Technical Report: Phase I Archaeological and Historical Study of a Proposed Pipeline from the South Portal of Mission Tunnel to Laurel Reservoir	Within
SR-00705	Wilcoxon, I., Haley, B., and Harmon, J. / Larry R. Wilcoxon Archaeological Consultants	1985	Final Report: Phase 1 Prehistoric Archaeological Resource Evaluation for the City of Santa Barbara's Water and Sewer Main Replacement Projects	Within
SR-01041	Rudolph, J. / Science Applications International Corporation	1990	Letter Report: Phase 1 Cultural Resource Survey of Proposed Drill Sites 1B and 2, Mission Canyon	Within
SR-01055	Rudolph, J. / Science Applications International Corporation	1990	Letter Report: Phase 1 Archaeological Survey of Proposed Drill Site Number 3, Mission Canyon	Within
SR-01703	Eisentraut, P. / Dames & Moore	1994	Request for Consultation: Mission Tunnel Rehabilitation Los Padres National Forest HRR# 0507-54-94:84	Within
SR-01783	Dahl, D. / Los Padres National Forest	1995	Archaeological Reconnaissance Report: Santa Barbara Front Country Trails: Maintenance and Continuing Use: Cold Springs Trail, Tunnel Trail, Jesusita Trail, Rattlesnake Trail	Within
SR-02667	Santa Barbara County Flood Control and Water Conservation District	2001	Draft Program Environmental Impact Report: Updated Routine Maintenance Program	Within
SR-04442	Schmidt, J. J. / Compass Rose Archaeological, Inc.	2009	Jesusita Fire: Emergency Fire Damaged Pole Replacement Monitoring Program, City of Santa Barbara, Santa Barbara County, California	Within
SR-00471	Macko, M., Wilcoxon, L., Johnson, J., Gray, R., and Blakley, E. R. / Applied Conservation Technology, Inc.	1985	Final Technical Synthesis Report, Cultural Resource Survey Results Proposed Mission Creek and Vicinity Flood Control Study Request No. DACW09-85-Q-0011	Outside
SR-01048	Rudolph, J. / Science Applications International Corporation	1990	Letter Report: Phase 1 Archaeological Survey of Proposed Drill Site Number 4, Mission Canyon	Outside

Report No.	Author / Company	Year	Study Title	Relationship to Project API
SR-01779	Stellmacher, A. / Los Padres National Forest	1995	Archaeological Reconnaissance Report: Jesusita Trail (27W17) Los Padres National Forest, Santa Barbara Ranger District, Santa Barbara County	Outside
SR-01931	Anderson, K. / Unknown	1995	Archaeological Reconnaissance Report: Maintenance and Continuing Use: Rattlesnake Trail	Outside
SR-04171	Smith, S. / Enterprise TEAMS	2006	Heritage Reconnaissance Report: Los Padres National Forest: ESDT 05: Jesusita #27W17 Trail, HRR. No. 0507-54:893, R200505050701987	Outside
SR-04713	Hunt, K., and Dietler, J. / SWCA Environmental Consultants	2011	Archaeological Report Grid Reliability Maintenance Program Rule 16–UG Service–1697 San Roque Road (IO#316647, TD508744), Santa Barbara County, California	Outside
SR-05512	Unknown	2000	Mission Santa Barbara, California National Historic Landmark Nomination	Outside

PREVIOUSLY RECORDED SITES

The records search also identified 15 previously recorded cultural resources mapped within 0.5 mile of the API. Of these, three resources intersect with the current project API and are described below. The results of the records search are summarized in Table 7.

Table 7. Previously Recorded Cultural Resources within 0.5 Mile of the Project API

Primary No.	Trinomial	Temporal Affiliation	Resource Type	Resource Description	Recorded By and Year Recorded	Relationship to Project API
P-42-001712	CA-SBA-1712H	Historic	Site	Remains of the Mission Tunnel water system	Craig, S., 1981	Within
P-42-002683	CA-SBA-2683	Historic	Site	Mission Tunnel	Eisentraut, P., 1994	Within*
P-42-002722	CA-SBA-2722H	Historic	Site	Tunnel Caretakers' Home Site	Anderson, K., and P. Zavalla, 1992	Within
P-42-002764	CA-SBA-2764	Historic	Site	Tunnel Trail	Miliken, R., 1995	Outside
P-42-001713	CA-SBA-1713	Historic	Site	Homestead and ranch	Craig, S., 1981	Outside
P-42-001852	CA-SBA-1852	Historic	Site	Main Mission Aqueduct	Wilcoxon, L., and J. Hudson, 1984	Outside
P-42-001911	CA-SBA-1911H	Historic	Site	Inscription carved on a sandstone cliff face	Blakley, E., 1985	Outside
P-42-001950	CA-SBA-1950	Prehistoric	Site	Petroglyph of elongated, bi-pointed shape	Macko, M., and N. Rhodes, 1985	Outside

Primary No.	Trinomial	Temporal Affiliation	Resource Type	Resource Description	Recorded By and Year Recorded	Relationship to Project API
P-42-001953	CA-SBA-1953	Historic	Site	Bronze plaque dedicated to Major General William Lassiter	Blakley, E., 1985	Outside
P-42-001959	CA-SBA-1959	Historic	Site	Quarry	Macko, M., and N. Rhodes, 1985	Outside
P-42-001960	CA-SBA-1960	Prehistoric	Site	Rock shelter, bedrock milling, and petroglyph	Macko, M., and N. Rhodes, 1985	Outside
P-42-001963	CA-SBA-1963	Historic	Site	Dam for Mission Creek water supply	Macko, M., and N. Rhodes, 1985	Outside
P-42-002070	CA-SBA-2070	Historic	Site	Portions of the Mission Water Company diversion facilities	Blakley, E., 1985	Outside
N/A	N/A	Unknown	Unknown	Unknown	Unknown	Outside
P-42-038337	CA-SBA-337	Unknown	Isolate	Sandstone boulder with an engraved cross	Wilcoxon, L.R., 1987	Outside

Note: N/A = not available.

*This resource does not intersect the API; it is subterranean and located several feet below the vertical extent of ground disturbance for the project. In other words, although the resource is mapped within the API, it is several feet below the vertical limits of disturbance and therefore will not be impacted by the project.

Mission Tunnel Water System Features (P-42-001712)

This resource was initially recorded in 1981 by S. Craig as "architectural features, remnants of a dam, and remnants of an early water system which may have been developed to service early homesteads in the upper Mission Canyon," with the site features listed as "dam remnants, early water system remnants, stone/cement bridge" (Craig 1981a, 1981b). The site record was updated in 1990 by J. Rudolph and R. Sheets with Scientific Applications International Corporation (Rudolph and Sheets 1990). Their expanded description named the resource the "South Portal of Mission Tunnel and associated features" and included a description of a new feature consisting of a small sandstone retaining wall "possible [sic] associated with the construction of Mission Tunnel (1913)." The wall was measured at 4 meters (m) across and 0.5 to 1.7 m high and 30 centimeters (cm) thick. The top of the wall was flush with the ground surface and the structure was described as, "clearly not a dam" (Rudolph and Sheets 1990). Although Craig called the overall site "a significant cultural feature," it was not formally evaluated for the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP) at the time.

Mission Tunnel (P-42-002683)

The Mission Tunnel was constructed between 1904 and 1912 to convey water from the then newly proposed Gibraltar Reservoir on the Santa Ynez River through the Santa Ynez Mountains to the City of Santa Barbara. It is a linear resource that was first recorded in 1994 by P. Eisentraut, who described it as measuring approximately 3.7 miles long with variable cross-sections ranging from about 3 to 6 feet in width and about 4 to 7 feet in height. Approximately 56 percent (11,000 feet) of the tunnel has a concrete lining, which Eisentraut notes was completed where the miners' encountered problems during construction, such as unstable rock, inflow of water or natural gas (Eisentraut 1994). The remaining 44 percent (8,600 feet) is unlined and unsupported, those portions of which display the most variability in cross-section size—widths vary up to 15 feet. At the time of 1994 recording, it was observed to be in good condition and was noted as being "significant for its role in the development of water resources and

the growth of the City of Santa Barbara in the early 1900s" and for "its association with Joseph B. Lippincott, a past head of the hydrological branch of the U.S. Geological Survey" (Eisentraut 1994:3). No formal evaluation for NRHP or CRHR eligibility appears to have been completed, nor was the resource's significance assessed for the current study because the project design avoids the tunnel.

Tunnel Caretakers' Home Site (SBA-2722H)

The Tunnel Caretakers' Home Site (P-42-002722/CA-SBA-2722H, hereafter SBA-2722H) was once the location of the residence used by various caretakers of the Mission Tunnel (P-42-002683) and is located at the tunnel's southern opening, known as the south portal, which is referenced variously in public records between 1918 and 1951. The site was originally recorded in 1992 by Karen Anderson and Pete Zavalla of the Santa Barbara Ranger District (Anderson and Zavalla 1992), who designated two discontiguous areas: Components 1 and 2. Component 1 was described as a large low-density scatter of historic glass, ceramics, and rusted metal. Component 2 was described as including the remains of the foundation of the caretakers' home, the remains of decorative garden walls, and a sparse historic-era refuse scatter. [redacted] One abalone shell button was also observed and collected from the site and stored at the Los Padres National Forest Archive. The site was not previously evaluated for the NRHP or CRHR. The site was updated and evaluated for CRHR listing as part of the current study.

2 REGULATORY FRAMEWORK

2.1 State Regulations

2.1.1 *California Environmental Quality Act*

Pursuant to CEQA, a *historical resource* is a resource listed in, or eligible for listing in, the CRHR. In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historical resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a lead agency, as defined by CEQA, from determining that the resource may be a historical resource as defined in PRC Section 5024.1.

CEQA applies to archaeological resources when 1) the archaeological resource satisfies the definition of a historical resource or 2) the archaeological resource satisfies the definition of a "unique archaeological resource." A *unique archaeological resource* is an archaeological artifact, object, or site that has a high probability of meeting any of three specified criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource would be significantly impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, a local register of historic resources pursuant to PRC Section 5020.1(k), or historic resources survey meeting the requirements of PRC Section 5024.1(g). CEQA also explicitly states that damage to archaeological sites that meet the definition of a historical resource or unique archaeological resource must be considered. In general, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties and associated guidelines shall be considered as mitigated to below the level of significance.

While a significance threshold for impacts to human remains is not explicitly stated in CEQA, Appendix G of the CEQA Guidelines indicates that any disturbance of human remains could potentially be considered an impact to cultural resources, particularly with respect to Native American graves and burials.

2.1.2 *California Register of Historical Resources*

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

> Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
>
> Criterion 2: It is associated with the lives of persons important in our past.
>
> Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
>
> Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

2.1.3 *California State Assembly Bill 52*

Assembly Bill 52 of 2014 (AB 52) amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

CONSULTATION WITH NATIVE AMERICANS

AB 52 formalizes the lead agency–tribal consultation process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with the project, including tribes that may not be federally recognized. Lead agencies are required to begin consultation prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

TRIBAL CULTURAL RESOURCES

Section 4 of AB 52 adds Sections 21074 (a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074 (a) defines tribal cultural resources as one of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    A. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
    B. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1 (a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2[a]). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3[a]).

2.1.4 *Inadvertent Discovery of Human Remains*

In accordance with California Health and Safety Code 7050.5, the disposition of burials falls first under the general prohibition on disturbing or removing human remains. Remains suspected to be Native American are specifically treated under CEQA at California Code of Regulations (CCR) Section 15064.5. PRC 5097.98 outlines the process to be followed if human remains are encountered during construction. The discovery is to be kept confidential and secure to prevent any further disturbance. If human remains are identified during excavation activities, work will immediately stop in the vicinity of the discovery and the County Coroner will be contacted at:

66A South San Antonio Road 1104

Santa Barbara, California 93110
(805) 681-4145 (8 a.m. to 4 p.m. Monday through Friday) or
(805) 683-2724 (Non-Emergency 24/7 Dispatch)

If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will designate and notify the Most Likely Descendant (MLD) of the deceased Native American. The MLD has 48 hours to make recommendations to the landowner or their representative for the respectful treatment and disposition of the human remains and any associated grave goods. If the landowner does not accept the MLD's recommendations, the landowner or the MLD may request mediation by the NAHC.

3 METHODS

Between 2020 and 2022, SWCA conducted cultural resource studies within the API on behalf of SCE for maintenance operation and emergency repairs (Table 8). That maintenance and repair work focused on road grading and widening to reduce the risk of rock fall and to maintain infrastructure access on and along three trails and trail systems (the Mission Creek trails, the Mission Canyon trails, and the Jesusita Trail) that are situated adjacent to Mission Creek in Mission Canyon, Santa Barbara County, California (see Figure A-1 and Figure A-2). This report describes the methods and results of the cultural resources studies conducted during the maintenance operation and emergency repairs that are relevant to the current project, as well as additional cultural resources survey and assessment for any areas within the API that have not been previously studied (see Table 8).

Table 8. Cultural Resources Reports Submitted by SWCA Environmental Consultants between 2020 and 2022

Report Author(s)	Report Title	Fieldwork Dates	Submittal Date	Project site Covered
Tomberlin, J.	Mission Canyon Trail Bridge Significance Evaluation, Santa Barbara County, California	Architectural History Survey: January 11 and 28 Archaeology Survey: March 27, 2020	July 2020	Architectural history surveys and photographic recordation conducted on January 11 and 28, and March 27, 2020. Newly identified architectural features of previously recorded resource P-42-001712 (Mission Tunnel Water System Features). DPR update attached with the report. Evaluation performed to determine whether the Mission Canyon Trail Bridge meets the eligibility criteria for the NRHP and CRHR, and as a result recommended not eligible.
Tomberlin, Joseph E., and J. Peabody	Cultural Resources Survey of the Goleta-Santa Barbara Access Road Maintenance Areas, Santa Barbara County, California	Archaeology Survey: May 4, 2020	July 2020	Covers the fieldwork conducted on May 4, 2020. Areas survey included Road Areas 10–16 along the Goleta Santa Barbara Access Road.

Report Author(s)	Report Title	Fieldwork Dates	Submittal Date	Project site Covered
Tomberlin, J., and A. Newcomb	Cultural Resources Documentation and Impact Assessment of the Mission Canyon Work Area, Santa Barbara County, California	Architectural History Survey: January 11, 28, and 30, 2020 Archaeology Survey: January 11, 2020 and June 12, 2020	July 2020	Surveys conducted on January 11, 28, and 30, and June 12, 2020. Areas surveyed include Road Areas 1–9, Jesusita Trail Areas 1–2 (SCE Trail Road Areas 1 and 2), and the adjacent drainage area.
Ainis, A., and M. Mujica	Cultural Context for the Mission Canyon Work Area, Santa Barbara County, California	NA	August 2020	Covers the cultural context, and the prehistory and history addressed in previously submitted cultural resources technical reports. No additional fieldwork conducted for this report.
Tomberlin, J.	Cultural Resources Report for the Mission Canyon Stream Restoration Project, Santa Barbara County, California	Architectural History Survey: January 11 and 28 2020 Archaeology Survey: January 11, 2020, and June 12, 2020	December 2020	Covers fieldwork conducted in 2020 within or adjacent to the project previously summarized in July 2020 reports.
Peabody, J.	Testing Plan for Site CA-SBA-2722H: Mission Creek Habitat Restoration Project, Santa Barbara County, California	NA	March 2022	SBA-2722H consists of rock features and an artifact scatter associated with former caretakers of the Mission Tunnel during the early to middle twentieth century.
Millington, C. and D. Sayre	Phase 2 Testing Results for Site CA-SBA-2722H, Mission Creek Habitat Restoration Project, Santa Barbara County, California	Archaeology Survey: March 29, 2021; October 22, 2021 Initial Surface evaluation: March 11 and 12, 2022 Significance Evaluations: April 25 – 29, 2022	March 2023	SBA-2722H consists of rock features and an artifact scatter associated with former caretakers of the Mission Tunnel during the early to middle twentieth century.

The cultural resources studies conducted by SWCA between 2020 and 2022 covered 100 percent of the project API and included a records search of the project site and a surrounding 0.5-mile radius, pedestrian field inventory and documentation of cultural resources, and a post-activity assessment for cultural resources within the project site. The records search conducted in 2020 identified three previously recorded resources of historic age that are mapped within the current API: Mission Tunnel Water System Features (P-42-001712), Mission Tunnel (P-42-002683), and Tunnel Caretakers' Home Site (P-42-002722/CA-SBA-2722H, hereafter SBA-2722H). All of the previously recorded resources were relocated in the field. One of the previously recorded resources, Mission Tunnel (P-42-002683), is a subterranean structure of historic age and, passes beneath the project API. No resource components were observed within the API during the pedestrian survey. One historic-era structural resource component, the Mission Canyon Trail Bridge, was identified within the site boundary of Mission Tunnel Water System Features (P-42-001712). SWCA prepared a separate significance evaluation report (Tomberlin 2020a) for the Mission Canyon Trail Bridge, with the recommendation that it is not eligible for the CRHR.

3.1 Phase 1 Survey Methods

SWCA archaeologists and architectural historians conducted 7 days of intensive pedestrian survey within the API in January and June of 2020, in support of previous SCE activities within the API and project vicinity, including a total of 29.8 acres. In March 2021, an SWCA archaeologist intensively surveyed a partially paved area to be used for staging construction materials and equipment for SCE's maintenance activities in the project API, totaling 0.3 acre. In October 2021, an SWCA archaeologist conducted an intensive survey of an area within the Mission Creek ephemeral streambed between steep slopes, totaling 0.75 acre. As a result of the October 2021 fieldwork, 100 percent of the project API has been subject to archaeological pedestrian survey. The findings of this survey fieldwork were presented in five technical reports and one California Department of Parks and Recreation (DPR) site update form.

The SWCA archaeologist conducted intensive pedestrian survey at 15-m transects or less of all accessible areas of the proposed project and a reconnaissance-level survey was conducted of inaccessible areas (e.g., steep slopes, private property). Professional judgment was used to assess slopes that were too steep to access safely with the understanding that steeply sloped areas are not likely to contain cultural resources. In areas that were inaccessible, the reconnaissance survey consisted of inspecting the area from a safe distance, looking for indications that cultural resources were present. (Additional survey constraints applied to the Phase 2 significance evaluation and are described in the respective sections below.)
The intensive pedestrian survey consisted of systematic ground surface inspection with transects walked at 15-m intervals or less to ensure that any surface-exposed artifacts and sites could be identified. SWCA examined the ground surface for the presence of prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools); historic artifacts (e.g., metal, glass, ceramics); sediment discoloration that might indicate the presence of a cultural midden, roads, and trails; and depressions and other features that might indicate the former presence of structures or buildings (e.g., post holes, foundations). A digital camera was used to document the fieldwork and resource data.

Mapping was completed using a Samsung Galaxy Tab A tablet paired with a Juniper Geode submeter-accurate global navigation satellite systems receiver through Bluetooth connectivity. The spatial data were brought into geographic information system (GIS) for processing, analysis, and mapping. Esri's ArcGIS software package was the primary GIS platform used for data management, analysis, and map production. After processing, the GPS data were projected according to the Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (Zone 11).

The architectural history surveys consisted of a pedestrian walkover to locate and record known structural resources, identify and record any potential additional historic structural resources that may not have been previously recorded, and observe, evaluate, and record any potential damage to these resources.
The structural resources, their setting, and any impacts to them were photographed with a digital camera, and detailed field notes were taken to record observations.

All field notes, photographs, and records related to the current study are on file at the SWCA Pasadena, California, office.

3.2 Phase 2 Excavation and Laboratory Analysis Methods

SWCA prepared and implemented a plan (Peabody 2022) to guide the Phase 2 significance evaluation of SBA-2722H. The testing plan outlines the regulatory setting, methods, and research questions developed to assess whether the resource meets the criteria for listing in the CRHR and retains sufficient integrity to be considered a historical resource under CEQA. The methods and results of the significance evaluation are described at length in the Phase 2 testing report (Millington and Sayre 2023; attached

in Appendix B) and summarized briefly in this report. The field methods consisted primarily of excavating a series of shovel test pits (STPs), supplemented with a smaller number of judgmentally placed excavation units (EUs). The testing plan and results of the evaluation reported here were both developed following the County of Santa Barbara's (County's) guidelines for determining the significance of and impacts to cultural resources (2021). The testing plan was submitted for review to the planning departments with the County and the City of Santa Barbara (City). The County's Planning and Development department emailed its approval of the testing plan on April 13, 2022, and also requested copies of the current report. No response was received from the City. The fieldwork for the Phase 2 significance evaluation of SBA-722H was conducted April 25 through April 29, 2022.

3.3 Artifact Curation

A selection of the materials collected from the Phase 2 excavation at SBA-2722H will be curated at an appropriate facility that will ensure their long-term preservation and will allow access to interested scholars. Significant and/or diagnostic artifacts to be curated will be prepared in accordance with the State of California Resources Agency's 1993 *Guidelines for the Curation of Archeological Collections*, and with 36 Code of Federal Regulations 79, Curation of Federally Owned and Administered Archeological Collections. This includes packaging in archival acid-free, 4-mm, zip-top bags marked with the catalog number and acid-free boxes in preparation of permanent curation.

3.4 Tribal Consultation

As lead CEQA agency, CDFW issued notification letters via email on June 30, 2021, to four tribes pursuant to PRC Section 21082.3. Representatives from two tribal parties responded and requested consultation: the Barbareño Band of Chumash Indians and Barbareño/Ventureño Band of Mission Indians. Written correspondence and telephone conferences were conducted between CDFW and the two consulting tribal parties between July 7 and July 30, 2021. To-date, tribal consultation has not been concluded but the results of the initial outreach have been incorporated into this report.

4 RESULTS

4.1 Fieldwork

Previously submitted reports and project deliverables are listed in Table 8. Summary maps are included in Appendix A. Appendix B contains copies of the submitted SWCA cultural resources technical reports and the DPR forms for cultural resources intersecting with the project. Appendix C includes photographs from the pedestrian surveys conducted in 2021.

4.1.1 *January and June 2020 Fieldwork*

Ground visibility within the project API during the 2020 surveys ranged from excellent to poor, with the road surface areas having excellent visibility (100 percent), and areas covered by the stormwater stabilization materials having poor visibility (0 to 5 percent). No access restrictions were encountered during surveys. Sparse scatters of modern refuse were noted in the surrounding areas, likely deposited by modern recreational hikers using the trail systems. Vegetation communities immediately adjacent to the survey area generally include coast live oak woodland, coastal sage scrub, and chaparral, with coast live oaks (*Quercus agrifolia*) and wild lilac (*Ceanothus* spp.) species dominating the landscape.

Two previously recorded cultural resources of historic age—the Tunnel Caretakers' Home Site (SBA-2722H) and Mission Tunnel Water System Features (P-42-001712)—were identified during the surveys (Figure A-8). The initial identification of SBA-2722H confirmed the location based on the previously recorded boundary. An update of SBA-2722H was completed based on a surface recording in March 2022, and additional fieldwork to evaluate the significance of the site was completed in April 2022. The results of both efforts are described below (see Section 4.1.4 and Section 4.2). The Mission Tunnel (P-42-002683) is mapped within the current project API, but as it has no surface manifestations within the survey area, it was not identified during the survey within the API. One structural resource component, the Mission Canyon Trail Bridge, was identified as a previously unrecorded feature associated with the Mission Tunnel Water System Features (P-42-001712) (Tomberlin 2020a). No additional cultural resources were identified during fieldwork (Tomberlin 2020b; Tomberlin and Newcomb 2020). A brief summary of the relocated resources is provided below; these are described in detail in the technical reports and DPRs included in Appendix B.

4.1.2 *March 2021 Fieldwork*

The vegetation at the location surveyed in 2021 consisted of coast live oak woodland, coastal sage scrub, grasses, and chaparral, with coast live oaks and wild lilac species. The ground visibility was good within the paved and partially paved area, and from poor to good along the steep slopes on either side of the partially paved area. No cultural resources were identified within the proposed staging area during the field survey. Photographs from this field survey are included in Appendix C (Figures C-1 through C-3).

4.1.3 *October 2021 Fieldwork*

The ground surface was covered with rocks and boulders and dense vegetation, which included coast live oak woodland, coastal sage scrub, grasses, and chaparral. Visibility of the ground surface ranged from poor to fair. No cultural resources were observed during the survey. Photographs from this field survey are included in Appendix C (Figures C-4 through C-6).

4.1.4 *March and April 2022 Fieldwork*

SWCA archaeologists recorded and evaluated the Tunnel Caretakers' Home Site (SBA-2722H) for listing in the CRHR. The archaeologists conducted a surface inventory on March 11 and 12, 2022. SWCA returned to conduct subsurface excavations on April 25 through April 29, 2022, as described in the Phase 2 significance testing plan (Peabody 2022). The results of the surface inventory, subsurface testing, and evaluation are described below. The appendices attached to this report include project-specific maps (see Appendix A) and overview photographs (see Appendix C), as well as additional site-specific information summarized in the updated DPR record (e.g., site maps, artifact photographs and descriptions, artifact catalog, and detailed testing results; see Appendix B).

4.2 Updated Resources

4.2.1 *Mission Tunnel Water System Features (P-42-001712)*

The structural resource consists of the historic remnants of the Mission Tunnel water system, measuring approximately 90 m (295 feet) in length by 110 m (361 feet) in width. Structural features observed during the pedestrian survey include dam remnants; water system remnants; a bridge with stone and cement abutments, metal girder substructure, and a wood deck covered by metal plates; and a sandstone retaining wall. No artifacts are associated with this resource. The site is located on either side of Mission Creek and is intersected by the Mission Canyon Trail. The site appeared as previously described, with the addition

of the previously noted but unrecorded bridge newly designated as the Mission Canyon Trail Bridge (described below). Further observations included dislodged sandstone cobbles that make up the small retaining wall. Based on the 1990 description of the wall, general degradation of the wall structure due to a lack of mortar between the rocks can be expected. It is inconclusive whether the dislodged cobbles are related to recent maintenance activities. No impacts to the dam or water system remnants were observed.

Architectural history surveys of the Mission Canyon Trail Bridge, along with other architectural structures and structural remains within the project API, were undertaken on January 11 and 28, and March 27, 2020. On both occasions in January the bridge deck was covered by steel plates. On March 27, 2020, an SWCA archaeologist was accompanied by SCE personnel to document the temporary removal of the metal plates, allowing the wood bridge deck to be observed and photographed.

The Mission Canyon Trail Bridge appears to have been constructed ca. 1910–1920. The bridge carries the Mission Canyon Trail (also known as Spyglass Ridge Road) across Mission Creek and consists of a single span supported by stone abutments. The bridge spans east and west and Mission Creek flows north to south beneath the bridge. The bridge measures approximately 30 feet between abutments and is approximately 12 feet wide. The abutments on either side of the bridge are formed of roughly dressed sandstone bedded in mortar laid up in an irregular fashion. The foundation of the abutments is composed of concrete footings, and roughly laid concrete below. At its corners, the central portions of the abutments are flanked by stone wing walls that face out in approximately 45-degree angles and continue north and south as retaining walls for the creek bank below. The substructure is composed of longitudinal steel I-beams running east-west, as well as one centered cross steel flat beam running north-south. Non-historic patching is evident in the board-formed concrete at the junction of the I-beams and the abutments. Lying on top of the steel beams are 2 × 6–inch wood studs running the same length and in the same direction as the beams. Above this, the deck consists of wood planking composed of 2 × 6–inch studs running north-south; removable steel plates placed by SCE cover the wood deck as a safety measure due to the deterioration of the wood. All individual pieces of lumber comprising the deck show signs of weathering and normal wear from use as a pedestrian footbridge. Iron guardrails are located on the north and south sides of the roadbed, spanning the length of the bridge.

SWCA's architectural historians observed grading of the road segments approaching the bridge, placement of the metal plates, and dirt and debris on portions of the bridge from the emergency repair activities and maintenance operations performed in 2020. The bridge structure exhibited general degradation due to the lack of mortar between the cobbles and decomposition of the wooden bridge deck. The lifting of the steel plates from the bridge deck revealed no impacts to the wood beneath.

4.2.2 *Mission Tunnel (P-42-002683)*

Portions of the Mission Tunnel are mapped within the horizontal project API; however, the overlapping portions correspond to the fully subterranean segments of the tunnel and are outside of the vertical API. As a result, no updates to the resource were conducted as a part of the current study.

4.2.3 *Tunnel Caretakers' Home Site (SBA-2722H)*

SBA-2722H, known as the Tunnel Caretakers' Home Site, consists of the material remains associated with former residents of a rural residential site occupied between the 1910s and 1964 by several caretakers of the Mission Tunnel. The Mission Tunnel was completed in 1912, and a residence for the caretaker was constructed at the tunnel's south end, also known as the South Portal. The site was originally recorded in 1992 by U.S. Forest Service archaeologists who described the surface artifact assemblage and rock wall features and designated the two areas of the site as Components 1 and 2.

The original site record references local residents who described the site as having been the former residence of the tunnel caretakers, and they noted what was believed to have been the location of the primary residential structure within the larger area with the rock wall features. The site is described briefly here, and in greater detail in the Phase 2 report (Millington and Sayre 2023). [redacted] The two areas were designated as Components 1 and 2 in the original 1992 recording by Anderson and Zavalla.

The archaeological component was updated during multiple Phase 1 surveys conducted by SWCA between January 2020 and March 2022, and then during fieldwork for a Phase 2 significance evaluation carried out by SWCA in April 2022. SWCA relocated the site, designated additional features, recorded the boundary with a contemporary GPS device and converted it into GIS data, and conducted subsurface testing within the mapped boundaries. The updated archaeological record for SBA-2722H consists of nine rock wall features, two features with metal pipes, a buried refuse deposit, and refuse scatters within two discontiguous areas: [redacted] Subsurface excavations conducted as part of the Phase 2 significance evaluation identified one buried refuse deposit within an irregularly shaped area measuring approximately 20 × 12 m and extending between approximately 40 and 110 cm below the surface (cmbs).

Component 1 was plotted on a steep and uneven slope covered in dense vegetation that included large amounts of poison oak, which limited the ability to conduct an intensive pedestrian survey during fieldwork for Phases 1 and 2 of the current study. Pieces of historic-era refuse were observed near the westernmost portion of the previously mapped boundary, which was not altered in the current evaluation. It is possible that there are more deposits of materials are preserved beneath the vegetation on the backslope within Component 1, but the factors that made the area inaccessible to intensive archaeological survey (steep backslope with uneven terrain and a dense understory) also would have made this a poor area to excavate a refuse pit or locate a privy. These observations suggest it was more likely that refuse was intermittently thrown over the side of the road opposite from the residential site. Thus, while additional historic-era refuse appears to exist within Component 1, there is little indication that there a deeply buried or stratified deposit of artifacts exists here.

Component 2 contains the former residence and its immediate surroundings on a bench atop a finger ridge, and it includes several areas that appear to have been delineated using rock walls, including a garden area. Within Component 2, SWCA's 2022 fieldwork identified 12 surface features, one buried feature, 1,372 artifacts, and a surface refuse scatter of relatively low density within an area measuring approximately 89 × 68 m (292 × 223 feet). Three of the surface features are rock walls (Features 1, 2, and 6) were described in the original 1992 recording. SWCA also recorded 10 newly designated historic features: one metal pipe (Feature 3), a segment of metal pipe and rebar (Feature 10), six rock alignments (Features 4, 5, 7, 9, 11, and 12), and a large sandstone boulder with concrete (Feature 8), and a buried refuse deposit (Feature 13). [redacted] The artifact assemblage within Component 2 consists of 1,372 items collected or observed during excavation for the Phase 2 significance evaluation.

SWCA's update to Component 2 identified a substantial buried deposit of historic-era domestic refuse (Feature 13) in one location and a comparatively low-density scatter of refuse within a surface stratum across the remainder of the site. The deposit contained 90 percent of all artifacts identified during excavation within Component 2, and most of these artifacts were located at depths greater than 40 cmbs. Analysis of the materials from these units reveals a diverse range of materials and artifact types

represented that retain both functionally and temporally diagnostic features. [redacted] The surface survey and most of the STPs recorded a low-density scatter of refuse across the remainder of Component 2, with shallow bedrock suggesting little to no accumulation of sediments that are unlikely to contain other deeply buried deposits.

The artifact assemblage reflects a range of typical domestic activities and use of consumer goods (e.g., kitchenware, fresh food (meat), canned goods, condiments, bottled beverages, and personal items). Construction materials in the form of nails, concrete, and asphalt were noted in several of the STPs and the EUs, which are interpreted as the remains of the former residence, outbuildings, and structures. The presence of several bullet casings and excessive amount of broken glass could be the result of recreational target practice. Across Component 2, the abundance of more generic materials used throughout the twentieth century is consistent with accumulations of refuse during the 1950s and 1960s, just prior to the site being permanently abandoned as a residence.

The buried deposit in Component 2 identified as Feature 13 contained four brass .22 caliber rimfire bullet casings produced by the United States Cartridge Company between 1867 and 1926. A glass base from a bottle of A.E. Wright Company salad dressing was made by the Owens Bottle Company between 1919 and 1927. Taken together, the materials in this feature show a strong representation of materials dated from the 1910s to 1940s, which would suggest the materials are from the earlier generations of caretakers who occupied the residence. The people identified as likely tunnel caretakers and residents include the following: Oscar Packard between 1918 and 1924; Antonio Patricio Arellanes from 1932 to 1951; John K. Chase from 1934 to 1935; and Roy Grindle from 1956 to 1964. Caretakers prior to Mr. Grindle and his family are likely associated with the Feature 13 deposit. It is possible that the use of the site by Grindle or Arellanes, as well as subsequent road-building and firefighting activities, buried refuse of the previous occupants.

While the 1992 record noted the presence of gray chert flakes within Component 1 that were described as either prehistoric artifacts or appropriate material for making such artifacts, associated with road deposits that were imported to the site in the historic era. No prehistoric artifacts were identified during SWCA's fieldwork, although one unmodified fragment of gray chert was collected as a lithic sample. To date, no prehistoric component has been identified at SBA-2722H.

4.3 Tribal Consultation

Pursuant to PRC Section 21080.3.1, CDFW sent notification letters on June 30, 2021, to four individuals affiliated with California Native American tribes (Table 9). The letters described the proposed project and asked for responses to be made via email, telephone, or mail if the tribe had input on the project and if further consultation was requested.

Table 9. California Native American Tribes Who Received Project Notifications Pursuant to PRC Section 21080.3.1

Name	Affiliation
Barbara Lopez	Barbareño Band of Chumash Indians
Eleanor Fishburn	Barbareño Band of Chumash Indians

Name	Affiliation
Julie Tumamait-Stenslie	Barbareño/Ventureño Band of Mission Indians
Kenneth Kahn	Santa Ynez Band of Chumash Indians

On July 7, 2021, CDFW consulted with the of the Barbareño/Ventureño Band of Mission Indians. On July 30, 2021, CDFW consulted with the Barbareño Band of Chumash Indians. To date, no responses have been received from representatives of the Santa Ynez Band of Chumash Indians. Respondents stated that because sediments that have not previously been inspected for such resources are to be removed, that tribal and archaeological monitoring should take place during ground disturbance and that tribal monitors be allowed to inspect the 2019 work area to determine whether any resources are present.

The consultation conducted was in reference to tribal cultural resources, some of which, though not all, are archaeological in nature. The recommendation for tribal and archaeological monitoring of ground-disturbing activities was incorporated into the project at the request of the CDFW. The record of consultation is on file with CDFW.

5 DISCUSSION OF RESOURCE SIGNIFICANCE AND IMPACT ANALYSIS

5.1 Resource Significance

As discussed in the Regulatory Framework section above and in accordance with PRC Section 5024.1(c)(1–4), a resource is considered eligible for the CRHR and historically significant if it 1) retains "substantial integrity," and 2) meets at least one of the following criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(2) Is associated with the lives of persons important in our past;

(3) Embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

5.1.1 *Mission Tunnel Water System Features (P-42-001712)*

The bridge was evaluated for historic significance and was recommended not eligible for the CRHR either as an individual resource or as a contributor to a historic district (Tomberlin 2020a). SWCA did not evaluate the Mission Tunnel Water System Features (P-42-001712) as a whole as part of this effort, instead focusing exclusively on the bridge element of the resource. While the bridge appears to date to ca. 1910–1920s and may be associated with the construction of stone arch bridges in Santa Barbara County in the late nineteenth and early twentieth centuries, it appears to have been partially reconstructed at an unknown point in time. The original substructure and superstructure spanning the creek were replaced with incompatible steel girders, wood decking, and steel rails; all that remains from the original structure are the sandstone abutments on either side of Mission Creek. Based on these observations, Tomberlin (2020a) indicated the following findings for the significance evaluation.

CRHR CRITERIA

Criterion 1

The Mission Canyon Trail Bridge may have been associated with the construction of stone arch bridges in Santa Barbara County in the late nineteenth and early twentieth centuries; however, due to its lack of integrity, the bridge is unable to convey that association. Research to date has not established a relationship between the bridge and the Mission Creek Water Tunnel (P-42-002683) beyond Craig's inclusion of the two in one site form in 1981 (Craig 1981a); furthermore, Craig's accompanying report does not mention the bridge as a site feature (Craig 1981b). Even if such a relationship were to be established in the future, the bridge's lack of integrity would preclude it from conveying any association with the Mission Creek Water Tunnel.

In summary, due to its lack of integrity, the bridge is unable to convey any association, and it therefore lacks a significant association with events or patterns that have made a significant contribution to the broad patterns of national, state, or local history. Therefore, the bridge is not individually eligible for the CRHR under Criterion 1.

Criterion 2

The Mission Canyon Trail Bridge may have been associated with the work of Rowland Hazard II, the builder of the stone arch bridge carrying East Los Olivos Street/Mission Canyon Road over Mission Creek, or Owen Hugh O'Neill, Jr., who is cited in the California Historic Bridge Inventory as the builder of several stone bridges in Santa Barbara County. However, due to its lack of integrity, the bridge is unable to convey that association, and it therefore lacks a significance association with the lives of significant persons in our past. Therefore, the bridge is not individually eligible for the CRHR under Criterion 2 for listing in the CRHR.

Criterion 3

The Mission Canyon Trail Bridge appears to have originally been constructed as a stone arch bridge, based on the massing of the abutments and their similarity to other stone arch bridges in Santa Barbara County. However, due to the replacement of the original substructure and superstructure (deck and railings), the bridge does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Therefore, the bridge is not individually eligible for the CRHR under Criterion 3.

Criterion 4

The Mission Canyon Trail Bridge has not yielded, nor does it appear to possess potential to yield, information important in history or prehistory. Therefore, the bridge is not individually eligible for the CRHR under Criterion 4.

Integrity

The seven aspects of NRHP/CRHR integrity are location, design, setting, materials, workmanship, feeling, and association. The Mission Canyon Trail Bridge maintains its integrity of location, setting, and workmanship (which is evident in the abutments). However, due to the complete replacement of the bridge's original substructure and superstructure (deck and railings), the bridge lacks integrity of design, materials, feeling, and association.

Resource Significance Finding

Due to the bridge's lack of integrity in four of the seven aspects of integrity, it is unable to convey significance as a historic resource under any of the four CRHR criteria. As previously mentioned, there has not been an established relationship between the bridge and the Mission Creek Water Tunnel (P-42-002683). Should additional research establish a connection between the bridge and the south portal of the water tunnel, the bridge's lack of integrity would preclude it from inclusion as a contributing resource. It is also important to note that even if additional research were to establish a firm association with a significant event or person, this resource's lack of integrity would preclude its eligibility as an individual resource or a contributor to a potential historic district.

5.1.2 *Mission Tunnel (P-42-002683)*

The Mission Tunnel (P-42-002683) consists of a concrete and unlined tunnel constructed between 1904 and 1912 to convey water from the then newly proposed Gibraltar Reservoir on the Santa Ynez River through the Santa Ynez Mountains to the City of Santa Barbara. It does not appear to have been evaluated for the CRHR; however, researchers have stated that it appears significant for its role in the development and growth of the City of Santa Barbara and association with Joseph B. Lippincott of the U.S. Geological Survey (Eisentraut 1994). Further research examining this assertion was not in the scope of this study; however, for purposes of this project, SWCA recommends assuming the resource is eligible for the CRHR for the duration of this project and treating it as an avoidable historic resource for purposes of CEQA.

5.1.3 *Tunnel Caretakers' Home Site (SBA-2722H)*

The Tunnel Caretakers' Home Site is on a flat area overlooking Mission Creek. The site measures approximately 95 m (312 feet) in length by 85 m (279 feet) in width and consists of 1) a refuse concentration of historical debris interpreted to be a possible dump site for the caretaker's home, 2) foundation of the caretaker's house, 3) decorative rock walls, and 4) scattered historical debris. The original DPR records noted fragmented marine shell and chert lithic debris within the historic-era refuse concentration, but the flakes were thought to have been introduced, and not indicative that the site had a prehistoric component. Additionally, a single abalone button was recorded and collected for storage at the Los Padres National Forest Archive (Anderson and Zavalla 1992). The date of construction of the caretaker's home is unknown but is as early as 1909, as it was depicted upon a Forest map from that year. The Coyote Fire of 1964 likely destroyed the home, leaving only the foundation.

RESEARCH THEMES

The goal of the Phase 2 significance evaluation is to determine whether the data acquired through subsurface testing, analysis, and background research could provide information relevant to important historical research themes (Peabody 2022). Research questions were developed as part of a testing plan prepared for the Phase 2 significance evaluation. These questions focused on the daily lives of the tunnel caretakers—their domestic life and work functions—including questions related to ethnic identity and the relationship to local community. These research topics were focused into the following three categories: consumer behavior; ethnicity and social status; and commerce and industry. The focus across all three themes was to identify significant evidence of the questions including the following:

- What was the historic-era occupation by caretaker and family?
- What was their ethnic identity and their relationship to local community?

- Was there seasonal variation in occupation, i.e., was the caretaker in residence throughout the year?
- Was the caretaker joined by family?
- Were there co-residents assisting in the work required of the caretaker?

More specific questions and the archaeological data needed to answer them were proposed (Peabody 2022). SWCA's fieldwork, analysis, and interpretation of the archaeological and historical data answers some of these questions, and demonstrates that the site contains refuse deposits with the potential to answer more of them, that archival research can provide a link to biographical and sociocultural information, and that some parts of the site simply lack the data potential to contribute meaningful historical information.

CRHR CRITERIA

Criterion 1

SBA-2722H contains the material remains of the residence used by multiple caretakers of the Mission Tunnel and their families from at least 1918 to 1964. The Mission Tunnel has not been formally evaluated for listing in the CRHR or NRHP, but researchers have stated that it appears significant for its role in the development and growth of the City of Santa Barbara. Given that the Tunnel Caretakers' Home Site is associated with the Mission Tunnel, SBA-2722H could also be considered as having an association with the development and growth of Santa Barbara. This association is demonstrated through limited archival research, and further research could strengthen this association. The archaeological data currently available demonstrate the potential for the materials to have temporal associations with the period in which the Mission Tunnel was being maintained and that maintenance was very likely critical to the Santa Barbara's developments. However, the kinds of activities represented by the Tunnel Caretakers' Home Site appear to reflect the domestic and personal lives of people living in a rural setting in the early to middle twentieth century, rather than activities directly associated with the maintenance of the Mission Tunnel. The association of SBA-2722H with the Mission Tunnel and the role played in the development of Santa Barbara relies more on textual sources than information from archaeological sources, whether observed or potentially present. Therefore, SWCA finds that the site does not meet the significance threshold necessary to be considered eligible for the CRHR under Criterion 1.

Criterion 2

Archival research identified four people who were employed as tunnel caretakers and who resided at the site, in some cases with their spouses and children. There is some indication that multiple people assisted the caretaker. One of these individuals, Antonio Patricio Arellanes, is the great-grandson of Josef "Teodoro" Arellanes (1782–1858), who was born at Mission San Buenaventura and was a solider at the Santa Barbara Presidio during the Spanish period. Teodoro was granted Rancho El Rincon in 1835 and Rancho Guadalupe in 1840, and his son managed a highly successful cattle ranch during the Mexican and early American periods and were prominent figures in the region. Multiple generations of the Arellanes family have resided in the region and still live in the area today. While Antonio Arellanes is a descendent of people with regional historical significance, and his role as a tunnel caretaker may be of local interest and reflect other interesting sociocultural aspects, he does not appear to have been a historically significant person, nor do the other tunnel caretakers identified in this study. Therefore, SWCA finds that the site does not meet the significance threshold necessary to be considered eligible for the CRHR under Criterion 2.

Criterion 3

The only structural remains identified in SBA-2722H are rock walls made from locally obtained sandstone boulders and gravels, and two small structures of unknown function were recorded that were constructed using metal pipe and concrete. These rock walls are generic and lack any distinction in their method of construction, materials, and historical use as structural components or in delineating spaces for domestic, recreational, or work activities at the caretakers' residence. The pipe structures appear improvised and are of the most basic design and use conventional materials. All of the archaeological materials identified in the site are conventional in their manufacture and design. Nothing recorded at the site embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values. Therefore, SWCA finds that the site does not meet the significance threshold necessary to be considered eligible for the CRHR under Criterion 3.

Criterion 4

SBA-2722H contains at least one deposit (Feature 13) consisting of at least 1,241 pieces of refuse dating to the early to middle twentieth century. This was identified within the area of SBA-2722H designated as Component 2 that includes the former residence used by tunnel caretakers. Historical aerial photographs show the deposit was located between what appears to have been the residence and the adjacent access road, known as Tunnel Road. Feature 13 was designated within an irregularly shaped area measuring 20 × 12 m that was identified as a stratified deposit buried between 40 and 110 cmbs, almost directly on top of the underlying bedrock. The deposit reflects a range of domestic activities and enough temporally diagnostic materials to show an association with the historic period in which archival sources document the names of former tunnel caretakers and their families between ca. 1918 and 1964. Portions of the artifact assemblage recorded within the SBA-2722H boundary were observed to be highly fragmented, occurred in low density compared with the more substantial deposit, and only appeared on the surface or shallowly buried in a surficial sedimentary stratum. These materials only reflect broad temporal and functional associations and have less historical data potential. However, within the more substantial deposit (Feature 13) recorded behind the former residence, SWCA found sufficient material to demonstrate the potential of the buried component to contain information relevant to answering important research questions related to the daily lives of the tunnel caretakers—their domestic life and work functions—including questions related to ethnic identity and the relationship to local community. Therefore, SWCA finds that the site meets the significance threshold necessary to be considered eligible for the CRHR under Criterion 4.

Integrity

The seven aspects of CRHR integrity are location, design, setting, materials, workmanship, feeling, and association. Access constraints limited the assessment of integrity for Component 1 to observations made through reconnaissance survey. Component 2 was assessed through a combination of intensive and reconnaissance-level surveys, subsurface testing, artifact analysis, and archival research. Access constraints limited a comprehensive assessment of site materials and integrity and is based on the sampled locations and information available at the time of this study.

As a former residential site, the residence and all associated buildings or structures are no longer extant. Archival sources, including reports from local residents and former City Water Department employees, indicate that all the structures on the property were destroyed in the 1964 Coyote Fire (Hill 2019). Rock walls used as retaining walls and to delineate boundaries for various activities within the areas surrounding the residence were identified and appear to retain their integrity. The location of the former residence, outbuildings, and paved roads or walkways within Component 2 could not be fully determined

through surface inspection alone due to dense vegetation cover that constrained surface visibility. However, the presence of paved segments and the occurrence of asphalt and concrete were noted in several of the EUs. The location of these observations also appears to correlate with the layout visible in a low-altitude aerial photograph taken in 1953. Spatial analysis of the recorded archaeological materials suggests further subsurface study within Component 2 could assess whether the foundations of the former structures exist and retain their integrity of location and association with surrounding archaeological deposits.

With respect to the archaeological deposit, the materials identified on the surface of the site appeared heavily fragmented and occurred as a low-density scatter within the visible surfaces. Several of the sample STPs and observation of the surface revealed various sources of bioturbation from vegetation growth and burrowing animals, as well as mechanical weathering on the slope (i.e., erosion), which indicates the integrity of location for some of the shallowly buried archaeological components has been compromised; however, these tended to be observed more in the uppermost surface strata and any artifact displacement tended to be within the same sediment stratum, as distinct from more deeply buried stratified archaeological deposit. While it could not be corroborated with archival data, it appears likely that the site was subject to cleanup that removed any large pieces of debris. Increased erosion in the years following the fire, possibly in combination with the effects of the cleanup effort, may have contributed to the artifact distribution observed on the surface and near-surface, which would account for the presence of shallowly buried but fragmented materials in a relatively low density. Furthermore, aerial photographs taken between 1928 and 1964 indicate intentional alterations to the site, suggesting each of the caretakers likely constructed or made use of various landscape features and structures on the property, such as garden areas, access roads, and walkways. It is unknown to what degree these alterations involved physical alterations to the landscape that may have compromised the integrity of previously existing deposits of historical refuse. Taken together, the effect of the fire and a hypothesized cleanup, bioturbation, and intentional alterations across the more than 40-year history of residential occupation, there are several indicators that the archaeological materials observed in the surface stratum lack integrity of location, and the deposit's integrity of materials and association is at least compromised. The fragmented nature of the materials that are especially characteristic of the upper 40 cm of sediment have a limited ability to convey important historical information because they lack more specific temporally and functionally diagnostic attributes.

In contrast to the near-surface assemblage, at least one substantial refuse deposit (Feature 13) was identified with materials that are temporally diagnostic and reflect a diverse range of functions associated with domestic life. Feature 13 appears to retain its integrity of location, materials, and association with the residential use of the site. Subsurface testing and surface observations across Component 2 suggest other such deposits could exist between and around the areas that were tested through subsurface excavation as part of this study. However, these potential areas exclude those confirmed through the test excavations as lacking the depth of sediments above the underlying bedrock or lack any substantial archaeological component.

Resource Significance Finding

SBA-2722H is recommended eligible for listing in the CRHR under Criterion 4. A buried refuse deposit (Feature 13) located behind the former caretaker's residence remains preserved on the site and retains enough of its integrity of location and materials, such that when it is combined with archival information, has the potential to contribute information that is important to understanding the lives of the tunnel caretakers between ca. 1918 and 1964. Archaeological data obtained during the Phase 2 significance evaluation also demonstrate that several areas within the recorded site boundary do not contribute to the significance of the overall site. Nevertheless, sufficient archaeological data with the potential

to contribute important historical information exist and retain integrity to support SWCA's recommendation that SBA-2722H be considered a historical resource for the purposes of CEQA.

5.2 Impact Analysis

Projects on state lands are subject to compliance with CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (CCR Section 15000 et seq.), as amended to date, as well as California PRC Sections 5097 and 5024. Historical resources include resources eligible for listing on the CRHR, resources included in local registers of historical resources, and any resource that the lead agency determines eligible for national, state, or local listing (PRC Section 5024.1). Under the provisions of CEQA, CDFW must determine the potential for effects on historical resources located within the API and consider mitigation measures capable of avoiding or minimizing adverse effects on properties eligible for listing in the CRHR. The purpose of this study is to identify cultural resources within the API, evaluate whether any may be considered historical resources, and to assess potential impacts that may result from the proposed project activities in compliance with CEQA regulations.

Three historic-era cultural resources are within the project API: the Mission Tunnel Water System Features (P-42-001712) which includes the Mission Canyon Trail Bridge; the Mission Tunnel (P-42-002683); and the Tunnel Caretakers' Home Site (SBA-2722H). The following section analyzes the potential for impacts to these resources in conformance with Appendix G of the CEQA Guidelines.

5.2.1 *Mission Tunnel Water System (P-42-001712)*

The Mission Tunnel Water System Features (P-42-001712) consists of structural features including dam remnants; water system remnants; the Mission Canyon Trail Bridge, with stone and concrete abutments, metal girder substructure, and a wood deck covered by metal plates; and a sandstone retaining wall. No artifacts are associated with this resource. The bridge is recommended not eligible for the CRHR individually or as part of a potential district (e.g., associated with the other system features) due to loss of integrity and is not a historic resource for purposes of CEQA. The bridge exhibits some signs of degradation and it is recommended that the existing steel plates covering the deck be kept in place to protect the wood underneath. All other features will be avoided by project activities, and the resource as a whole will not be directly or indirectly impacted by the project.

5.2.2 *Mission Tunnel (P-42-002683)*

Although the horizontal API overlaps with portions of the tunnel, the overlapping portions correspond to the fully subterranean segments of the tunnel and are therefore avoidable and outside of the vertical API. Because the tunnel is beneath the impact area for restoration activities, any potential impacts are avoided by project design.

5.2.3 *Tunnel Caretakers' Home Site (SBA-2722H)*

The Tunnel Caretakers' Home Site (SBA-2722H) is the former location of the caretakers' home for the Montecito Water District Tunnel, also known as the Mission Tunnel. The site includes a large low-density scatter of historic-era refuse and the remains of the foundation of the home and is recorded within two discontiguous areas designated as Components 1 and 2. The site is recommended eligible for the CRHR under Criterion 4 for the historical data potential represented by a substantial buried archaeological component designated as Feature 13. Proposed ground disturbance for seeding and staging may include excavation to a depth between 30 and 60 cm (12–24 inches) within the eastern boundary of Component 2 and 15 m or more from the boundary defined for Feature 13; however, this portion of the site was subject

to subsurface testing that did not identify any substantial buried archaeological component that has any potential to contribute to the significance of the site. Among the five STPs placed in or immediately adjacent to the portion of the API within the site boundary, only one glass bottle shard was identified. This artifact appears to be part of a low-density surface scatter observed across large portions of the site and lacked any indication that a more substantial component exists.

The proposed activities within the site will include tree planting, which involves excavation of holes in approximately the same dimensions as the archaeological STPs excavated during fieldwork to evaluate the significance of the site. This suggests that any archaeological materials encountered during project implementation are likely to be similar to those encountered during archaeological testing—a small number of shallowly buried artifacts. Furthermore, the planting of the trees is likely to provide a measure of protection against erosion that could otherwise damage the site. The trees would also provide an additional barrier between the adjacent road and the significant archaeological components of the site, thereby reducing the potential for unauthorized collection of cultural material by hikers and other passersby who may otherwise have noticed the site.

The proposed project activities will involve ground disturbances within the Tunnel Caretakers' Home Site (SBA-2722H), which is recommended to be considered a historical resource under CEQA, but these activities are proposed to occur within a portion of the site that does not contribute to the historical significance. One refuse deposit (Feature 13) appears to retain integrity and is located 15 m or more from the nearest proposed project component as currently designed, which adequately avoids the historically significant component of the resource. Therefore, the proposed project will not cause a substantial adverse change in the significance of the site and no further work is required to avoid or reduce impacts. Consequently, SWCA recommends a finding of less than significant for potential impacts to archaeological resources.

SCE will implement monitoring for cultural resources by an archaeologist during general project activities involving ground disturbances. The work will be carried out in conformance with APMs, which include actions to address the inadvertent discovery of cultural resources. The implementation of these APMs will ensure that impacts to any inadvertent cultural resources discoveries during ground-disturbing activities are avoided or reduced to less-than-significant levels. Adherence to the APMs and General Environmental Requirements, as well as additional recommendations suggested by SWCA (see Section 6 below), further support the conclusion that potential impacts to archaeological resources that may be present in the API are less than significant.

6 MANAGEMENT SUMMARY

For the current study, SWCA conducted a California Historic Resource Information System (CHRIS) records search, supplemental research, pedestrian surveys, preliminary significance evaluations recommendations for three resources, and a summary of subsurface archaeological testing for one resource (see Appendix B). SWCA's search of the CHRIS records identified three previously recorded resources mapped as overlapping the project API: Mission Tunnel (P-42-002683), Mission Tunnel Water System Features (P-42-001712), and Tunnel Caretakers' Home Site (SBA-2722H). No previously unrecorded resources were identified during the pedestrian surveys and SWCA updated the site records for two of the three resources identified in the CHRIS search.

6.1 Less Than Significant Impact

The Mission Tunnel (P-42-002683) is a subterranean structure of historic age and, although the boundary intersects the horizontal API, the structure is below the maximum depth of ground disturbance that would result from the project; therefore, the resource is avoided through project design.

SWCA updated the site record and assessed the significance of the Mission Canyon Trail Bridge, which is an element of the Mission Tunnel Water System Features (P-42-001712). SWCA recommends that the bridge does not contribute to the eligibility of the Mission Tunnel Water System Features for the CRHR individually or as part of a potential district due to loss of integrity, and is not a historic resource for purposes of CEQA. All other features of P-42-001712 will be avoided by project activities, and the resource will not be directly or indirectly impacted by the project.

The Tunnel Caretakers' Home Site (SBA-2722H) was identified during survey and evaluated for significance, which incorporated subsurface archaeological testing. SWCA recommends SBA-2722H as eligible for the CRHR under Criterion 4 and finds it retains enough integrity within parts of the site to be considered a historical resource under CEQA; however, the proposed project would involve tree planting within a small portion of the site boundary that was demonstrated to lack integrity and does not contribute to the historical significance of the resource. Therefore, SWCA finds the project will not result in a change to the significance of SBA-2722H and no mitigation measures are recommended.

SWCA's findings are summarized below in Table 10. Based on these considerations, SWCA finds that ***impacts to cultural resources from the project will be less than significant.***

Table 10. Impact Assessment and Management Recommendations

Cultural Resource Primary No.	Cultural Resource(s) / Resource Component	CRHR Eligibility	Proposed Restoration Activity – No Impact	Proposed Restoration Activity – Potential Impact	Impact Assessment and Recommendations
P-42-001712	Mission Tunnel Water System Features; Mission Canyon Trail Bridge	The entire system is unevaluated for the CRHR; the Mission Canyon Trail Bridge is recommended not eligible for the CRHR	Storage Stockpile Areas; Staging; Sidecast removal, Tree/Rare Plant Mitigation [full removal]; Seeding; Berm Stabilization; Potential Area Constraint (southwest of the Trail Bridge)	Sidecast removal	The bridge structure is subject to general degradation due to age, removal of sidecast material should avoid direct contact with structural features of the bridge. No other potential impacts to the Mission Tunnel Water System Features are anticipated. Should the project change to potentially impact previously avoidable features, additional cultural resources assessment is required.
P-42-002683	Mission Tunnel	Unevaluated for the CRHR or NRHP	None	None	SWCA recommends treating the Mission Tunnel as a historical resource for purposes of CEQA; however, no potential impacts to the Mission Tunnel were identified. The resource is mapped as overlapping a portion of the area proposed for *Seeding* and *Plant Mitigation*, but the resource is located underground or otherwise outside of the project API and avoided by the current project design. No further work is recommended.
P-42-002722	Tunnel Caretakers' Home Site (SBA-2722H)	Recommended eligible for the CRHR under Criterion 4; however, in the location of the proposed project activities, SWCA finds the site lacks sufficient integrity and does not contribute to the historical significance.	Spoil Storage Area 17	Seeding; Tree/Rare Plant Mitigation	The proposed ground disturbance for *Seeding* and *Plant Mitigation* will include excavation to between 12 and 24 inches (30–60 cm) below the surface within a portion of the site that lacks integrity and does not contribute to the historical significance of the resource. Therefore, the ground-disturbing activities associated with the proposed *Seeding* and *Plant Mitigation* will not cause a substantial adverse change in the significance of the site and no further work is required to avoid or reduce potentially adverse impacts. APMs ARCH-1 through ARCH-4 provide additional direction on cultural resource best practices during tree planting within the site boundary. Implementation of APMs will ensure compliance with existing regulations.

6.2 Applicant Proposed Measures

6.2.1 *Archaeological Resources*

In order to ensure the avoidance of significant impacts to archaeological resources, SWCA recommends incorporating APMs ARCH-1 through ARCH-4 into the project's CEQA document. APMs ARCH-1 through ARCH-4 are intended as best practices designed to minimize disturbances to surface artifact scatters where the materials do not contribute to the significance of a historical resource. SWCA found that the project avoids potentially significant impacts to SBA-2722H, so the measure is specifically not recommended to be put forth as mitigation. Furthermore, these APMs would also ensure regulatory compliance and adherence to best practices in the event that archaeological resources are inadvertently discovered. Furthermore, Tribal Applicant Proposed Measures have been developed to accommodate the requests from tribes to monitor ground disturbances for tribal cultural resources during construction.

APM ARCH-1. RETAIN A QUALIFIED ARCHAEOLOGIST

Prior to initiating any project-related ground-disturbing activities, SCE shall retain a Qualified Archaeologist. A Qualified Archaeologist is defined as one who meets the Secretary of the Interior's (SOI) Standards for professional archaeology and those defined for a Principal Investigator by the Society for California Archaeology (SCA). The qualifications shall be presented as part of a resume for at least one primary point of contact who will act in capacity as the Qualified Archaeologist but also other key staff who may serve in this role. The resume shall demonstrate their SOI and SCA qualifications. The Qualified Archaeologist shall provide the services of an on-site representative known as an Archaeological Monitor.

Ground-disturbing activities are defined as excavating, digging, trenching, plowing, drilling, tunneling, quarrying, grading, leveling, removing trees, clearing, driving posts or pilings, augering, backfilling, blasting, stripping topsoil, or a similar activity at the project site.

APM ARCH-2. PREPARE A CULTURAL RESOURCES MONITORING AND UNANTICIPATED DISCOVERY PLAN

Prior to initiating any project-related ground-disturbing activities, a Cultural Resources Monitoring and Unanticipated Discovery Plan (Monitoring Plan) shall be prepared by the Qualified Archaeologist and submitted to SCE and the CDFW. The Monitoring Plan shall be prepared in conformance with PRC Section 5024.1, Title 14 CCR, Section 15064.5 of the CEQA Guidelines, and PRC Sections 21083.2 and 21084.1. The Monitoring Plan will outline the roles and responsibilities of the Archaeological Monitors and monitoring and resource discovery and treatment methods. It will identify the resources that will require protection and the work activities that will require monitoring. It will also define the construction worker training program (described in APM ARCH-3).

APM ARCH-3. CONDUCT WORKER TRAINING

The Qualified Archaeologist or a designee working under their direction (e.g., the Archaeological Monitor) shall provide training to on-site project personnel who are responsible for overseeing ground-disturbing activities (i.e., a foreman or site supervisor) and any machine operators. The initial training shall be conducted prior to the start of ground-disturbing activities in the project site. The training shall brief the crew(s) on the regulatory compliance requirements and APMs that must be adhered to during ground-disturbing activities for the protection of

archaeological resources. As an element of the worker training, the Qualified Archaeologist or their designee shall advise the construction crews on proper procedures to follow if an unanticipated archaeological resource, including human remains, is discovered during construction, including the authority of an Archaeological Monitor to temporarily halt or redirect work away from such a discovery. Workers shall be shown examples of the types of archaeological resources that would require notification of the archaeologist, if encountered. The workers shall be provided with contact information for the Qualified Archaeologist and their designee(s) as part of a brief hand-out summarizing the critical components of the training. Once the ground-disturbing activities have commenced, the need for additional or supplemental worker trainings shall be determined by the Qualified Archaeologist based upon consultation with project personnel. Within 5 days of completing each training, a list of those in attendance shall be provided by the Qualified Archaeologist to a point of contact designated by SCE.

APM ARCH-4. ARCHAEOLOGICAL MONITORING

At least one Archaeological Monitor working under the direction of the Qualified Archaeologist shall be present to implement the Monitoring Plan. During tree planting within SBA-2722H, the Archaeological Monitor should directly observe tree planting within the portion of the API within the site boundary and provide direction on the locations of tree installation to avoid any historical refuse that may be present on the surface. The Archaeological Monitor shall also be present for the establishment of the laydown yard to ensure that its boundaries avoid known archaeological resources. The use of Archaeological Monitors to ensure the avoidance of significant impacts to historical resources in conjunction with other activities and to ensure an appropriate response to unanticipated discoveries shall be done in accordance with the Monitoring Plan.

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APPENDIX A

Maps

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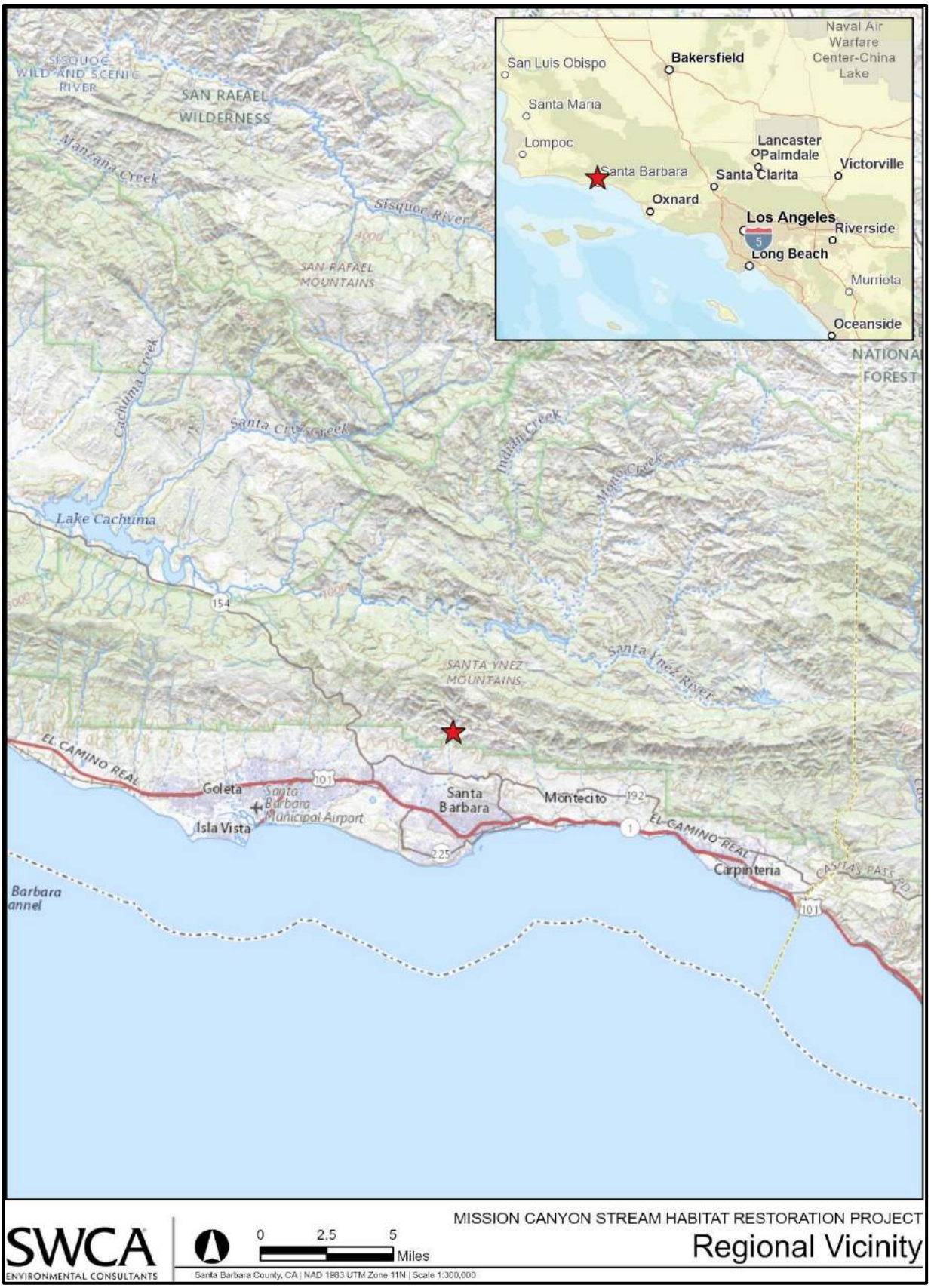

Figure A-1. Vicinity map of the project API.

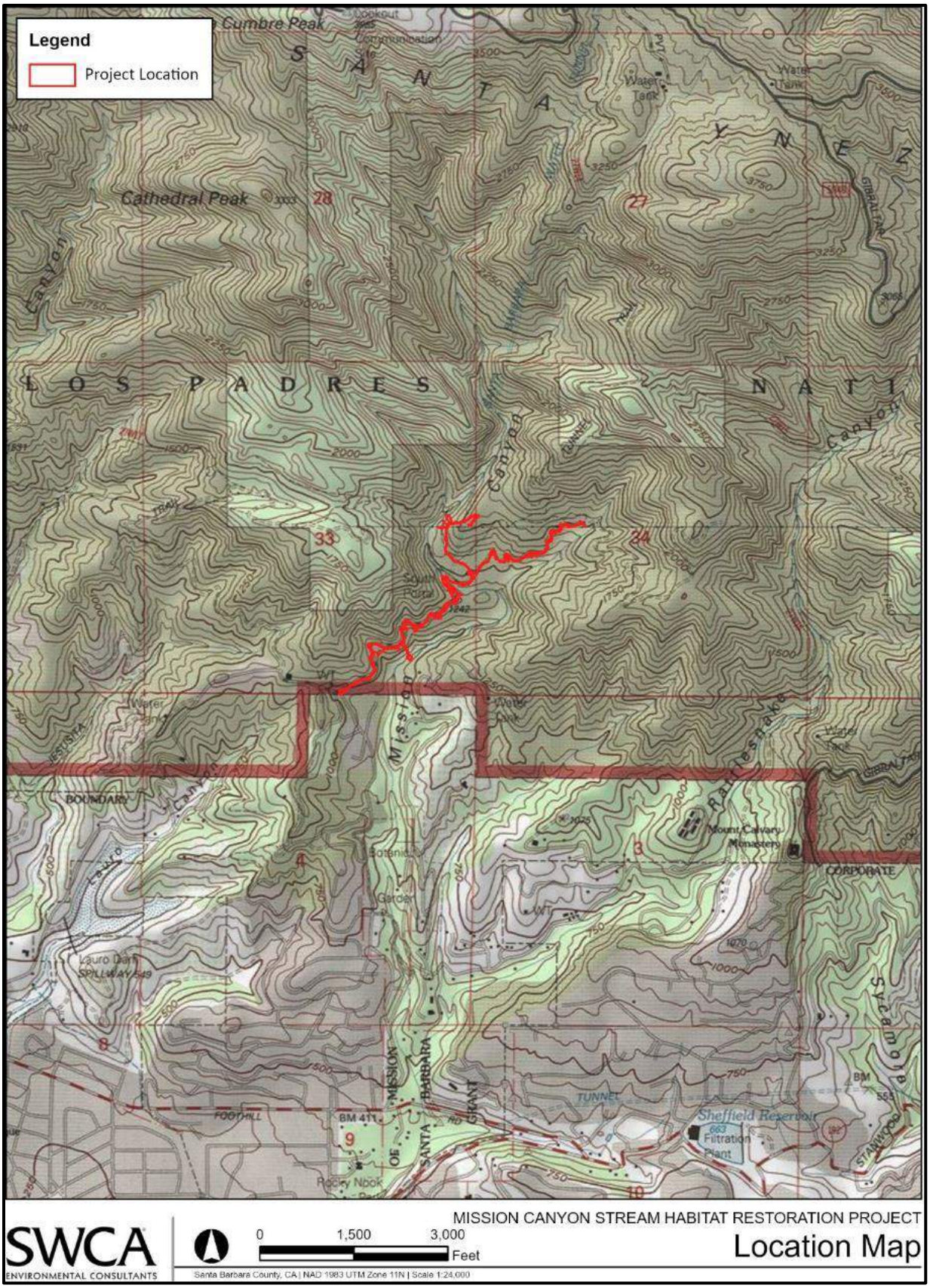

Figure A-2. Location map of the project API.

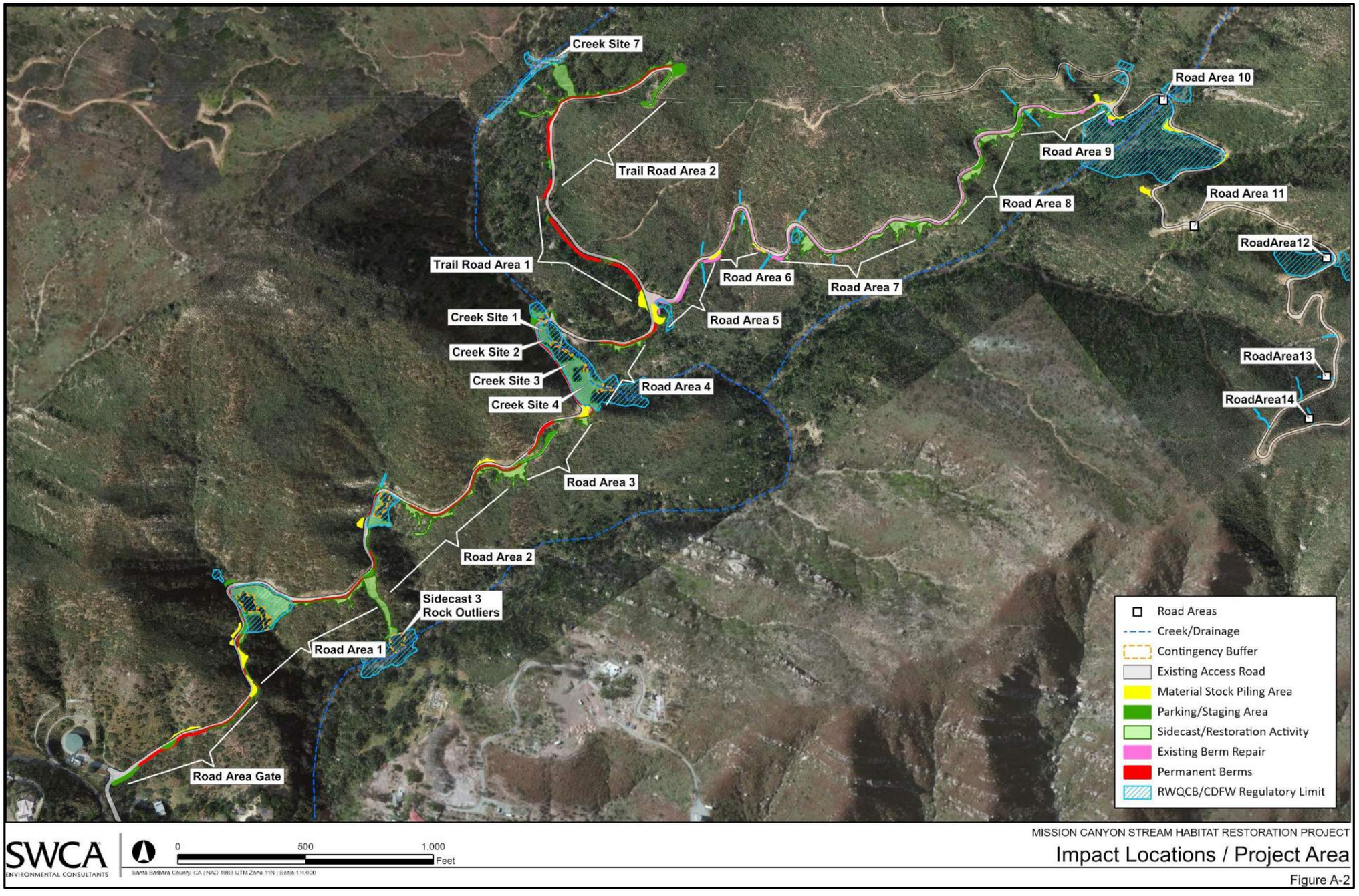

Figure A-3. Project API with impact locations.

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Figure A-4a. Botanical resource impacts (image 1 of 10).

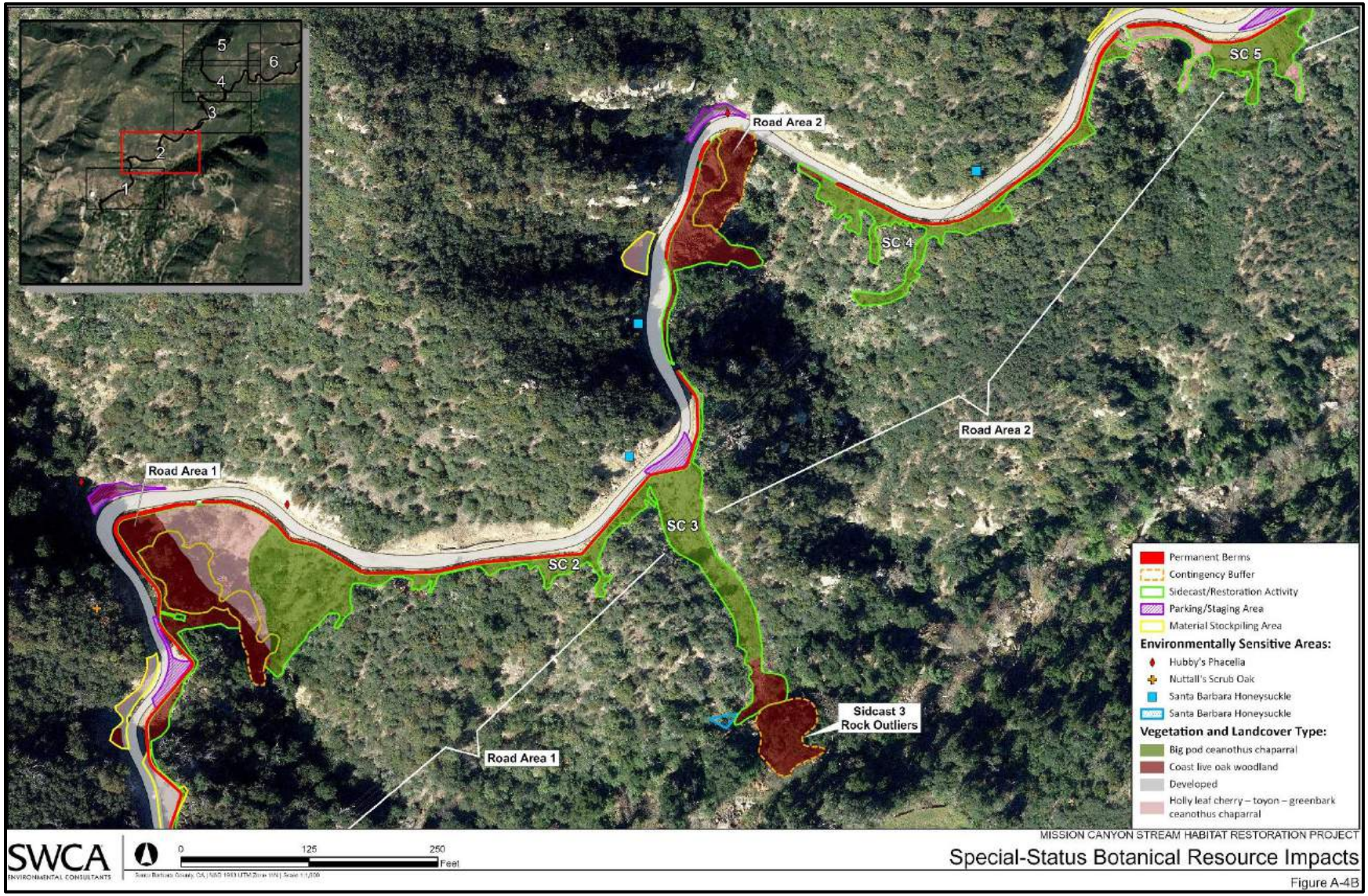

Figure A-4b. Botanical resource impacts (image 2 of 10).

Figure A-4c. Botanical resource impacts (image 3 of 10).

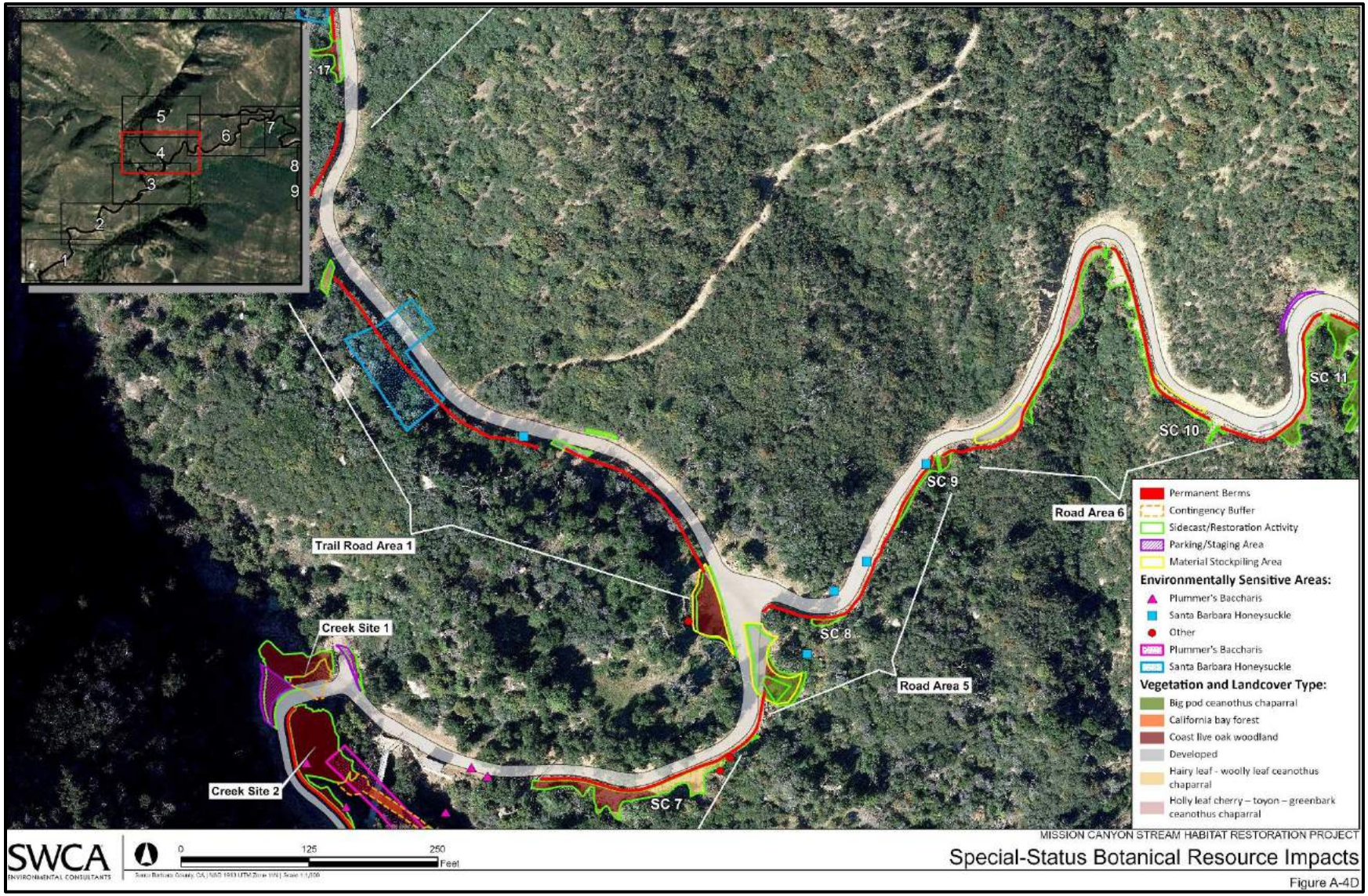

Figure A-4d. Botanical resource impacts (image 4 of 10).

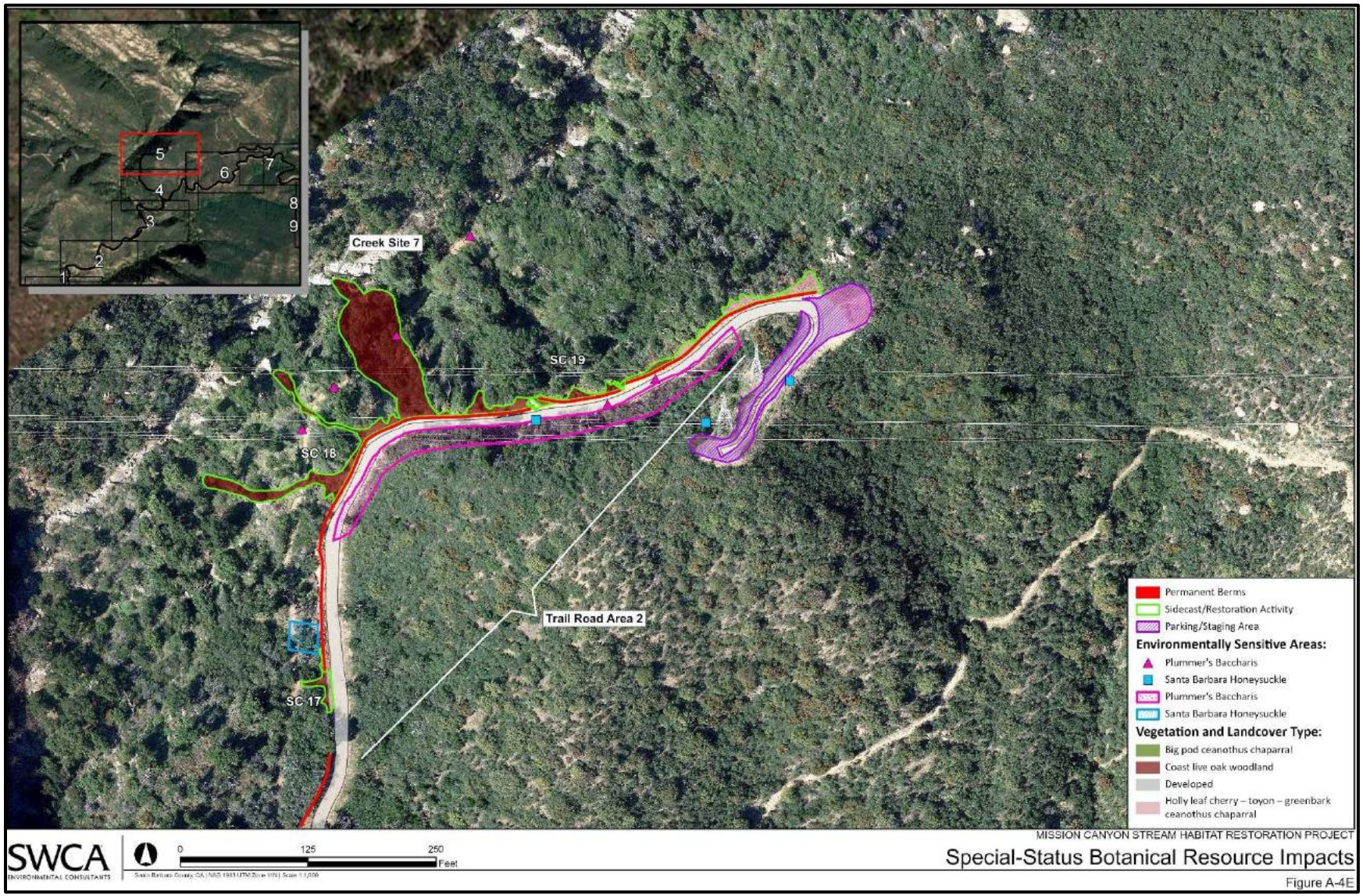

Figure A-4e. Botanical resource impacts (image 5 of 10).

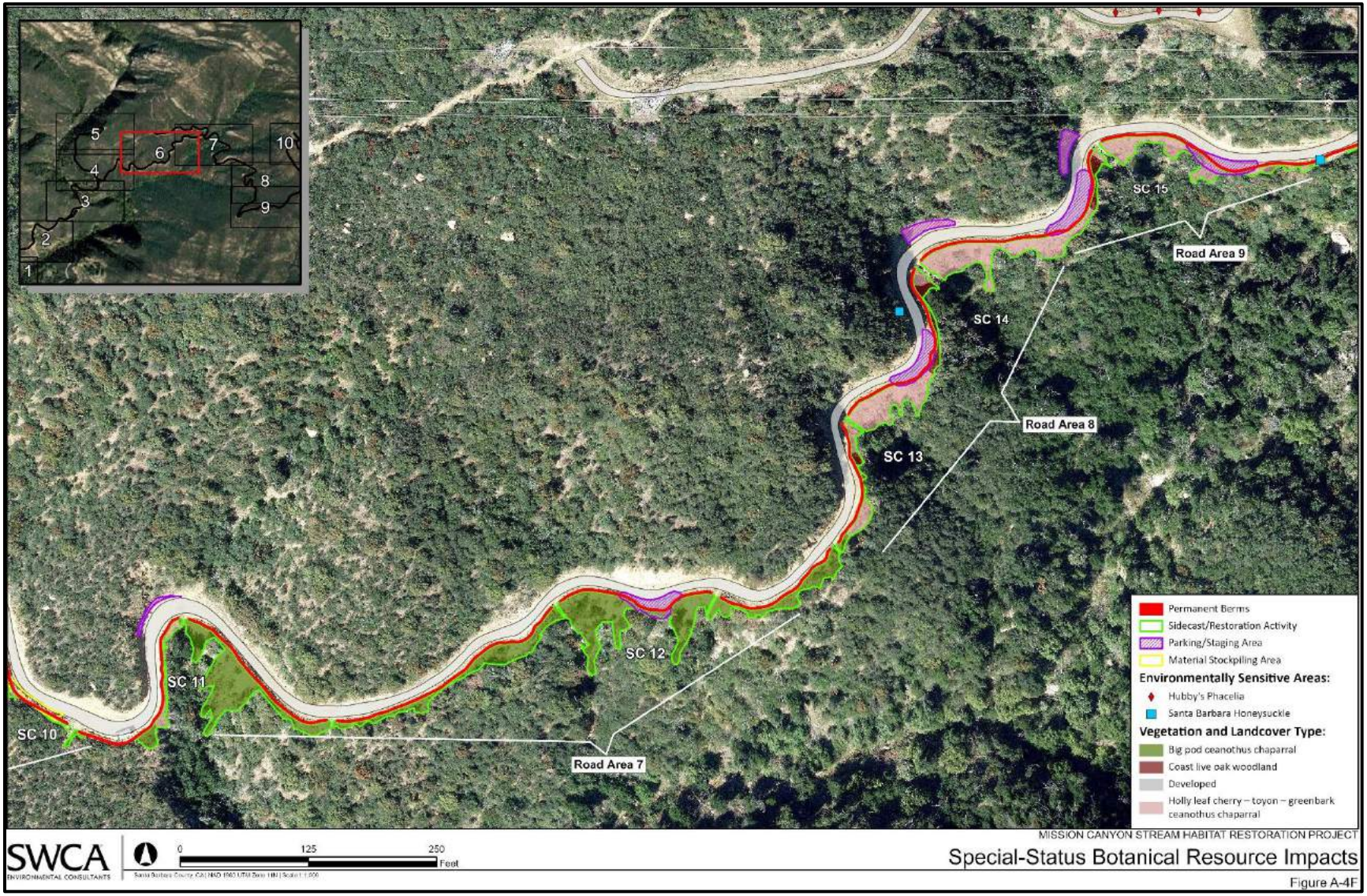

Figure A-4f. Botanical resource impacts (image 6 of 10).

Figure A-4g. Botanical resource impacts (image 7 of 10).

Figure A-4h. Botanical resource impacts (image 8 of 10).

Figure A-4i. Botanical resource impacts (image 9 of 10).

Figure A-4j. Botanical resource impacts (image 10 of 10).

Figure A-5. Sidecast removal methods.

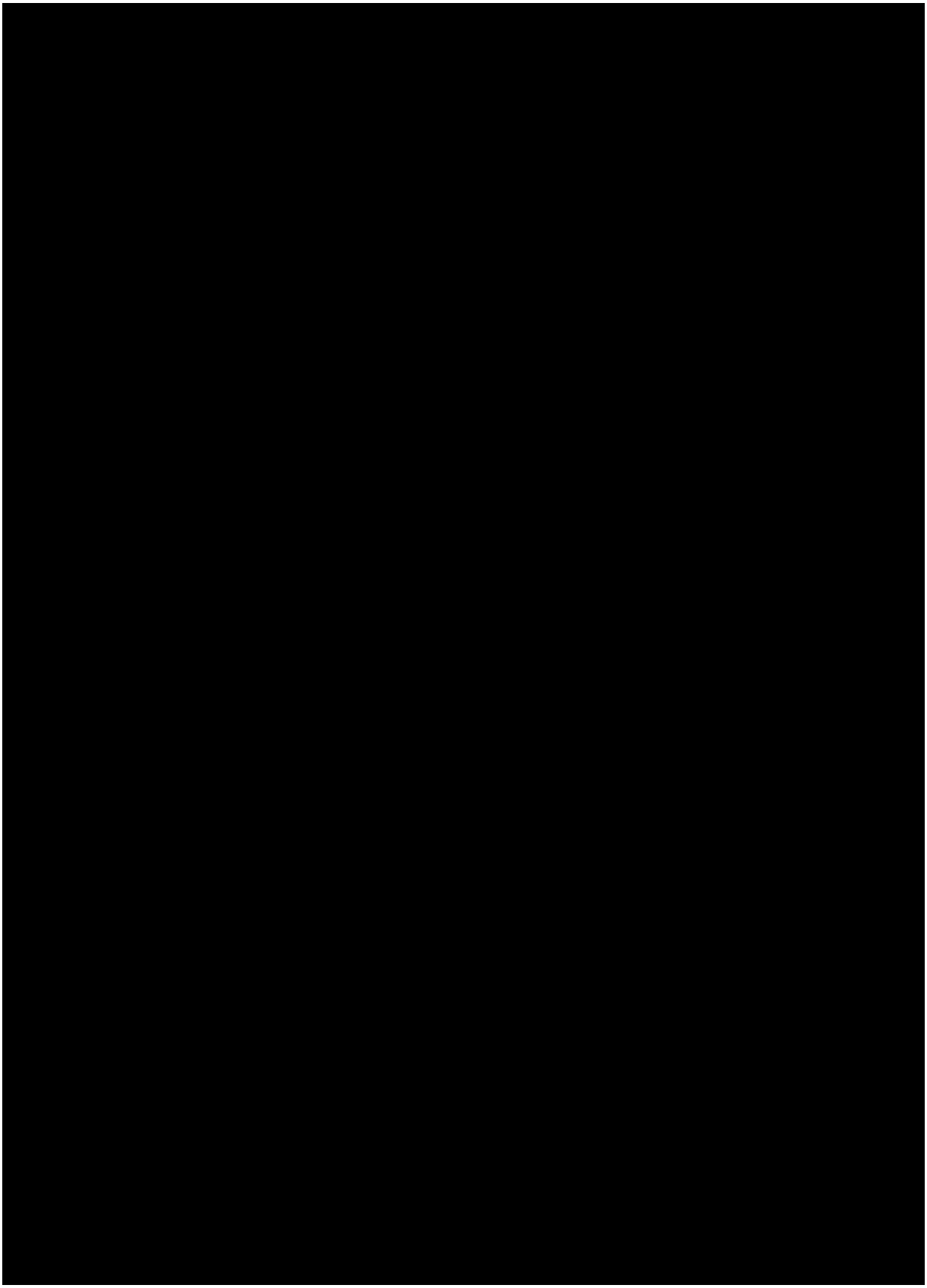

Figure A-6. Records search results map, previous studies.

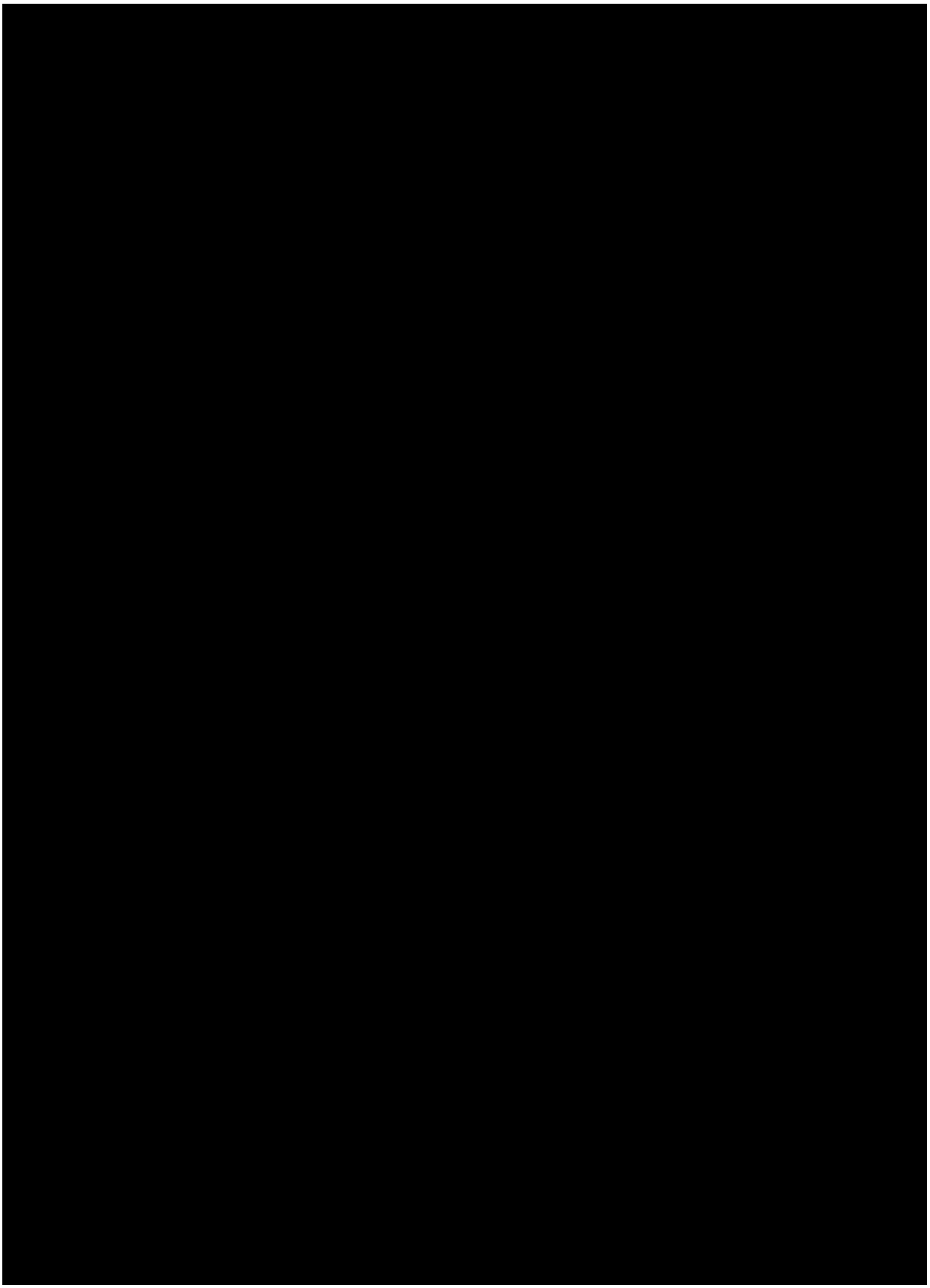

Figure A-7. Records search results map, previously recorded resources.

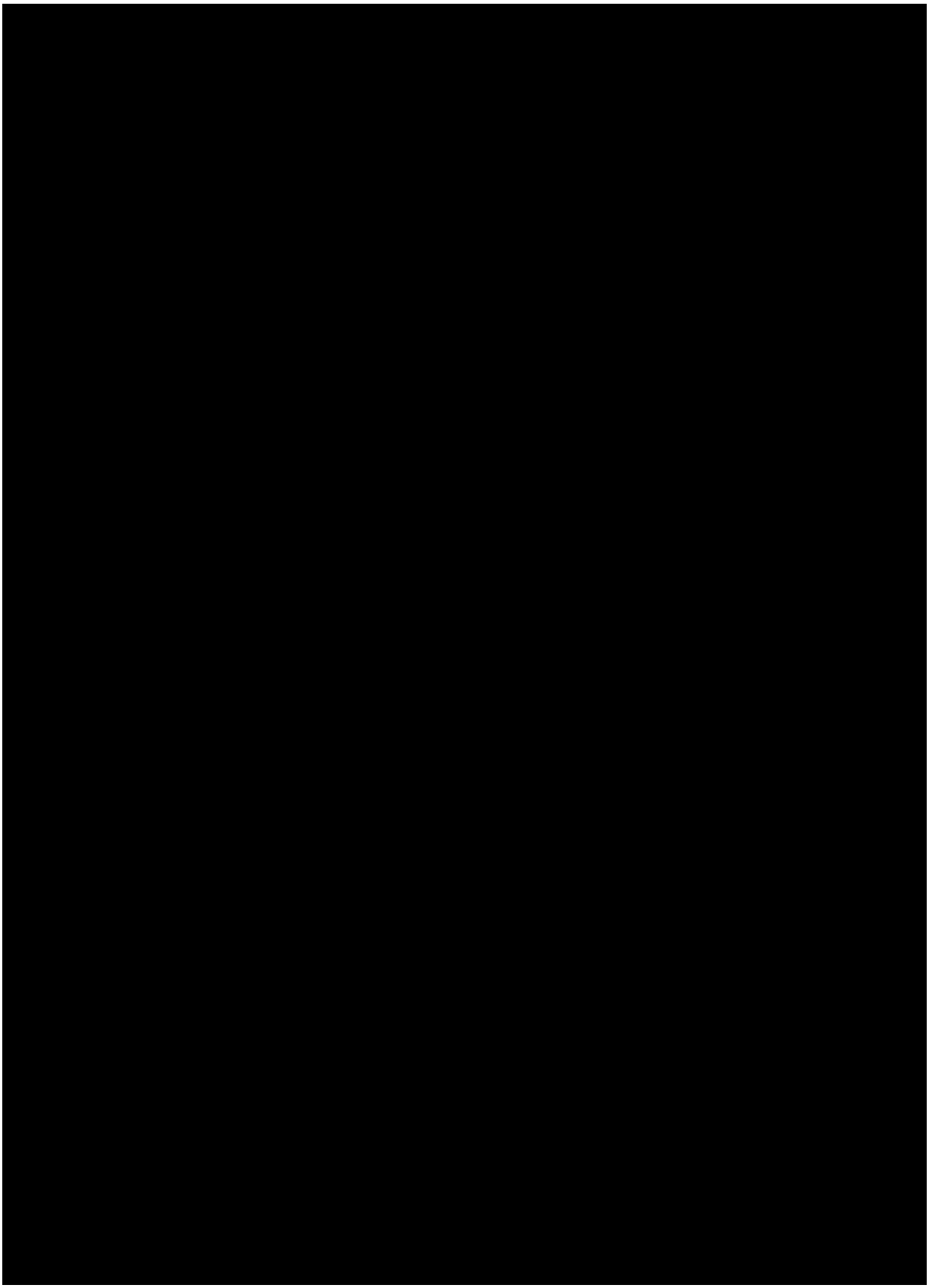

Figure A-8. Fieldwork results map.

APPENDIX B

Submitted Cultural Resources Reports and California Department of Parks and Recreation (DPR) Form Update

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APPENDIX C

2021–2022 Fieldwork Photographs

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Figure C-1. Overview of Staging Area 13 (surveyed in March 2021), facing northeast.

Figure C-2. Overview of Staging Area 13 (surveyed in March 2021), facing northeast.

Figure C-3. Overview of Staging Area 13 (surveyed in March 2021), facing southwest.

Figure C-4. Overview of the Sidecast Addition Outlier (surveyed in October 2021), direction facing unknown.

Figure C-5. Overview of the Sidecast Addition Outlier (surveyed in October 2021), direction facing unknown.

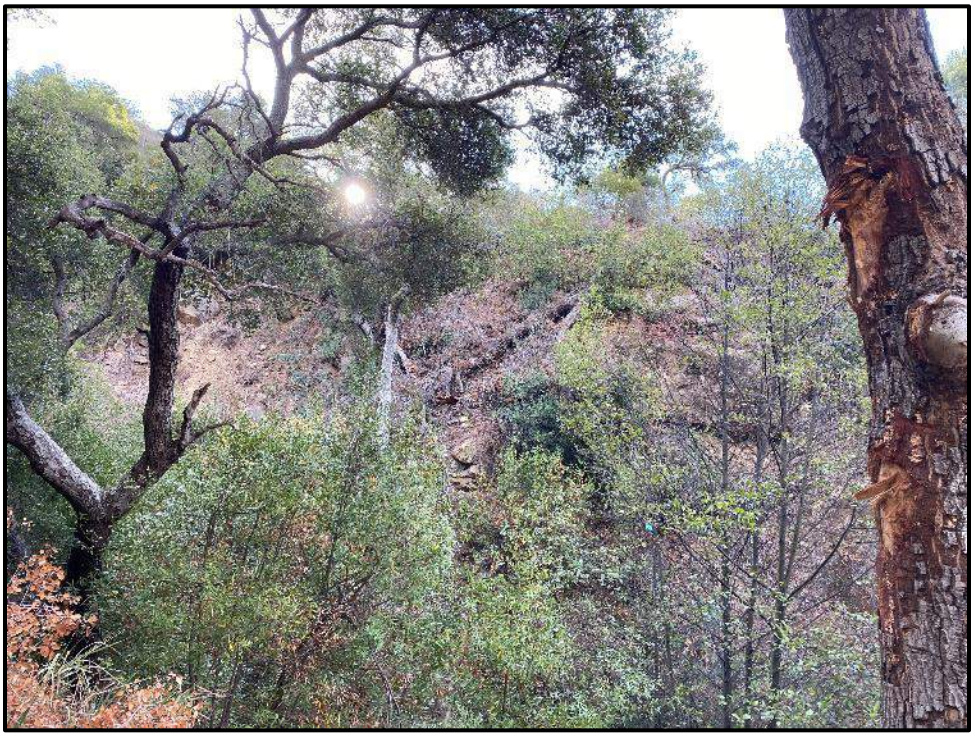

Figure C-6. Overview of the Sidecast Addition Outlier (surveyed in October 2021), direction facing unknown.

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