SIGN HILL PARK

Draft Open Space Master Plan

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List of Acronyms and Abbreviations

BCC	USFWS Birds of Conservation Concern
BGEPA	Bald & Golden Eagle Protection Act
BIOS	Biogeographic Information & Observation System
BMP	Best Management Practice
BRA	Biological Resources Assessment
CALFIRE	California Department of Forestry and Fire Protection
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	Categorical Exemption
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
County	County of San Mateo
CRLF	California Red-Legged Frog
CRPR	California Rare Plant Ranking
CWA	Clean Water Act
EPA	Environmental Protection Agency
FE	Federally Endangered
FESA	Federal Endangered Species Act
MTC	Metropolitan Transportation Commission
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
OHWM	Ordinary High Water Mark
OSMP	Open Space Master Plan
PCA	Priority Conservation Area
PROS	Parks Recreation and Open Space
Rank	California Rare Plant Rank
RWQCB	Regional Water Quality Control Board
SE	State Endangered
SOC	Species of Concern
SOD	Sudden Oak Death
SSC	Species of Special Concern
SSF	City of South San Francisco
SWRCB	State Water Resources Control Board
UFMP	Urban Forest Master Plan
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Executive Summary

The need for an Open Space Master Plan (OSMP) for Sign Hill is demonstrated by the unique history, wildlife, and habitats and corresponding management and maintenance needs. The City of South San Francisco's (SSF) Sign Hill's need for specialized management techniques is identified in Recommendation R-10.2 from the SSF's Parks and Recreation Master Plan (2015), which is to "actively manage Sign Hill habitat for protection and restoration of its unique habitat." Specific items relevant to Sign Hill under R-10.2 include:

- Protect and restore essential habitat for special-status species
- Protect and restore native grasslands
- Provide ongoing management of invasive plant species
- Balance retention of non-native trees with native habitat restoration
- Determine if designation of Sign Hill as a Priority Conservation Area is appropriate

To prepare this OSMP, WRA Inc. (WRA) relied on Gates + Associates (Gates) to conduct all public outreach and Tom Origer & Associates (Origer) to conduct a cultural resource study. WRA conducted several technical studies to better understand existing conditions on Sign Hill, which included an update to a 2015 Biological Resources Assessment (BRA), a trail condition assessment and a visitor use study. Preparing this OSMP is partially funded by and must meet the requirements of a grant from the Metropolitan Transportation Commission (MTC).

EXISTING CONDITIONS

Updating the BRA involved conducting a site visit to map land cover types, document plant and wildlife species present, and evaluate on-site habitat for the potential to support special-status species. Prior to the site visit, WRA biologists reviewed literature resources and performed database searches to assess the potential for sensitive biological communities (e.g., wetlands) and special-status species (e.g., threatened and endangered flora and fauna).

Land Cover

In addition to several relatively small, developed areas (e.g., water tanks) four land cover types were found including tree groves, native grassland, non-native grassland, and scrubland. Three soil series are mapped within Sign Hill; Candlestick-Kron-Buriburi complex, 30–75 percent slopes; Orthents, cut and fill, 15–75 percent slopes; and Urban land-Orthents, cut and fill complex, 5–75 percent slopes. Each of these soil series are described in greater detail below and are shown on Figure 3. Generally, the soils within Sign Hill are slightly acidic and non-saline to very slightly saline.

Special-status Species

Sign Hill provides habitat for the federally endangered mission blue and callippe silverspot butterflies and has the potential for various species of wildlife to occur. Several special-status and common bat species -including pallid bat, fringed myotis, and western red bat- have potential to occur in large trees in the Study Area. Dusky footed woodrat has potential to occur in forested areas, especially where dense undergrowth is present and in areas with dense brush. Olive-sided flycatcher and white-tailed kite have a limited potential to nest within Sign Hill, but nesting cannot be ruled out.

Of the 89 special-status plant species documented within Sign Hill and its vicinity, 10 have at least moderate potential to occur in Sign Hill. These species include:

- Bent flowered fiddleneck
- Coast rockcress
- Coastal triquetrella
- Diablo helianthella
- San Francisco collinsia
- San Francisco wallflower
- San Francisco gumplant
- San Francisco campion
- San Francisco owl's clover
- Scouler's catchfly

Cultural Resources

The cultural resources study conducted by Origer and found no history of structures beyond the concrete letters of the historic hillside sign, and that Sign Hill has low sensitivity for buried resources. Origer contacted the Native American Heritage Center (NAHC) to determine if any tribes might have an interest in the OSMP for Sign Hill. The NAHC replied with a letter dated April 3, 2023, which indicated that the Sacred Lands File had no information about the presence of Native American cultural resources in the project area. Any work that might be needed to maintain the hillside sign, which is on the National Register and the California Register of Historic Places, should be first evaluated by an architectural historian. The hillside sign reads "South San Francisco The Industrial City," and is a series of painted concrete letters that face south along the San Francisco Peninsula. This evaluation would be done to ensure whatever work may be performed would meet the guidelines described in *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. As noted in the cultural resources study, a few remains of the former electrical sign that once stood on the ridge of Sign Hill and some glass fragments were observed. These remains were not considered to be important when Goldenberg and Carroll (1996) were conducting their evaluation of the hillside sign. Thus, no recommendations are required for the remains of the former electrical sign that are located on the ridge top.

Trail Conditions

Evaluation of trail conditions was conducted during two site visits. The first visit involved applying a quantitative erosion ratings system to all official trails. The second evaluation was qualitative and focused on specific trail segments where improvements could be made. During the first site visit, three areas of significant erosion were found on the Ridge Trail, Iris Trail, and Letters Trail. Visitor-created trails and trail "braids" were mapped and found in multiple locations, notably around and accessing the letters comprising the hillside sign. During the second site visit, areas along the Ridge Trail were identified where trail re-routing or improved erosion control are needed. The second site visit also involved assessing conditions along the Eucalyptus Loop and Seubert Trail.

Visitor Data: Collecting visitor data was done with automated counters that were installed at the Ridgeview Court and Poplar Avenue trailheads for two weeks in March plus one day of manual counts near the Spruce Ave trailhead on April 1, since one of the automated counters was stolen. Estimated use is 100 visits on weekdays, and 170 visits on weekends. Around 1/3 of visitors counted were observed participating in dog walking, while the majority were hiking. The specific assumptions used to integrate the manual counts with automated counts can be found in Appendix C.

PUBLIC OUTREACH

Public outreach for the OSMP was conducted in two rounds by Gates with outreach materials provided in both English and Spanish. Round one was conducted early in the planning process (initiated March 13, 2023) to better understand what people liked about Sign Hill and what they desired to see improved or added. An online survey, as well as an in-person pop-up event (April 1, 2023), at Sign Hill was used to collect public feedback during round one. The online survey received 428 responses over the course of three weeks, with 422 in English and six in Spanish. The one-day pop-up event had 28 participants with two participants speaking Spanish. One SSF staff member spoke Spanish and conversed with the two individuals who spoke Spanish. Results of the survey and pop-up event showed that the elements people like the most about Sign Hill were the trails and opportunity for exercise, views, and the native flora and fauna. Survey respondents indicated the conditions of the trails, signage about flora and fauna, and availability of seating could be improved.

Round two of public outreach was conducted mid-way through the planning process (initiated May 5, 2023) to gather feedback on proposed improvements based on the topics identified in round one. SSF's Park and Recreation Commission was briefed on the planning process and draft OSMP status on May 16, 2023, and City Council was briefed on June 28, 2023. Through an in-person town hall event (July 12, 2023) and an online survey, people identified what they liked or disliked about potential trail realignments, interpretive signage topics, signage materials, and seating styles. At the town hall event community members were presented with three hypothetical trail re-routing scenarios, each of which included the addition of new trails. The most popular scenario featured larger trail reroutes and the greatest addition of new trails. However, some participants expressed their opposition to the addition of new trails in favor of habitat preservation. Participants also expressed their preferences for interpretive signage to cover a variety of topics including cultural and natural history as well as views from Sign Hill. Finally, the style of signage and seating people preferred was modern but using natural materials like wood.

RECOMMENDATIONS

Recommendations in this OSMP are a compilation of the processes previously noted as well as information provided by SSF staff. Key, time-sensitive recommendations for the management of Sign Hill include performing a geotechnical evaluation with oversight by an architectural historian of the historic hillside letters. This is considered urgent because of the areas of erosion that formed between the letters during the winter storms of 2022-2023.

An additional time-sensitive recommendation focuses on habitat restoration for locations where non-native trees were burned in the 2020 wildfire or cut down as a result of fire damage and are now regrowing. The next steps of complete removal of invasive trees and tree regrowth and the installing of native species should be implemented as soon as possible. The longer these areas

are left to regrow, the more challenging and costly the full removal of the trees will be. SSF staff have been managing this regrowth to the greatest extent possible, but more resources are needed.

Finally, there is a need for protocol level surveys for all special-status species with at least moderate potential to occur on Sign Hill, in particular, the above referenced butterfly special-status species. This is a critical recommendation and should precede any habitat restoration, as recommended below. Additional key recommendations centered on habitat restoration include ongoing habitat enhancement and monitoring of the mission blue butterfly and the callippe silverspot butterfly, their host plants, and several rare plant species, as well as continuation of fire fuel reduction efforts.

Key recommendations for improving visitor experiences include reducing erosion on the trail and addressing locations identified as having high erosion, in some cases this includes trail realignment. Other key recommendations include the installation of improved wayfinding and interpretive signage, seating, and the construction of new trails.

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1.0 INTRODUCTION

Sign Hill is made up of 65 acres of grassland and scrub brush and is managed by the City of South San Francisco's Parks and Recreation Department. Sign Hill is situated in the northern end of the City of South San Francisco (SSF) and overlooks a residential neighborhood and downtown area (Figure 1). A large hillside sign of painted concrete letters has been the namesake for Sign Hill for nearly 100 years. In a 1928 special election, SSF voters approved a property tax raise to fund the construction of huge concrete letters on the side of the San Bruno Mountains proclaiming, "SOUTH SAN FRANCISCO THE INDUSTRIAL CITY." The Chamber of Commerce-proposed sign was intended to attract businesses and homeowners to San Francisco's industrial suburb. Sign Hill features approximately two miles of hiking trails that showcase views of the San Francisco Bay and surrounding areas. Visitors to Sign Hill can enjoy activities such as hiking, on-leash dog walking, sightseeing, bird watching, and photography.

1.1 Background

Sign Hill provides important habitat for wildlife species, including the endangered mission blue butterfly (*Icaricia icarioides missionensis*) and callippe silverspot butterfly (*Speyeria callippe callippe)*. Existing vegetation at Sign Hill reflects past practices of cattle grazing, with many non-native grasses dominating large swaths of land punctuated by non-native and highly invasive forbs and shrubs; however, native grasslands that provide high quality habitat for special-status butterfly species continue to occupy most of the upper elevations of Sign Hill's ridgeline and extend onto both the public and private parcels to the north and northeast. Larval host plants of these butterfly species are scattered through these grasslands. Host plants consist of silver bush lupine (*Lupinus albifrons* var. *collinus*) and Lindley's varied lupine (*Lupinus variicolor*) for the mission blue butterfly and golden violet (*Viola pedunculata*) for the callippe silverspot butterfly.

For years, non-native and invasive trees were planted intentionally on Sign Hill either by residents or through city-led programs. At the time, these plantings were well intentioned, but the detrimental impacts to the native habitat and increased wildfire risks were not realized until many years later. Recently, SSF has been removing trees from Sign Hill to proactively reduce wildfire fuels while also serving as part of native habitat restoration for resident endangered butterflies.

The historic sign is listed on the National Register of Historic Places and the California Register of Historic Resources. Recent extreme storms caused erosion threatening the stability of the letters. Existing trails around the letters are also experiencing erosion due to their locations on steep slopes.

1.2 Purpose and Need

The need for an OSMP for Sign Hill is demonstrated by the distinctive history, wildlife, and habitats and corresponding unique management and maintenance needs. Sign Hill's need for unique management needs is identified in SSF's Parks and Recreation Master Plan (City of South San Francisco, 2015) and the City of South San Francisco Urban Forest Master Plan (City of South San Francisco, 2020).This OSMP will be the first master plan prepared for Sign Hill. Once adopted, the OSMP will provide guidance over a 20-year period and be reassessed when required as goals are achieved. It is important to note that this OSMP is conceptual. Any recommendations implemented may be subject to additional environmental analysis or other

review processes. For any recommendations regarding trail improvements or for stabilizing the letters, geotechnical and structural engineering evaluations will likely be required.

The purpose of Sign Hill's OSMP is to: 1) Identify the need to protect and restore habitat features required by endangered butterfly species, 2) identify opportunities to create and/or improve appropriate forms of public access; focusing on accessibility, 3) highlight the need to continue the management and mitigate of wildfire hazards, and 4) support further study into whether designation as a Priority Conservation Area (PCA) under the Association of Bay Area Governments (ABAG) is appropriate for Sign Hill.

In recent years, SSF has focused on mitigating wildfire hazards and enhancing and restoring habitat for the endangered species on Sign Hill. SSF Parks and Recreation staff are also aware that accommodating and improving public access is critical to residents enjoying the open space, while ensuring sensitive habitat areas are protected. The Covid-19 pandemic highlighted how critical outdoor recreation is, especially for residents of more urbanized places. Sign Hill is surrounded by residential neighborhoods and serves as a resource not only for those residents, but also for residents of neighboring cities with fewer open spaces and outdoor recreation opportunities. Sign Hill is South San Francisco's only true remaining "open space" and as such is an invaluable resource to residents and visitors. As participation in outdoor recreation and visitation to open spaces increases, careful planning and management of these places is needed. For example, the existing trail system needs to be improved in multiple locations; some locations were impacted by recent large scale tree removal efforts which buried portions of trail and unusually heavy rainstorms causing erosion. Other areas have been degraded over time due to human use and natural weathering.

Finally, this OSMP will support the potential acquisition of adjacent private parcels and provide guidance for their future management. Acquiring the undeveloped parcels on the northern slopes of the hill adjacent to the existing park boundary has been a goal described in both the Parks and Recreation Master Plan and the Shape SSF: 2040 General Plan (City of South San Francisco 2022).

1.2.1 Objectives

For Sign Hill to be maintained into the future, this OSMP has been developed with public input to enhance the restoration of sensitive biological resources, protect cultural resources, mitigate wildfire risk, guide trail improvements, and enhance visitor experiences. Based on the needs and purpose, this OSMP was designed to guide SSF's management of Sign Hill focusing on five primary objectives:

1. Identify key areas for focusing future restoration efforts;
2. Improve trail safety and ease of use;
3. Maintain the historic sign letters;
4. Improve visitor experiences and increase public awareness; and
5. Increase resiliency against wildfire.

In sections eight and nine of this OSMP existing operations and future considerations related to each objective are also addressed to provide a sense of the magnitude of recommendations.

Figure 1. Sign Hill Area and Regional Location

1.3 Regulatory Setting

The Sign Hill OSMP has been developed to comply with relevant federal and state regulations as well as existing general and master plans of SSF. Ensuring the draft OSMP is consistent with these regulations and plans provides the foundation for any future environmental review under the California Environmental Quality Act (CEQA), or any potential project permitting.

1.3.1 Federal and State Regulations

Specific species of plants, fish, and wildlife may be designated as threatened or endangered by the Federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features "essential to the conservation of the species." A species' designation under one law does not automatically provide protection under the other.

Special protections for nesting birds and breeding bats are also provided by the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and sections 3503, 3503.5 and 3513 of the California Fish and Game Code.

Under the California Native Plant Protection Act (NPPA), the California Department of Fish and Wildlife (CDFW) has listed 64 "rare" or "endangered" plant species, and prevents "take," with few exceptions, of these species. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory (Inventory; CNPS 2023a) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some Rank 3 species, are also considered special-status plant species.

Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. The CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2023a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2023b).

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the U.S." under Section 404 of the Clean Water Act as waters susceptible to use in commerce, including interstate waters and wetlands, all non-wetland waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) protect waters within this broad regulatory scope through many different regulatory programs.

1.3.2 City of South San Francisco Parks & Recreation Master Plan

The Parks and Recreation Master Plan (PRMP) provides an inventory of all SSF's parks and open spaces (as of 2015) and establishes goals and recommendations based on a trends analysis and community feedback (City of South San Francisco, 2015). The PRMP recommendation R-10.1 under Goal 10 is to "improve access to Sign Hill, San Bruno Mountain and the Bayfront." Specific items relevant to Sign Hill under R-10.1 include:

- Improve access points to Sign Hill. Improve the informational and wayfinding signage at the Poplar Avenue, Spruce Avenue, Diamond Avenue and Ridgeview Court trail heads. Explore possible enhanced parking/access via an easement off Diamond Avenue and

parking at Spruce Avenue. Provide additional wayfinding signage to direct users to access points and parking.

- Expand the area of Sign Hill by acquiring the privately owned parcels adjacent to City-owned land. Acquisition of these parcels would double the size of Sign Hill and provide additional access points from Larch Avenue and Ash Avenue.[1]
- Improve Sign Hill trails to reduce erosion and discourage off-trail use.

Recommendation R-10.2 is to "actively manage Sign Hill habitat for protection and restoration of its unique habitat." Specific items relevant to Sign Hill under R-10.2 include:

- Pursue designation of Sign Hill as a Priority Conservation Area.[2]
    - Expand the areas eligible for this designation by acquiring the privately held parcels adjacent to City-owned land. The two privately held parcels on the north side of Sign Hill contain some of the most pristine areas of highest habitat value.
- Protect and restore essential habitat for special-status species.
    - Identify and protect suitable habitat for special-status plant species and listed invertebrate species, including mission blue butterfly, San Bruno elfin butterfly, and callippe silverspot butterfly.
    - Coordinate future sign maintenance, trail construction and decommissioning, and other improvements with resource agencies to ensure compliance with the state and federal Endangered Species Acts.
    - Pursue funding and implement habitat restoration to improve conditions for special-status species, including invasive species control and eradication, public access controls, and native revegetation.
- Protect and restore native grasslands.
    - Identify, protect, and restore native grasslands as a sensitive natural plant community type with higher biological resource values.
    - Ensure future trail construction and other improvements are designed to avoid and minimize adverse impacts on remaining native grasslands.
    - Pursue funding and implement habitat restoration to replace native grasslands damaged and lost as a result of past disturbance, trampling from informal trail use, and stands of invasive species.
- Provide on-going treatment of invasive plant species.
    - Monitor and treat invasive plant species that would otherwise compromise natural habitat values. Problematic invasive species currently include sweet fennel, Italian thistle, short-pod mustard, French broom, and non-native tree species.
    - Target invasive species may change over time and include other species rated as having a "high" risk to natural habitat by the California Invasive Plant Council
    - Use a combination of available treatment practices to control and eradicate invasive species, while ensuring protection of sensitive biological resources including essential habitat for special-status species and native grasslands.
- Balance retention of non-native trees with native habitat restoration.
    - Retain snags as potential habitat for cavity nesting birds and raptors

[1] SSF acquired the private "Liberty" parcel near Larch Ave and Ash Ave in 2018.
[2] Bulleted language is taken verbatim from the PRMP; however, the objective in regard to Priority Conservation Areas is to consider whether this designation is appropriate for Sign Hill.

- Control further spread of non-native trees given their exclusionary effect on the remaining native grasslands and endangered species habitat for the mission blue and callippe silverspot butterflies.
- Consider removing non-native trees to expand and enhance native grasslands and habitat for special-status species.

1.3.3 Shape SSF: 2040 General Plan

SSF's 2040 General Plan establishes goals, policies, and action items related to parks and recreation (City of South San Francisco, 2022). A variety of goals, policies, and action items which are relevant to Sign Hill are summarized below from the Parks and Recreation, Community Resilience, Environmental Stewardship and Sub-areas sections of the General Plan.

PARKS AND RECREATION

GOAL PR-1: South San Francisco equitably provides improved parkland, recreational facilities, and services for all residents

Policy PR-1.3: Design parks and facilities to meet universal access standards.

Policy PR-1.4: Ensure equitable distribution of park and recreation opportunities.

Policy PR-1.7: Identify needs of underserved groups.

Policy PR-8.7: Expand environmental stewardship programs. Recognize the unique ecological resources in the city through expanded recreational programing about ecology and environmental stewardship.

GOAL PR-3: South San Francisco maintains a network of open spaces that provide recreational opportunities and are managed to encourage healthy ecosystems, improve air and water quality, and adapt to a changing climate.

Policy PR-3.1: Meet open space standard: Maintain a network of open spaces that achieves a standard of 1.5 acres of open space per 1,000 residents, preserving and seeking opportunities to expand open spaces areas like Sign Hill, along the San Francisco Bay and Colma Creek, and in other areas identified on Figure 31, while ensuring open spaces are accessible to people of all ages and abilities and support urban ecology.

Policy PR-3.2: Minimize environmental impact of support facilities. Limit the construction of facilities in open space areas and design necessary improvements, such as fire roads, access roads, and parking facilities, to minimize environmental impacts and maintain the visual qualities of the open space.

Policy PR-3.3: Create new public access points to open spaces. Seek opportunities to create new public access points to Sign Hill, San Bruno Mountain State and County Park, and the San Francisco Bay Trail and parks.

GOAL PR-8: 8: Parks and recreational facilities have the appropriate staffing to offer high-quality recreational programs and offerings for residents of all ages.

Policy PR-8.11: Explore park stewardship. Explore creating a program to train and hire SSF residents for maintenance and stewardship of open spaces.

COMMUNITY RESILIENCE

GOAL CR-5: The City minimizes the risk to life and property from wildfire in South San Francisco.

Policy CR-5.1: Implement Sign Hill wildfire mitigation measures. Continue to implement Sign Hill wildfire mitigation measures (i.e., restoration and maintenance of native grass and scrubland habitat, removal of non-native trees and trees killed in October 2020 fire, removal of dead trees due to drought and disease and maintenance of existing trails to function as fire breaks).

Policy CR-5.2: Maintain a comprehensive fire management program. Maintain a comprehensive fire hazard management program to reduce fire hazards on other public lands.

ENVIRONMENTAL STEWARDSHIP

GOAL ES-1: The City supports nature in South San Francisco to encourage healthy ecosystems, improve air and water quality, improve public health, and adapt to a changing climate.

Policy ES-1.1: Develop a connected open space network. Continue to develop a system of well-connected parks and open spaces to support biodiversity, enable the movement of wildlife, and increase climate resilience.

Policy ES-1.2: Strive for habitat diversity across the city. Strive for habitat diversity ranging from coastal wetlands and marshes to upland habitats.

GOAL ES-6: Threatened and endangered wildlife and plant species thrive in South San Francisco.

Policy ES-6.1: Catalog wildlife and plant inventories. Continue to catalog and update information on threatened and endangered species in the review of project proposals.

Policy ES-6.2: Conduct wildlife and plant assessments for new development. Require assessments for new developments in areas that could impact threatened or endangered species.

Policy ES-6.4: Manage and conserve natural areas at risk. Actively manage natural areas and landscapes threatened by human intervention and invasive species.

GOAL ES-9: Protect important historic architectural resources for the aesthetic, educational, economic, and scientific contribution they make to South San Francisco.

Policy ES-9.1: Maintain a Historic Resources Inventory. Maintain and update a Historic Resources Inventory at regular intervals to promote awareness of these community resources and as a tool to further their preservation. Give priority to identifying and establishing Historic Districts.

Policy ES-9.2: Identify historic resources. Encourage the voluntary identification, conservation, and re-use of historical structures, properties, and sites with special and recognized historic, architectural, or aesthetic value.

Policy ES-9.3: Encourage adaptive reuse of historic resources. Encourage historic resources to remain in their original use whenever possible. The adaptive use of historic resources is preferred, particularly as inns, vacation rentals, light commercial use, museums, educational facilities, or visitor-serving uses, when the original use can no longer be sustained.

SUB-AREAS

GOAL SA-32: Paradise Valley/Terrabay is a safe and walkable neighborhood with convenient access to amenities.

- **Policy SA-32.1: Expand parks and open space.** Expand parks and open space by evaluating opportunities along the PG&E corridor, the north face of Sign Hill, and the Terrabay Open Space.
- **Policy SA-32.7: Preserve the north side of Sign Hill.** Preserve a substantial portion of the north side of Park as a public or private open space.
- **Policy SA-32.8: Limit development and excessive grading on the north side of Park.** Limit the amount of development allowed on the north side of Sign Hill (discretionary at one unit per acre maximum). Do not permit excessive grading of this portion of the hill or clustering of development in the future.

GOAL SA-33: Sign Hill is a walkable and attractive neighborhood that maintains a variety of housing options.

- **Policy SA-33.1: Preserve and protect open space on Sign Hill and protect from fire hazard risk.**
    - **Action SA-33.1.1:** Proactively manage brush and vegetation in the Sign Hill open space to reduce fire risk.
- **Policy SA-33.2: Improve pedestrian connections to Sign Hill.** Improve pedestrian connections from residential neighborhoods to Downtown San Francisco and Sign Hill open space access points, including Poplar Avenue, Ridgeview Court, and Diamond Avenue, by maintaining unimpeded sidewalks and incorporating wayfinding signage.
- **Policy SA-33.3: Preserve the federally designated Park historic site.**

1.3.4 City of South San Francisco Urban Forest Master Plan

The Urban Forest Master Plan (UFMP) provides goals and associated objectives and actions for managing SSF's "urban forest" including the trees within Sign Hill (City of South San Francisco, 2020)The primary purpose of the UFMP is to properly manage urban forest canopy while facilitating tree planting both on City and private property. The UFMP acknowledges the differences in tree management needed between the urban trees and the trees located within Sign Hill's open space due to the presence of special-status species that rely on open grassland habitat and the propensity for wildfires. Namely, SSF aims to increase its urban forest while not allowing trees to be planted within Sign Hill. Sign Hill is mentioned in the "Enhance Community Safety" Focus Area:

GOAL 8: Reduce the risk of fire and mitigate damage caused by fire.

Objective: Focus fire mitigation efforts within Sign Hill and other areas of vulnerability.

Sign Hill-specific Management Objectives:
Create defensible space around homes adjacent to the open space

- Reduce fuel loads
- Create fuel breaks along roads, trails, and ridgelines

The UFMP provides additional specific best practices for accomplishing these objectives within Sign Hill's boundaries. These practices include:

removing competing vegetation to increase vertical and horizontal spacing and removing dead or dying trees and selectively thin forested areas. Specific strategies to employ to reduce fuels include 1) not removing healthy trees greater than 12-inches diameter, 2) removing dead or dying trees of any size class, 3) 50-70 percent of brush and slash shall be masticated or removed and chipped (achieve residual tree density of 50 to 100 trees per acre (20-foot spacing), 4) dead surface fuel depth shall be less than three inches, 5) retaining standing dead trees for wildlife habitat and 6) retaining dominant and co-dominant trees except where removal of codominant trees is needed to improve forest health and fire safety and as determined by a Registered Professional Forester.

1.3.5 City of South San Francisco Policies

The City Municipal Code includes a Tree Protection Ordinance, described below.

TREE PROTECTION ORDINANCE

Table 1 outlines trees that are protected under City Municipal Code Chapter 13.30, "Tree Preservation," and permits for removal or pruning of protected trees are administered by the Parks and Recreation Department.

Table 1. Protected Trees

SPECIES	CIRCUMFERENCE[1]	STATUS
California bay (*Umbellularia californica*)	30"	Heritage
Oak (*Quercus* spp.)	30"	Heritage
Cedar (*Cedrus* spp.)	30"	Heritage
California buckeye (*Aesculus californica)*	30"	Heritage
Catalina ironwood (*Lyonothamnus asplenifolium*)	30"	Heritage
Strawberry tree (*Arbutus* spp.)	30"	Heritage
Mayten (*Maytenus boaria*)	30"	Heritage
Little Gem Dwarf Magnolia (*Magnolia grandiflora* "Little Gem")	30"	Heritage
Blue gum (*Eucalyptus globulus*)	75"	Protected
Black acacia (*Acacia melanoxylon*)	75"	Protected
Myoporum (*Myoporum lactum*)	75"	Protected
Sweetgum (*Liquidambar styraciflua*)	75"	Protected
Glossy privet (*Lingustrum lucidum*)	75"	Protected
Lombardy poplar (*Populus nigra*)	75"	Protected
Any upright, single-trunked tree	48"	Protected
A tree or stand of trees that is unique/important to the public[2]	None specified	Protected
A stand of trees that are dependent on each other for survival	None specified	Protected

[1] Measured at 54 inches above natural grade
[2] As determined by the director of parks and recreation department of SSF

It is unlawful to remove or prune protected or heritage trees, except as provided for in Section 13.30.070 (Emergencies) and as provided for in Section 13.30.060 (Notices and Permits) of the SSF's Tree Protection Ordinance. An emergency might occur at Sign Hill due to storm damage or wildfire, rendering a heritage tree a public safety hazard.

Tree Removal Permit conditions of approval may include:

- 3:1 replacement ratio for each removed tree, with 15-gallon replacements;
- 2:1 replacement ratio for each removed tree, with 24" x 24" box replacements; or
- Fee payment to SSF's tree fund, as specified in Section 13.30.080(d).

2.0 HISTORY OF SIGN HILL

2.1 Cultural Resources Assessment

In support of this OSMP, an assessment of the historical and archaeological resources within the boundaries of Sign Hill was conducted by Tom Origer & Associates (Origer) in April 2023. The results of the assessment and recommendations for the future management of cultural resources in Sign Hill are presented in the report *Cultural Resources Study for the Sign Hill Open Space Master Plan* (Barrow 2023) (Appendix B). The purpose of the assessment was to identify potential historical resources at Sign Hill and provide recommendations for proper management of cultural resources throughout future management activities facilitated by implementation of the OSMP.

Eleven studies have been conducted within a quarter mile of Sign Hill, where three buildings have been identified, but these do not extend into Sign Hill. These three buildings include: the South San Francisco Elks Lodge at 920 Stonegate Drive, Spruce School at 501 Spruce Avenue, and Martin School at 35 School Street. There have been no reported prehistoric villages or camps on or near Sign Hill and based on the cultural resource study analysis of landform age and environmental setting, there is low potential for buried archaeological resources.

Archival research showed that Sign Hill had not been previously subjected to a cultural resources survey. However, the historic sign letters were evaluated prior to its listing on the National Register of Historic Places and California Register. During this evaluation, the historians noted the remains of the electrical sign above the letters, but considered the concrete footings and glass remains not historically important due to their poor condition and lack of integrity.

2.2 Prehistoric Era

The concept of prehistory refers to the period before events were recorded in writing and vary worldwide. Because there is no written record, our understanding of California prehistory relies on archaeological materials and oral histories of native peoples passed down through generations.

Early occupants (Ohlone/Costanoan) in what is now called the San Francisco Bay Area appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be co-evolved with the development of sedentism and population growth and expansion. The archaeological record also identifies sociopolitical complexity and status distinctions based on wealth, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems (Barrow, 2023).

These horizons or periods are marked by a transition from large projectile points and milling slabs, indicating a focus on hunting and gathering during the Early Period, to a marine focus during the Middle Period evidenced by the number of shellmounds in the San Francisco Bay Area. The Middle Period also saw more reliance on acorns and the use of bowl-shaped mortars and pestles. Acorn exploitation increased during the Late Period and the bow and arrow were introduced (Barrow 2023).

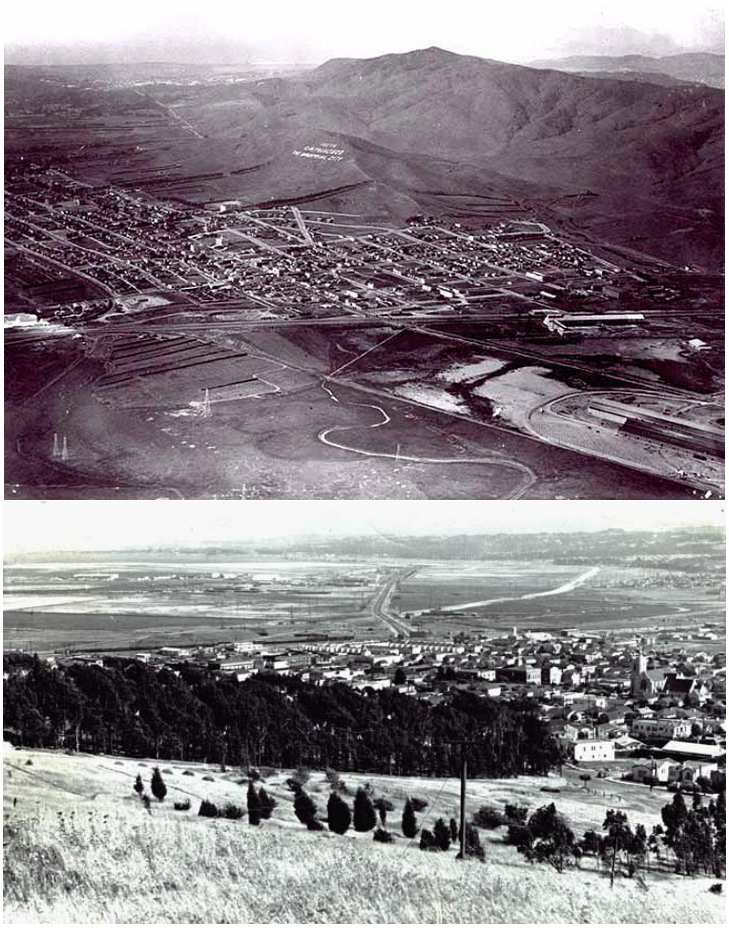
Prehistoric archaeological site indicators expected to be found in the region include but are not limited to obsidian and chert flakes and chipped stone tools, grinding and mashing implements such as slabs and hand-stones, mortars and pestles, and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones (Barrow 2023).

2.3 Historic Era

2.3.1 Spanish Explorers and the Ohlone

Spanish explorers of the Portola Expedition first arrived on the San Francisco Peninsula in 1769. At the time of European settlement, Sign Hill was situated within the area controlled by the Ramaytush linguistic group of the Ohlone/Costanoan. The establishment of Spanish land grants and the Spanish mission culture soon disrupted the Ohlone way of life, and eventually led to the decline of their populations and communities. After Mexican independence, large Spanish land grants that were previously controlled by the Franciscan missions were divided up and granted to individual owners (Lewis n.d.). Sign Hill lies within the area of the Buri Buri land grant, given to José Antonio Sanchez in 1835, and confirmed to his heirs in 1872 (Barrow 2023).

2.3.2 The City of South San Francisco



Views of early South San Francisco.

SSF was established sometime between 1889 and 1892 when Peter Iler obtained 3,500 acres of land and created the San Francisco Land and Improvement Company (Alexander & Hamm 1916). SSF was formally annexed in 1908. Included in this acreage was the former Home Ranch upon which SSF was built. To the west of the railroad were residential lots and to the east were factory and industry lots near the San Francisco Bay (Alexander & Hamm 1916). This area was marketed as a place of industry and over time, many factories were established within the industrial sector of SSF.

2.3.3 Hillside Sign

Sign Hill is known for its iconic Hillside Sign that reads “South San Francisco the Industrial City.” The concrete letters vary from 48 to 65 feet in height and are designed to contour the shape of the hill so that they appear the same size from a distance. The font used for the letters is part of the typeface called Machine Style, which is a design style indicative of the time in which they were installed. Sign Hill’s letters were originally installed in 1923 for a total cost of $300 for the purpose of advertising SSF to industry and were made of wood. In 1929, after repainting the wooden letters for five years, the City Chamber of Commerce allotted $5,000 for the installation of permanent letters made out of concrete (Barrow 2023). In 1996, the letters were listed in both the National Register of Historic Places and the California Register of Historical Resources so that they may be preserved into the future (Lewis n.d.). SSF currently repaints the letters every few years, conducts annual mowing of the vegetation between the letters, and occasional vegetation removal around the edges of the letters (i.e., trimming overhanging trees and shrubs) to maintain its visibility.

Historic signs on Sign Hill.

2.3.4 Former structure: The World’s Largest Electric Sign

In 1932, the world’s largest electric sign was constructed on Sign Hill. The 388-foot-long electric sign was mounted on piers at the top of Sign Hill. According to Bill Zemke, a volunteer docent with the SSF Historical Society, “at one point in time the sign was the largest of its kind anywhere.” The sign was used to flash advertising slogans such as “Drink Acme Beer,” “Buy Bakery Goods,” and “Maxwell House Coffee, Good to the Last Drop.” This sign came down in the 1940s during a severe windstorm. The concrete blocks that once held up this sign can still be found at the top of Sign Hill.

2.4 Present Day

2.4.1 Parks and Recreation Acquisition

Sign Hill was given to SSF by the South San Francisco Land and Improvement Company for parks and recreation purposes, and with a revocation clause if not so used. In 1955, SSF considered using Sign Hill as the site for a new community college but was decided against by the planning commission due to lack of usable land area. Again, that same year, SSF proposed removing the top of Sign Hill and installing a developed park on the leveled land and transporting the cut to fill the Bay for additional real estate for industrial purposes. This idea was also rejected. In 1963, the Planning Commission began to work on plans for formally recognizing the 23-acre park (Lewis n.d.).

2.4.2 Tree Planting and Endangered Butterflies

Al Seubert, a local resident, became inspired by SSF's vision to create a park on Sign Hill. Seubert began a quest to plant a forest on the hill and began planting tree seedlings on the hill in 1957. Al planted nearly 40,000 trees over a 40-year period, including black pines, redwoods, eucalyptus, buckeye, coast live oak, Monterey pine, and other species. Many of Seubert's trees were uprooted by people or destroyed by fires, but it is estimated that up to a quarter of Seubert's trees survived to modern day (Lewis, n.d.). Many of these surviving trees dispersed seeds and propagated seedlings to areas adjacent to the original plantings, further degrading sensitive habitat.

In 1982, SSF headed up a "Park Enhancement Project" which included the installation of 650 trees and a small irrigation tank and pump on the east side of Sign Hill. They also planted trees and shrubs such as toyon, huckleberry, redwood, silk tassel, and Monterey pines. Many of these plants are not naturally occurring on Sign Hill, and their presence there today is likely due to work conducted by the enhancement committee (Lewis n.d.). Concerned about the loss of native habitat for endangered butterflies, the USFWS issued a formal cease and desist to SSF to stop planting trees on Sign Hill in the 1990s.

Sign Hill is known to have important habitat for the mission blue butterfly and callippe silverspot butterfly, which were listed as federally endangered in 1976 and 1997, respectively. Both butterfly species have been documented on Sign Hill. A controversy broke out in 1995 regarding the clearing of grass from letters and protecting endangered butterflies. The USFWS prohibited SSF from using herbicides around the letters because of the harm to lupines, the larval host plants for the mission blue butterfly. Grasses and weeds soon began to grow over the letters, which upset residents. SSF began employing mechanical removal methods around the letters, which they are still using today. With the beginning of the volunteer group Sign Hill Stewards, staff focused on performing this mechanical weed abatement to avoid the mission blue butterfly flight period. In 2018, the mission blue butterfly was adopted as the official butterfly of the City of South San Francisco (Lewis n.d.).

2.4.3 Current Structures

There is a tall pole at Sign Hill's summit with electric lights that serves as an electric Christmas tree, typically lit from the day after Thanksgiving until January 6 (Lewis n.d.). This pole is occasionally used as a display for causes, such as awareness of childhood cancer (Zemke, 2023)

and has been used as a flagpole. In 2008, the electric pole was modified to hold a vertical number 100 to celebrate South San Francisco's 100th year as an incorporated city.

There is a communications tower serving in part as a radio repeater for emergency services at the summit of the hill. There are also fenced off water tanks, one area owned by SSF and two owned by California Water Service (Cal Water).

2.5 Cultural Resources Assessment Findings

No archaeological site indicators were observed within the study area, and the application of a buried sites model indicates a low potential for buried resources within the study area. A few remains of the former electrical sign that once stood on the ridge of Sign Hill and some glass fragments were observed. These things were not found important when Goldenberg and Carroll were conducting their evaluation of the hillside sign. No recommendations are warranted for archaeological resources. Nor are recommendations warranted for the remains of the former electrical sign.

The sign, as mentioned above, is listed on the National Register and the California Register (Goldenberg and Carroll, 1996). SSF is in the process of determining what needs to be done to stabilize and maintain the sign letters. Origer recommended that SSF work with an architectural historian or at minimum, have an architectural historian review any proposed work to ensure it would meet the guidelines outlined in *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (Grimmer, 2017).

3.0 BIOLOGICAL RESOURCES

In support of this OSMP, WRA evaluated Sign Hill for vegetation communities' and soil's potential to support sensitive plant and animal species, and potential for wildlife corridors on February 9, 2023. The full report of WRA's Biological Site Assessment (Appendix A) was designed to be used in support of CEQA analysis. The following sections provide a summary of the existing biological resources within Sign Hill. Any evaluations of the adjacent open space land to the north were performed remotely using publicly available data, and no onsite field verification occurred within privately owned lands.

3.1 Vegetation Communities and Land Cover Types

Extensive development began circa the 1950s in the areas surrounding Sign Hill. Prior to this development, Sign Hill consisted of grassland habitat with virtually no tree cover. Aerial imagery from 1946 indicates the beginning of the planted eucalyptus stand in the southwest corner of Sign Hill; this is evidenced by the arrangement of trees in linear rows (NETROnline, 2023). Tree species that were commonly planted by both local residents and SSF are still present today, and include eucalyptus, coast live oak, Monterey cypress, and Monterey pine.

A reconnaissance-level site visit was conducted by WRA which was not sufficient to identify vegetation communities to an alliance or association level; in addition, the alliance-level mapping conducted in 2015 by Environmental Collaborative is now out of date considering significant changes resulting from recent fires and fuel management activities. Therefore, land cover mapping as described in this report and map remains broad; this is summarized in Table 2 and depicted on Figure 2. The vegetation communities as described below list dominant and

notable plant species (e.g., special-status plants or plants that support listed butterfly species). A full list of observed species is detailed in Appendix A – Attachment 3. This includes observations from the 2017 rare plant surveys conducted by Environmental Collaborative, SSF staff, and Sign Hill Stewards in addition to plant observations made by WRA during the reconnaissance visit in February 2023.

Table 2. Land Cover Types on Sign Hill

COMMUNITY/LAND COVERS	ACRES WITHIN SIGN HILL
Tree Groves	19.73
Shrubland	8.28
Grassland (native)	16.19
Grassland (non-native)	19.72
Developed	1.83

3.1.1 Tree Groves

Tree groves are located throughout Sign Hill, concentrated in the southern portion (Figure 2). These trees were initially introduced around the 1940s through the 1960s and spread through natural propagation processes over subsequent years, as indicated by historic aerial imagery (NETROnline, 2023). Eucalyptus (*Eucalyptus globulus*), black acacia (*Acacia melanoxylon*), Monterey pine (*Pinus radiata*), Monterey cypress (*Hesperocyparis macrocarpa*), and coast live oak (*Quercus agrifolia*) are commonly planted tree species. Less common tree species include coast redwood (*Sequoia sempervirens*), deodar cedar (*Cedrus deodara*), and sweetgum (*Liquidambar styraciflua*). While there are clusters of the same species in certain areas (Monterey pine and Monterey cypress near the Ridgeview Court trailhead, for example) these groves are not representative of naturally occurring vegetation communities. Previously, these stands were denser and more widespread, but the 2020 Diamond Fire which burned over 16 acres of the park and fuel management practices that began in 2019 greatly reduced the spread and density of these tree groves.

Example of thinned eucalyptus tree grove on Sign Hill.

Understory cover ranges from sparse (especially under eucalyptus stands) to dense cover of weedy/invasive species due to recent disturbance. Understory species include wild oats (*Avena* spp.), Italian thistle (*Carduus pycnocephalus*), Bermuda buttercup (*Oxalis pes-capre*), fennel (*Foeniculum vulgare*), shortpod mustard (*Hirshfeldia incana*), English ivy (*Hedera helix*), and other non-native grasses. Non-native/invasive shrub species such as cotoneaster (*Cotoneaster* sp.), pyracantha (*Pyracantha fortuneana*), and French broom (*Genista monspessulana*) occur along the fringes of the stands of tree plantings and continue into the grassland habitat.

3.1.2 Shrubland

Shrubland cover within Sign Hill is dominated by coyote brush (*Baccharis pilularis* shrubland), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), coffee berry (*Frangula californica* ssp. *californica*), toyon (*Heteromeles arbutifolia*), sticky monkeyflower (*Diplacus aurantiacus*), and blue elderberry (*Sambucus cerulea*). Poison oak is prevalent and forms dense thickets in the moist, north-facing slopes of Sign Hill.

Dominant species within the herbaceous layer include hummingbird sage (*Salvia spathacea*), horkelia (*Horkelia* californica), coast iris (*Iris longipetala*, CRPR 4.2), pearly everlasting (*Anaphalis margaritacea*), and bee plant (*Scrophularia californica*).

3.1.3 Native Grassland

As indicated previously, native grassland was historically the dominant cover over Sign Hill and surrounding lands. Native grasslands still occupy most of the Sign Hill ridgeline and extend onto the private parcels to the north and northeast, as well as the parklands to the southeast.

While native grass and forb species may be observed across Sign Hill, some of the less disturbed or appropriately managed areas contain higher concentrations of native species. Although the boundaries between native and nonnative grassland vegetation communities is represented by a distinct line on Figure 2, field conditions exhibit a gradient, or a gradual shift in vegetation assemblage from native-dominated to nonnative-dominated. The native grassland vegetation community as mapped and described here represents areas that tend to be dominated by native species; these areas also typically include rare plants and larval hosts for special-status butterflies.

Representative native grass species include purple needlegrass (*Nassella pulchra*), California brome (*Bromus sitchensis* var. *carinatus*), meadow barley (*Hordeum brachyantherum*), blue wildrye (*Elymus glaucus*), California oatgrass (*Danthonia californica*), Hall's bent grass (*Agrostis hallii*), June grass (*Koeleria macrantha*), and beardless wild rye (*Elymus triticoides* ssp. *triticoides*). Beardless wild rye forms dense, almost monotypic stands in some locations on the north and northeast-facing hillsides. Purple needlegrass are present in the highest density around the sign letters where annual summer mowing has been performed but can also be found dispersed throughout Sign Hill.

Forbs observed within the native grasslands include coast iris (*Iris longipetala*), soap plant (*Chlorogalum pomeridianum*), yarrow (*Achillea millefolium*), California poppy (*Eschscholzia californica*), checkerbloom (*Sidalcea malvaeflora*), hummingbird sage (*Salvia spathacea*), silver bush lupine, varied lupine (*Lupinus variicolor*), golden violet, blue dicks (*Dichelostemma*

capitatum ssp. *capitatum*), blue-eyed grass (*Sisyrinchium bellum*), and California buttercup (*Ranunculus californicus*).

Larval host plants of the federally endangered mission blue butterfly and callippe silverspot butterfly are also scattered throughout the native grasslands; these consist of silver bush lupine and Lindley's varied lupine for the mission blue butterfly and golden violet for the callippe silverspot butterfly.

As stated previously, while non-native and invasive herbaceous species may also be observed within native grasslands, they are not considered dominant.

Golden violet on Sign Hill.

3.1.4 Non-native Grassland

Non-native grasslands occupy most of the south-facing slopes located at lower elevations within the Sign Hill where more disturbance has occurred. Although there are native species (and recruitment of native species) observed within nonnative grasslands, they tend to be in lower concentrations, as small clusters or as an individual specimen.

3.1.5 Developed Land

Developed land cover includes residences (including yards) adjacent to Sign Hill, hardscape (parking lots, roads, and sidewalks), paved trails, and utility facilities.

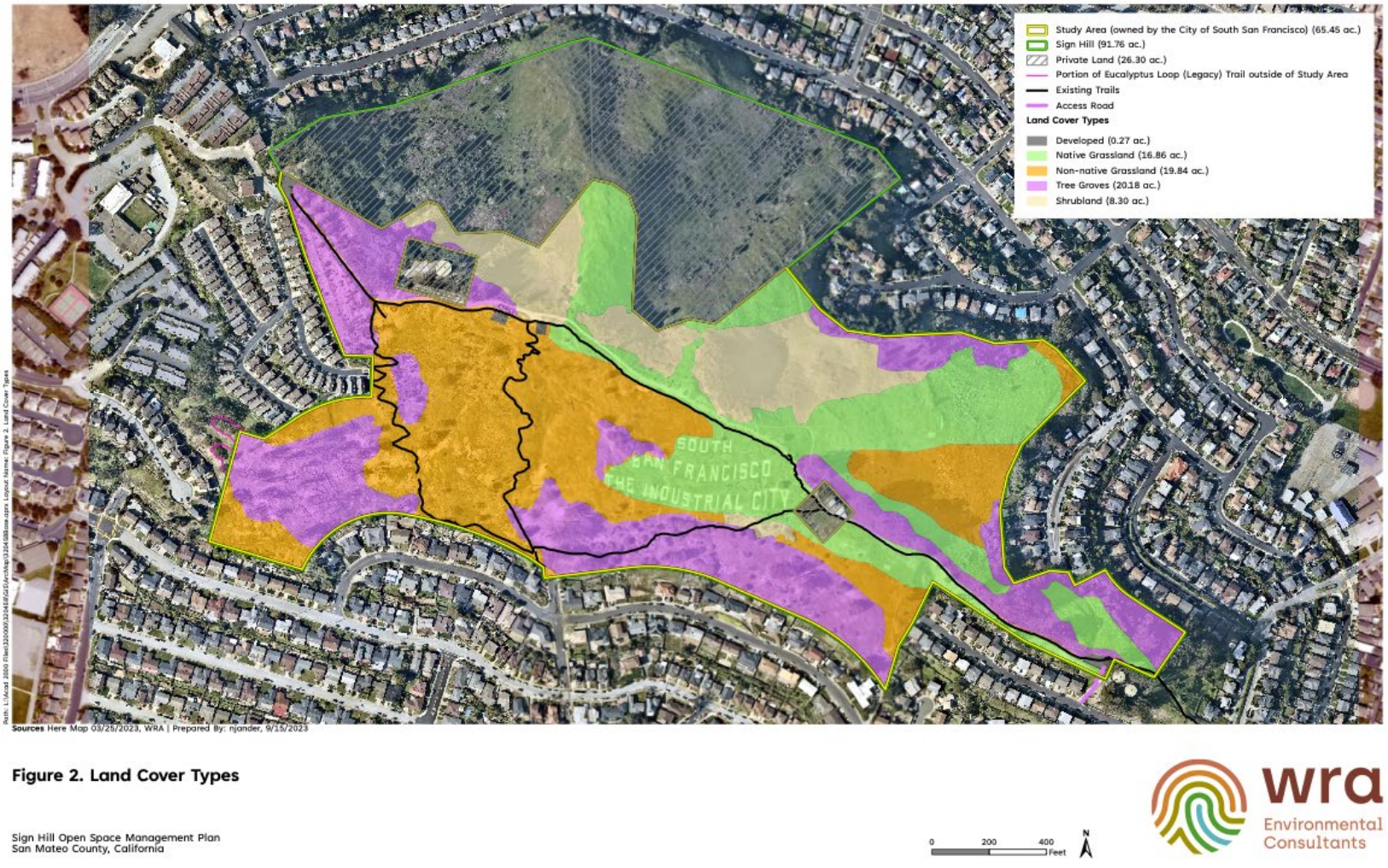


Figure 2. Vegetation Communities

3.2 Soils

Three soil series are mapped within Sign Hill: Candlestick-Kron-Buriburi complex, 30–75 percent slopes; Orthents, cut and fill, 15–75 percent slopes; and Urban land-Orthents, cut and fill complex, 5–75 percent slopes. Each of these soil series are described in greater detail below and is shown on Figure 3. Generally, the soils within Sign Hill are slightly acidic, non-saline to very slightly saline, and not serpentine (National Resources Conservation Service, 2023).

- **Candlestick-Kron-Buriburi complex:** This series consists of shallow and variable loamy (mostly fine sandy loams) soils formed from hard fractured residuum weathered from sandstone, at elevations of 200–1,340 feet. This soil series is well drained with high runoff, is not rated as hydric, and is typically found in windy coastal plains. The soil components range from non-saline to very slightly saline. This mapping unit dominates Sign Hill.
- **Orthents, cut and fill**: This series consists of variable depth and variable soil textures, and is formed from residuum, at elevations of 0–700 feet. This soil series is well drained, is not rated as hydric, and is typically found in loamy mountains. This mapping unit located on the western side of Sign Hill surrounding the Ridge Trail from the parking lot to the top of Iris Trail as well as an area adjacent to the residential development west of Eucalyptus Loop.
- **Urban land-Orthents, cut and fill complex:** This soil series occurs mostly in urban areas and consists of soil material that has been moved mechanically and mixed, with highly variable texture. In addition, this series may consist of varying amounts of soil, gravel, and other solid materials. This series is typically well drained and is not rated as hydric. This mapping unit is located on the southeastern edges of Sign Hill, adjacent to residential development.

Landslide scar from 2023 storms.

The Candlestick-Kron-Buriburi Complex, 30–75 percent slopes map unit is rated as “Highly Susceptible”, meaning that the soils of this map unit are highly susceptible to degradation following site disturbance, and the soils have a low capacity to resist erosion due to water and/or wind, salinization, sodification, depletion of organic matter and/or other nutrients, and reduction of soil depth to the point that the soil loses its capacity to support the desired plant community. In addition, these soils have a moderate susceptibility to sheet and rill erosion. During the winter of 2022-2023, sustained heavy rains caused a series of gullies to form on Sign Hill, the largest was on the western side of the park washing out sections of the Seubert and Eucalyptus Trails, and another was within the sign letters spanning the gap between the “O” in Francisco and the “I” in City. Multiple landslides have happened in Sign Hill in the past as evidenced by vacant lots where, according to SSF staff, houses that were damaged by the slides once stood.

Figure 3. Soil Types

Sign Hill Open Space Management Plan
San Mateo County, California

0 200 400 US Feet

N

wra Environmental Consultants

Figure 3. Soils

3.3 Sensitive Plant Species

Based upon a review of online databases and internal City GIS species occurrence maps, a total of 89 special-status plant species have been documented in the five 7.5-minute USGS quadrangles (San Francisco North, San Francisco South, San Mateo, Montara Mountain, and Hunter's Point) surrounding Sign Hill. Species that are unlikely or have no potential to occur in Sign Hill were eliminated from further consideration for one or more of the following reasons:

- Edaphic (soil) conditions (e.g., alkaline, serpentine, sandy) necessary to support the special-status plant species are not present in Sign Hill;
- Topographic conditions (e.g., montane, elevations) necessary to support the special-status plant species are not present in Sign Hill;
- Associated natural communities (e.g., swamps, coastal dunes) necessary to support the special-status plant species are not present in Sign Hill;
- Sign Hill is geographically isolated from the documented range of the special-status plant species; or
- Recent evaluation of historical records has determined that these species are extirpated from the region in which Sign Hill is located.

Of the 89 special-status plant species documented within Sign Hill vicinity, nine special-status plant species have high or moderate potential to occur in the park, and two special-status plant species have been documented on Sign Hill.

Habitat suitability and species descriptions were developed based on California Native Plant Society's (CNPS) Rare Plant Inventory (California Native Plant Society, 2023), Calflora (Calflora, 2023), Consortium of California Herbaria 2 (CCH2) (Consortium of California Herbaria, 2023), and California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife, 2023). Many of the follow species are also found on nearby San Bruno Mountain to which Sign Hill is naturally and geographically a foothill. Many of the plant communities were once contiguous between the parks before Sign Hill was biogeographically separated by housing developments in Paradise Valley.

Table 3. Special-Status Plant Species

SPECIES	POTENTIAL TO OCCUR
Coast rockcress (*Arabis blepharophylla*)	Present
Coast iris (Iris longipetala)	Present
Scouler's catchfly (*Silene scouleri* ssp. *scouleri*)	Present
Bent-flowered fiddleneck (*Amsinckia lunaris*)	Moderate potential
San Francisco collinsia (*Collinsia multicolor*)	Moderate potential
San Francisco wallflower (*Erysimum franciscanum*)	Moderate potential
San Francisco gumplant (*Grindelia hirsutula* var. *maritima*)	Moderate potential
Diablo helianthella (*Helianthella castanea*)	Moderate potential
San Francisco campion (*Silene verecunda* ssp. *verecunda*)	Moderate potential
San Francisco owls-clover (*Triphysaria floribunda*)	Moderate potential
Coastal triquetrella (*Triquetrella californica*)	Moderate potential

Scouler's catchfly on Sign Hill.

3.4 Sensitive Wildlife Species

Potential sensitive wildlife species were identified using a query of the CNDDB (CDFW, 2023) that focused on the same five USGS quadrangles used for the special-status plant study. Of the special-status wildlife species documented in the vicinity of Sign Hill, most were excluded based on a lack of habitat features required to support them including:

- Sand dunes or bare gravelly outcrops;
- Large burrows;
- Presence of specific host plants;
- Caves, bridges, or abandoned buildings;
- Rocky intermittent and/or perennial streams;
- Forests, beaches, tidal marsh, streams, ponds, and other habitat types.

The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity. Two federally endangered butterfly species, the mission blue butterfly and callippe silverspot butterfly have been documented on Sign Hill. Surveys for mission blue butterflies are conducted annually from March-June and incidental sightings of callippe silverspot butterflies are documented.

Mission blue butterfly on lupine on Sign Hill.

Callippe silverspot butterfly on Sign Hill.

White-tailed kite (*Elanus luecurus*), a fully protected species in California, has potential to occur on Sign Hill and may nest there. Sign Hill has some marginal habitat that could support olive-sided flycatcher (*Contopus cooperi)*. The site provides suitable nesting habitat for a wide range of nesting birds, including raptors, that despite having no special status, receive protections from impacts that could result in nest failure during nesting. Most native birds in the United States, including common species are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGC) sections 3503, 3503.5 and 3513. Under these laws/codes, the deliberate take of birds and their nests, eggs, and young is prohibited. Typically, during any tree removal actions, pre-construction surveys would be conducted and if active nests are found, buffers around the subject tree(s) would be established. Nests would then be

periodically monitored until the young have left the nest. During recent tree removal efforts, pre-construction nesting surveys and protective measures were implemented by SSF staff, and no sensitive species were detected.

Several special-status and common bat species including pallid bat (*Antrozous pallidus*), fringed myotis (*Myotus thysanodes*) and western red bat (*Lasiurus blossevillii*) have potential to occur in large trees on Sign Hill. Dusky-footed woodrat (*Neotoma fuscipes annectens*) has the potential to occur in forested areas with dense undergrowth or in dense brush. There is potential for these and other regional special-status species to occur in proposed work areas that could be affected by any wildfire hazard removal, trail maintenance/reconstruction, or habitat restoration.

3.5 Wildlife Corridors

Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas (Beier & Loe, 1992; Soule & Terborgh, 1999). To account for potential impacts to wildlife movement or migratory corridors, WRA biologists reviewed habitat connectivity data available through CDFW from the Essential Connectivity Areas dataset (California Department of Fish and Wildlife, 2023). Additionally, aerial imagery was accessed for the local area to determine if local core habitat areas were present within or connected to Sign Hill. This assessment was refined based on observations of physical and biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as potential barriers to connectivity.

Because Sign Hill is not connecting one open space area to another, it is not considered part of a wildlife corridor. While common wildlife species presumably utilize Sign Hill to some degree for movement at a local scale, Sign Hill itself does not provide corridor functions and no barriers to wildlife movement will be created as a result of this OSMP.

Coyote using game trails on Sign Hill.

4.0 WILDFIRE HAZARDS

4.1.1 Fire History and Hazards

Although Sign Hill has historically been dominated by open grasslands, community members and SSF programs changed the landscape by planting thousands of native and non-native trees to beautify the area from the late 1950's to the early 2000's. This created unintended consequences to local wildlife and surrounding residents by diminishing grassland habitat upon which local species rely and increased the threat of wildfire. Tree species planted include many types of fruit trees as well as trees known to be particularly flammable like eucalyptus, cypress, and acacia.

In the 1970s, it was common for Sign Hill to burn periodically, mainly due to fires started by local teenagers. Some examples of wildfire in recent years included one wildfire in 2012 that was started by fireworks on the top of Sign Hill. Two wildfires occurred on the hill in 2015, one on the lower elevation south-facing slope in May and one near the communications tower in July.

In October 2020, the Diamond Fire burned 16 acres of the south-facing slope. Multiple agencies including CAL FIRE responded to the fire and dropped flame retardant on the hill by airtanker. No structures were lost, and minor damage was done to a few homes from falling embers. Thousands of trees were killed during the fire which started as a grass fire and then quickly spread to a crown fire. In January 2021, SSF staff contracted work to address post-fire erosion concerns, building check dams, hydroseeding slopes, and installing wattles in drainage areas. After this phase of work, tree and brush removals focused on getting Sign Hill to meet CAL FIRE compliance. SSF staff contracted work to remove hazardous trees near trails to help reopen the park as soon as possible. In late 2021, work began to remove and thin the remaining trees on the hill including the removal of an acacia grove adjacent to the large eucalyptus grove. Treatments such as tree thinning and tree and branch removal were performed, along with lop and scatter treatments on the site to evenly distribute treated chip on top of a large majority of the trail known as the “Eucalyptus Loop.” This scope of work was entirely directed by guidance of the most up to date CAL FIRE standards for defensible space.

4.1.2 Fuels Management

Though Sign Hill is not assessed by CAL FIRE, the Fire Hazard Severity Zone assigned for nearby San Bruno Mountain is listed as moderate (CAL FIRE, 2023). Sign Hill has similar urban boundaries and ecology to San Bruno Mountain, making it likely that it would be rated as moderate as well; however, the addition of trees to Sign Hill could increase the risk of fire.

A Metropolitan Transportation Commission (MTC) grant provided partial funding to perform fuels management treatments post-2020 Diamond Fire to bring Sign Hill in compliance with CAL FIRE defensible space standards, as well as providing some funding towards restoration efforts and the creation of this OSMP. After the initial fire response phase of work, tree and brush removals focused on getting the hill within CAL FIRE compliance. In addition, SSF has been working to increase defensible space around the residential borders of Sign Hill through tree removal. Currently, the eucalyptus grove, remaining trees, and defensible space are consistent with CAL FIRE standards to have 30 feet between individual tree canopies, clearing a 100-foot defensible space around structures, and removing ladder fuels on any remaining trees up to 15 feet from ground level (CAL FIRE, 2023). SSF intends to maintain Sign Hill’s fuel load into perpetuity.

SSF has also created fire breaks along the existing Ridge Trail and Iris Trail to help limit fire spread should one start. To date, SSF has thinned trees and underbrush along the entire southern slope and removed almost all trees within a 100-foot defensible space along the private/public boundary. Most recently, tree crews thinned the large eucalyptus grove in the southwest portion of Sign Hill.

Sign Hill canopy cover on October 14, 2020 (before Diamond Fire).

Sign Hill canopy cover on July 8, 2023 (after Diamond Fire and fuel reduction work).

5.0 TRAILS AND VISITATION

5.1 Facilities

Sign Hill is publicly accessed via three main trailheads. The primary trailhead is located at the end of Ridgeview Court and includes a parking lot of seven spaces. The second trailhead is located at the end of Poplar Avenue with street parking only. The third trailhead is located on Spruce Avenue between Park Way and Beech Avenue with limited street parking. These trailheads are not named on City maps and referred to by City staff using the street names mentioned. There is a fourth entrance to Sign Hill located on Diamond Avenue, but this is largely known only to residents of the area and is primarily a maintenance road access.

Sign Hill has approximately two miles of hiking trails in total. The Ridge Trail is 0.77 miles (mi) long following the spine of the hill from the Ridgeview Court trailhead to the Spruce Avenue trailhead. Three trails begin at the Poplar Avenue trailhead and travel to the ridgeline connecting with the Ridge Trail: Iris Trail (0.27 mi) which travels directly to the summit of the hill; the Letters Trail (0.2 mi) which traverses the hill below the letters; and the Seubert Trail (0.36 mi) which climbs west of the summit of the hill. The Eucalyptus Loop Trail (0.27 mi) is shown to traverse the southwestern corner of Sign Hill, creating a loop off the Seubert Trail.

All the main trailheads contain a bulletin kiosk, and most trail junctions are identified with wayfinding signage. Additionally, there are two benches near the summit and one bench located at the Ridge Trail – Seubert Trail junction.

5.2 Trail Condition

During the spring of 2023, WRA staff assessed the condition of existing trails on Sign Hill using a qualitative measure of erosion. Evidence of on-trail erosion was classified into Low, Medium, or High categories using the descriptions and examples in Table 4. Instances of trail erosion were marked using GPS and classified on-site. Visitor-created trails were also identified and mapped. These trails deviate from the designated trails and are identified using visual indicators of vegetation trampling and soil compaction/loss. Because nearly all of the Eucalyptus Loop Trail has been obscured by debris from the tree removals, it was not visible to be assessed in the field -the original alignment from City records is shown on the map instead. Similarly, part of the Seubert Trail was washed out during severe storms in 2022-2023 leaving a gap seen in the trail map.

Though relatively few instances of high levels of erosion were found (Figure 4), observed eroded areas cover relatively long sections of trail, such as on the Letters Trail. In the case of the Ridge Trail, the long duration of medium erosion covers an extremely steep section and has resulted in a proliferation of visitor created trails as people try to avoid eroded sections and take a less steep route. For the Iris Trail, the area of high erosion occurs in and around steep steps. An analysis of trail segments found slopes for the Ridge, Iris, and Seubert Trails to be steeper than 16 percent—the generally acceptable maximum for non-accessible hiking trails shown in Table 4 (California State Parks, 2019). Additional visitor created trails provide access to destinations such as the sign letters themselves and an old, rusty car along a secondary ridgeline with views to the east.

While no visitor created trails currently exist at the summit of the hill, vegetation trampling is a concern along the Ridge Trail because of populations of golden violets and other host plants as well as nectar flowers for the aforementioned endangered butterfly species. On the eastern slopes of Sign Hill, as well as the Ridge Trail, there are on-going restoration areas where SSF staff have been planting native species. SSF staff have installed fencing to protect these plants from trampling by visitors.

Fencing and log barriers to deter off-path travel near Sign Hill summit.

Table 4. Definitions of Trail Erosion Categories

EXAMPLE	CATEGORY DEFINITION
 *Letters Trail*	**HIGH** There are more than two deep ruts located along the length of the trail, and there are several observations that erosion significantly interferes with pedestrian activities causing trail users to create additional pathways to avoid this erosion feature. For this category, evidence of trail user impacts resulting from the erosion feature includes more than one of the following: trail widening, braided trails, unsanctioned trails, soil compaction, and vegetation trampling.
 *Ridge Trail*	**MEDIUM** There are one or two noticeable ruts forming along the length of the trail, and there are some observations that it significantly interferes with pedestrian activities. For this category, evidence of trail user impacts resulting from the erosion feature includes one of the following: trail widening, braided trails, unsanctioned trails, soil compaction, and vegetation trampling.
 *Letters Trail*	**LOW** There is a shallow rill forming along the length of the trail, but there are no observations that it significantly interferes with pedestrian activities. There is no evidence of trail users negatively impacting adjacent vegetation to avoid this erosion feature.

Table 5. Trail Slopes

TRAIL SEGMENTS	AVERAGE % SLOPE
EXISTING TRAILS	
Eucalyptus Trail	9%
Letters Trail	14%
Ridge Trail	28%
Iris Trail	27%
Seubert Trail	24%

Figure 4. Trail Condition Assessment

5.3 Visitation and Activity Type

The trails on Sign Hill are open to use by pedestrians, and dogs are allowed while on-leash. Biking is not allowed in Sign Hill. Parking is limited at Sign Hill; however, SSF city staff have observed that many visitors live nearby and access Sign Hill by walking, often visiting multiple times per week.

Based on data collected during spring 2023 (see Appendix C for methodology), visitation to Sign Hill is estimated at 100 visits on average per day for weekdays, and 170 visits on average per day for weekend days. Visitation was estimated for each main trailhead: Ridgeview Court, Poplar Avenue, and Spruce Avenue. Note that visitation via the Spruce Avenue trailhead included counts from an adjacent access road on Diamond Avenue and a visitor created trail on Ash Avenue, as they converge at the same location on the Ridge Trail. The Ridgeview Court trailhead had the highest visitation, followed by Poplar Avenue, and Spruce Avenue had the fewest number of visits.

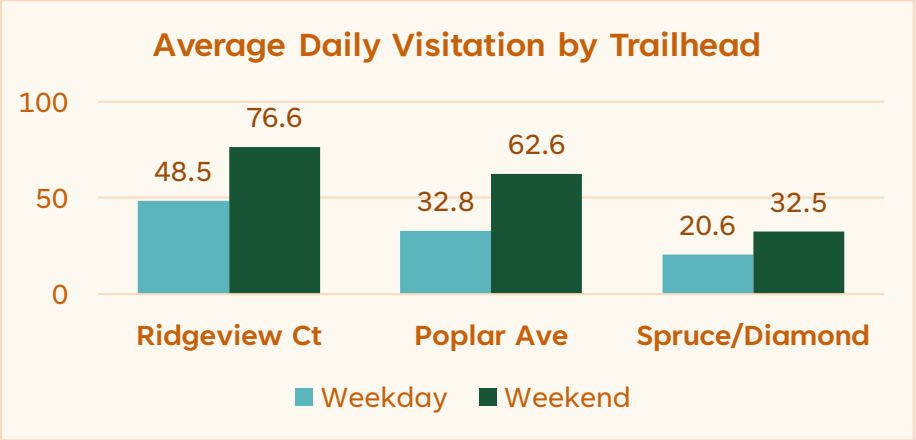


Chart 1. Average daily visitation by trailhead

On-site observational data collected during spring 2023 shows that approximately 1/3 of visitors participated in dog walking while at Sign Hill. These data also show that nearly 2/3 of visitors were hiking or walking, and a small proportion of visitors were using the trails for running. Though illegal biking use was not observed during the data collection period, SSF City staff have occasionally observed cyclists using Sign Hill's trails.

Chart 2. Percentage of use by activity type

6.0 CURRENT OPERATIONS

Sign Hill is currently managed by the Parks and Recreation Department with direct oversight by the Parks Manager, a Natural Resource Specialist, and a Natural Resource Aide. Parks maintenance staff periodically assist with various weed abatement, tree work, and painting the sign letters. The current ongoing operations carried out in Sign Hill are described below.

6.1 Letters Maintenance

The historic sign is repainted about every other year, and since it is on the National Register of Historic Places, SSF is required to avoid any alterations that would change their historic character. Vegetation trimming around the letters occurs annually, using manual and mechanical methods like hand pulling and string trimming. Occasionally, trees or shrubs will be cut if they grow to obscure the letters from view.

6.2 Trail Maintenance

Currently, SSF conducts as-needed erosion control measures on Sign Hill trails and annual maintenance activities such as weed whipping and brush clearing. The steep topography of the site makes trail maintenance challenging, but several erosion control efforts are actively being implemented to stabilize the most highly affected areas. Visitor-created trails are problematic, and efforts are being made to reduce their use such as natural physical barriers. Select endangered butterfly habitat areas are being protected via fencing to exclude pedestrians.

6.3 Vegetation Management and Habitat Restoration

Extensive vegetation management and restoration activities began in 2019 when SSF received funding from a San Mateo County grant through Measure K and hired a Natural Resource Specialist. After that grant, SSF has funded restoration efforts through departmental funding while continuing to seek grant opportunities. In addition to the recurring activities described below, SSF has also performed larger, one-time projects like thinning the planted groves, removing burned trees and implementing erosion control efforts after the 2020 Diamond Fire, and installing emergency erosion control measures and check dams in gullies during the 2022-2023 storms.

6.3.1 Invasive Plant and Fuel Removal

City staff have identified target invasive, scrub grass and fuels species that they work to remove. The appropriate timing of treatment or removal, as well as the appropriate methods, have been specified by species to maximize efficacy.

As mentioned, the Metropolitan Transportation Commission (MTC) awarded SSF a grant providing partial funding after the 2020 Diamond Fire to perform fuels management treatments at Sign Hill (e.g., tree removal and thinning) and to bring Sign Hill into compliance with CAL FIRE defensible space standards, as well as partial funding for restoration efforts and the creation of this OSMP.

6.3.2 Native and Butterfly Habitat Restoration

Native seed collection and dispersal, planting nursery-grown native species, and monitoring the survival of previously installed plants are annual habitat restoration activities. Preventing the degradation of existing native grasslands from invasive weeds and scrub encroachment is at the forefront of SSF's restoration efforts. Seasonal or as-needed activities include irrigating newly installed plants and installing fencing/signage around restoration areas. Test plots are being established throughout Sign Hill to monitor the limitations and benefits of different restoration planting approaches.

San Mateo County's Measure K had supported Sign Hill's Restoration Project for two years with grant funding focused on protecting and enhancing grasslands for endangered mission blue and callippe silverspot butterflies. The maintenance and expansion of endangered species habitat continues to be the central goal of the project even as funding has continued through other grants and SSF Parks Department resources.

6.3.3 Sensitive Species Monitoring

SSF staff conduct annual monitoring of the mission blue butterfly through systematic egg count surveys. Staff collect egg count data annually during flight season from mid-March through June or until egg counts consistently drop to zero. Approximately 40 plants are randomly selected to monitor each season and surveys are conducted every seven to ten days. As of 2023, SSF city staff are in the third year of data collection for butterfly egg counts. Continued egg counts will create a base line average to help determine if populations are growing, shrinking, or remaining the same.

In addition, City staff monitor both rare plant species found on-site and butterfly larval host plants every 3-5 years. Staff also conduct periodic reconnaissance for species which have a high potential to occur. This monitoring and reconnaissance work is performed during peak flowering season for each species.

7.0 COMMUNITY ENGAGEMENT

7.1 Current Engagement Programs

SSF Parks and Recreation staff currently send out a regular quarterly newsletter and manages the Sign Hill Stewards volunteer program year-round. Through this program, volunteers join staff

in habitat restoration activities like planting native grassland species, removing non-native invasive species, and counter scrub encroachment measures.

Parks and Recreation staff also host a youth program and interpretive hikes at Sign Hill during the summer season. Staff have also partnered with the Library Department to host a Nature Walk Story Time on Sign Hill where families walk the Ridge Trail, read small stories, and learn about plant and animal species that can be found on Sign Hill.

7.2 Master Planning Outreach

Public input was an integral part of the development of this plan. Gates + Associates staff solicited feedback from the public in two phases: the first to build awareness of Sign Hill's planning process and inform the development of the plan; the second, to gather feedback on trail alignment concept drawings and other park amenities, and to identify any preferred alternatives for inclusion in the plan.

7.2.1 Round One

The planning team developed an online survey of 15 questions, offered in both English and Spanish, to understand general visiting habits at Sign Hill, affinity for existing site features, desired improvements, important characteristics, and participant demographics (see Appendix D for survey questions). The survey was advertised through SSF's social media accounts, Park and Recreation Department newsletters, and flyers mailed to local neighborhoods and residents immediately adjacent to Sign Hill.

Flier 1. English/Spanish advertisements encouraging community engagement.

In addition, an in-person pop-up event was held at the trailhead at Ridgeview Court on Saturday, April 1, 2023. Visitors responded to a subset of four survey questions focused on preferences using dot stickers.

Visitors to Sign Hill participating in the pop-up event.

RESULTS

The online survey received 428 responses over the course of three weeks: with 422 in English and six in Spanish. The one-day pop-up event had 28 participants with two speaking Spanish (Table 6).

Table 6. Community Outreach Results for Round One

ONLINE SURVEY	POP UP EVENT (IN PERSON)
March 15-April 7, 2023 15 questions total responses (422 English, 6 Spanish)	**April 1, 2023** 4 questions on input boards 28 participants

Survey respondents were primarily locals with some indicating that they now live elsewhere but grew up in South San Francisco. Over 85 percent of respondents had visited Sign Hill before and over 85 percent were adults over 35 years old. As shown in the pie chart below the demographic characteristics of respondents were about 50 percent white, 17 percent Asian, and 18 percent Hispanic/Latino. Compared to residents of SSF (United States Census Bureau, 2023), people identifying as white appear to be over-represented and Hispanic/Latinx and Asian appear to be under-represented.

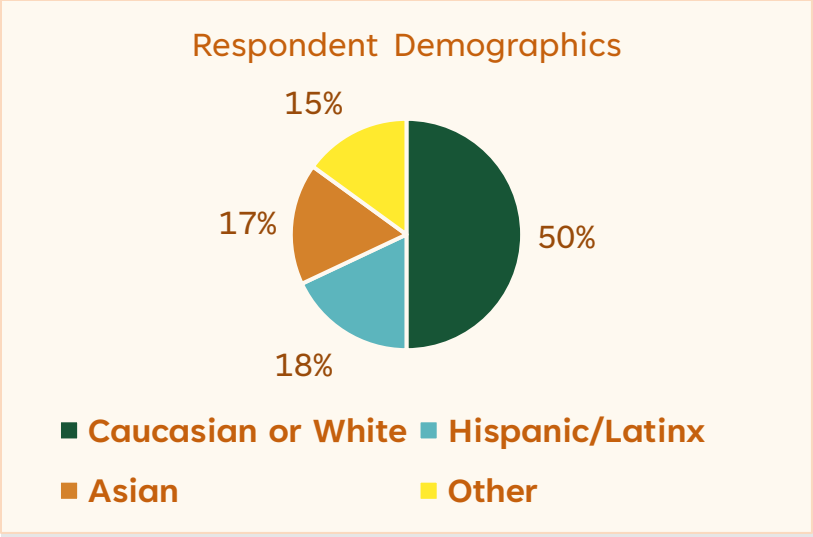


Chart 3. Respondent Demographics

Most outreach participants have visited Sign Hill and live in the area around the site or in another part of South San Francisco. Although they visit somewhat infrequently, most survey respondents view Sign Hill as an important landmark, historic feature, and source of pride for the South San Francisco community. The site is highly valued for its views, natural beauty, trails, plants, wildlife, and the historic sign.

The community considers Sign Hill a place to enjoy being outdoors in nature. According to outreach participants, the most important characteristics for the future of Sign Hill are natural beauty, sustainability and conservation, and opportunities for exercise (Table 7). The consensus in the community is that Sign Hill is in most need of trail enhancements, signage (wayfinding and interpretive), and seating for visitors.

Write-in responses provided at the pop-up event that pertain to Sign Hill improvements suggested more seating at the top of the hill, fire prevention and safety, parking, tree canopies, a nature center, a restroom, a slide, and solar lighting.

Conversations with pop-up participants, who represented a variety of ages and were mostly from the surrounding neighborhood, included requests for trail enhancements, trail maintenance, improved safety, signage, restrooms, better entries, and dealing with coyotes.

Table 7. Top Community Preferences from Pop-up Event

CURRENT FEATURES LIKED	IMPROVEMENT FEATURES DESIRED	MOST IMPORTANT CHARACTERISTICS
1. Views and scenery	1. Trail enhancements	1. Natural beauty
2. Walking trails	2. Signage to identify habitats and plant/animal species	2. Sustainability and conservation
3. Native flora and fauna	3. More seating areas	3. Opportunities for exercise

KEY THEMES

Nature

Survey participants voted natural beauty as the most important characteristic for the future of Sign Hill, followed by sustainability and conservation. Approximately 2/3 of survey participants visit Sign Hill specifically to connect with nature, and 1/3 of survey participants voted the site's flora and fauna as the feature of Sign Hill they like the best. Other nature-oriented topics (e.g., trees, habitats, butterflies, coyotes, native plants, and preservation) were frequently mentioned in open comments by the community. "Leave it alone" was a common refrain in open comments on the survey, as respondents expressed support for maintaining Sign Hill's "wild" or natural environment without too much intervention.

Activity

According to outreach results, trails were a highly popular feature of Sign Hill, and ranked as the second most liked current feature of the site. The community frequently visits Sign Hill to enjoy the views, exercise, and pursue outdoor activities alone, with family/friends, and with pets. Participants love the walking/hiking paths at the site but recognized that trail conditions have deteriorated in many areas, which is likely why they voted trail enhancements as the primary feature to improve the visitor experience at Sign Hill.

Access & Accessibility

The community wants Sign Hill to be easier to learn about, get to, and experience. Survey participants who visit Sign Hill would like to see more interpretive signage identifying the site's natural features like plant and animal species (second most desired improvement feature), while those who have never heard of or visited Sign Hill would like better wayfinding signage. Non-visitor survey participants also cited better access/accessibility and more awareness/information about the site as the most important factors influencing the likelihood of their visiting in the future. Better maintenance of trails and making trails easier to use safely by a variety of visitors, including children and seniors, were important requests from the community mentioned in open comments on the survey and during in-person conversations at the pop-up event. Over 25 percent of outreach participants voted accessibility/inclusiveness as the most important characteristic for Sign Hill's future. According to outreach data, the community also desires more seating areas, which ranked as the third most desired feature to improve the visitor experience at Sign Hill. Other suggestions related to access and accessibility mentioned by the community were drinking fountains, lights, parking, and restrooms. The presence of dogs at the site was a source of debate—some survey respondents appreciated the ease of visiting with their dogs, while others felt that dogs on the trails, specifically off-leash dogs (which is not permitted), created safety and trash/waste issues detrimental to the visitor experience and they suggested prohibiting dogs at Sign Hill.

Legacy

Though not offered as options in the outreach questions, the history of Sign Hill and the letters sign were mentioned frequently in the survey's comments section as reasons for visiting and aspects of the site respondents liked best. These comments, made by survey participants who live and/or grew up in South San Francisco, suggested a strong emotional connection between

Sign Hill and the community. Some survey respondents expressed concern that the character of Sign Hill would be changed, and they would lose the place they remember from their past.

7.2.2 Round Two

Input received during the second round of public outreach for Sign Hill's OSMP identified priorities for trail enhancements and site amenities. Outreach was conducted in summer 2023 via an online survey and an in-person Town Hall event at SSF's Municipal Services Building. These community engagement activities collected input about conceptual trail locations and improvements, site furnishings such as seating and signage, and participant demographics. The survey was distributed via e-mail to round one respondents, via social media, and at a tabling event at the local farmer's market. Table 8 shows the summary responses from the round two online survey and Town Hall.

Table 8. Community Outreach Results for Round Two

ONLINE SURVEY	TOWN HALL (IN PERSON)
July 12-27, 2023 14 questions 43 total responses (43 English, 0 Spanish)	**July 11, 2023** 10 questions on input boards 13 participants

RESULTS

The majority of responses received during round two of community outreach were from adults over the age of 35 living in the Sign Hill neighborhood or another area of South San Francisco. According to write-in comments on the survey and at the in-person Town Hall event, many participants were users of Sign Hill and familiar with the site's current trails and natural features. Appendix D provides full questions and results.

Overall, survey participants preferred Trail Option 3, which offered the most extensive trail additions and realignments to the site, combining the offerings of options 1 and 2. Trail Option 3 was the top choice by a significant margin, collecting 66 percent of total votes from outreach participants. Survey participants said they chose Trail Option 3 as their preferred option because it offered the largest variety of trails, made the site the most accessible for visitors of different abilities, and created the most opportunities for the community to enjoy Sign Hill. Criticism of option three focused on concerns that the higher number of additional trails featured in this concept would interfere with the natural habitats, bringing more foot traffic to the site along with more risk of damage to protected areas. There was also some concern that the expanded trail system would increase both congestion at the site and disturbance to the neighborhood.

Trail Option 2 had fewer trail realignments than Trail Option 3 and followed in second place with 17 percent of votes. Trail Option 1 received the least amount of support with only 7 percent of votes and provided the fewest changes to existing conditions. While Trail Option 1 was praised for offering minimal changes which included making trails easier to access while preserving natural habitats, some participants felt the concept lacked sufficient improvements to serve the community's needs for the future. Some respondents viewed Trail Option 2 as an amenable approach offering beneficial trail enhancements without making significant changes to the site, but the public was divided on the addition of stairs. Ten percent of participants said that they

did not like any of the three trail options presented, and some voiced the opinion that Sign Hill should be left as-is.

All outreach participants had an opportunity to provide feedback about each trail option and identify aspects they liked the most and the least (i.e., pros and cons). Survey participants were also asked to select preferences for seating and signage styles and materials. Though community members brought up a wide range of ideas and issues for the OSMP to consider, the feedback collected generally focused on three main themes—nature, activity, and access and accessibility.

Table 9. Trail Concept Community Feedback from Town Hall

TRAIL CONCEPT COMMUNITY FEEDBACK		
Trail Option 1	***Trail Option 2***	***Trail Option 3***
Most Liked (Pro) • Minimally disruptive to the natural habitat • Good preservation of open space • Reduction of grades • Switchbacks • More accessible trails, easier to walk/hike • Less features, easier to maintain • Eucalyptus Trail **Least Liked (Con)** • Not enough improvement of site accessibility • Doesn't add much to site • Not much variety or enhancement of features • Letters trail still too steep	**Most Liked (Pro)** • Steps are a great addition • Combination of stairs and switchbacks improves accessibility • Minimal impact on natural environment **Least Liked (Con)** • Stairs are not needed • Stairs are harder to maintain • Stairs could be a tripping hazard	**Most Liked (Pro)** • Expanded trail options allows more exploration • Trail variety • Improved access • Seubert/Iris extension • Liberty Trail • Stairs and switchbacks make trails easier and safer **Least Liked (Con)** • Too many trails, too complicated • Trail configuration too invasive, will negatively impact the natural environment • Stairs • Impact on neighborhood

THEMES

Nature
Preserving habitat, protecting trail environment, native plants, and wood.

As seen in round one feedback, the natural environment at Sign Hill is of prime importance to the community. Supporters of Trail Option 1 appreciated this concept's minimal trail adjustments, advocating for a plan that maintained large amounts of open space and protected natural habitats as much as possible. As their overall favorite choice, however, only four outreach participants (seven percent of the total) selected Trail Option 1. While the bulk of outreach participants favored more robust trail upgrades (as shown in Trail Options 2 and 3), many

community members still want to ensure that the potential impact on Sign Hill's plant and animal species is thoughtfully considered for any improvements being proposed. Native habitat restoration was voted the most desired volunteer engagement program, native plant information was the most desired for interpretive signs, and native animal information was also popular, further illustrating the community's strong interest in Sign Hill's unique ecosystem. For seating and signage at the site, natural materials that would integrate with the natural landscape ranked highly. With over 50 percent of total votes, wood—in the form of either reclaimed wood seating (the top choice) or wood benches—was the most desired type of material for seating at Sign Hill, and wood was also well supported as the material for interpretive signs with 50 percent of votes.

Activity
Expanded options, more trails to hike, views, picnics, and seating.

The community is interested in pursuing outdoor activities at Sign Hill. Most outreach participants favored concept options that offered new or updated trail configurations. Trail Option 3 received the highest total number of votes (38) during round two outreach, and its robust features—including the new Liberty Trail and other trail extensions—were viewed as attractive enhancements to make Sign Hill more enjoyable for visitors. Survey responses indicated that the community wants more trails to hike and more engaging options to enjoy the site's scenic views and other natural features. Outreach participants also supported picnic tables, an amenity to encourage activity and experiences, which finished as the second most desired seating type with 19 percent of total votes.

Access and Accessibility
Stairs, switchbacks, difficulties, reducing grades, trail maintenance, and signage.

Facilitating better access to and within areas of Sign Hill was a priority identified by the community in round one outreach, and feedback received during round two continued to support pursuing such efforts as part of the OSMP. The community praised all three trail options for their features to improve access and accessibility. The reduction of trail grades and the addition of switchbacks and stairs—all features that would increase trail safety and allow users of varying ages and abilities to experience the site—were frequently mentioned by outreach participants as favorite aspects of the proposed trail options. However, the stairs featured on the Ridge Trail in Trail Options 2 and 3 were a source of debate among community participants. While some survey respondents felt the stairs would be a benefit to families or those wanting a faster, more direct route up the trail, others expressed concern that the stairs would be more hazardous than helpful (e.g., potential tripping), would be difficult to maintain, and were not essential for regular trail use. Some survey respondents also suggested that the site could be made more wheelchair accessible, although none of the three plans presented specifically addressed this issue.

The community also understands that improving access to Sign Hill means ensuring that the trails are properly maintained and in good condition. When asked about volunteer engagement opportunities, 50 percent of outreach participants voted for trail maintenance as their most desired choice, making it the second most popular volunteering option. Site signage, both wayfinding and interpretive, is another important and desired feature to enhance access and accessibility at Sign Hill by providing important information for visitors coming to and moving within the site. According to the survey and town hall feedback, outreach participants selected

native plants and history and/or cultural heritage of the region as the two most preferred topics for interpretive signs. In terms of desired sign style, 62 percent of participants chose modern, while only 38 percent chose traditional.

8.0 MANAGEMENT RECOMMENDATIONS

To ensure Sign Hill will be resilient and relevant into the future, this section presents recommended actions aimed at accomplishing the objectives laid out Section 1.2:

1. Identify key areas for focusing future restoration efforts;
2. Improve trail safety and ease of use;
3. Maintain the sign letters;
4. Improve visitor experiences and increase public awareness; and
5. Increase resiliency against wildfire.

These recommendations have been developed from the results of the existing conditions and community engagement studies.

8.1 Identify Focus Areas for Restoration

SSF staff have been restoring native habitat on Sign Hill over the past four years through removal of invasive species, performing regular mission blue butterfly habitat restoration plantings, and monitoring of key species which have been incorporated into the programmatic restoration recommendations below. SSF staff already closely monitor host plant populations, restoration areas, and invasive species. This monitoring program should continue. SSF already has robust datasets for plant and butterfly monitoring that should continue to be used; however, it should be noted that monitoring work, while crucial, is time consuming and impacts restoration efforts due to limited staffing.

8.1.1 Expand Native Vegetation Restoration Areas

To best track additional restoration efforts as well as other maintenance activities, it is recommended that rare plant surveys be conducted for special-status species with historic occurrences within Sign Hill or existing populations on nearby San Bruno Mountain. Additionally, some vegetation communities may be rare at the alliance level, making alliance level vegetation mapping warranted. It is recommended this action be undertaken within the first year or two following OSMP implementation.

Generally, removal of non-native plant species is recommended throughout areas identified in Figure 2 as “non-native grassland,” and tree groves which are dominated by non-native grasses, forbs, and trees. Locations where these non-native populations border more pristine, native vegetation areas are extremely important to manage to halt further encroachment.

Areas of high priority for habitat restoration are shown in Figure 5. The areas in most urgent need for restoration are where trees have recently been thinned or removed. These areas are already experiencing regrowth of trees and abundant invasive forbs including oxalis and thistle. It is recommended that cut trees be removed entirely or fully suppressed by chemical, mechanical, or cultural methods; areas with especially vigorous growth may need to be grubbed or cleared to bare soil. The use of herbicides may be warranted, and any existing federal, state, and/or local restrictions of herbicide use for the protection of larval host plants should be followed. Restoration of these areas should focus on restoration of native grasslands and

expansion of host and nectar plant populations. In these recently cleared areas, SSF staff have seen native tree species like toyon beginning to grow which can help push out non-native trees. Additionally, the timing of invasive forb removal (i.e., prior to seed setting) is critical to success in restoration of these areas.

Though the listed butterflies are of the highest importance with respect to insects on the site, other pollinators may become focal points in the coming years. Currently, there are three bumblebee species that are candidates for listing under CESA. While none of these candidate species are likely to be present on Sign Hill now, western bumblebee may have occurred there at one time, based on nearby documented occurrences and suitable onsite habitat. It is possible that this species could be reintroduced to Sign Hill in the future. No recommendations beyond continued maintenance and enhancement of native grasslands are currently made for native bees.

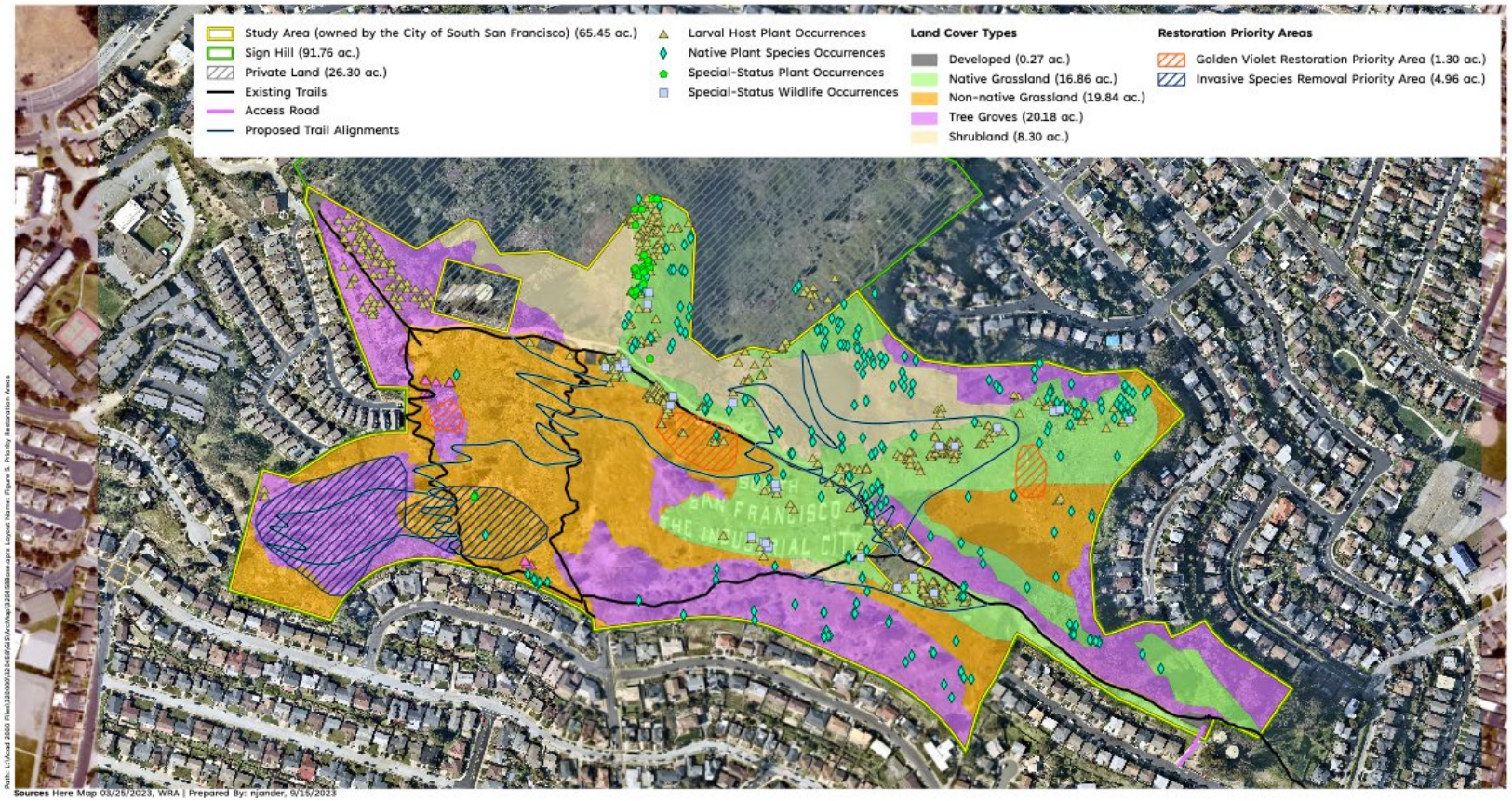


Figure 5. Priority Restoration Areas

8.1.2 Enhance and Protect Butterfly Habitat

Butterfly host plants, particularly golden violet and silverbush lupine, which support callippe silverspot butterfly and mission blue butterfly populations respectively, are critical to maintain on the site if these federally listed butterflies are to persist within Sign Hill. Golden violet may be a limiting factor for callippe silverspot butterfly on Sign Hill because the plant is relatively uncommon, making each individual plant a valuable resource. Restoration of golden violet presents challenges due to the difficulty of propagation. Conversely, silverbush lupine is abundant on Sign Hill, and does not appear to be a limiting factor. Additionally, silverbush lupine is relatively easy to cultivate. Effective management of these two host plants is one of the most important steps that can be taken to benefit the endangered butterflies at Sign Hill.

Areas of high priority for larval host plant restoration include filling in the gaps between existing populations of golden violet with native nectar plants near the summit of the hill and restoring golden violet on other rock outcroppings on the hill. Because of the challenges that accompany restoration in rocky habitats, The effectiveness of restoring butterfly habitat may benefit from conducting seeding tests in areas on the eastern side of Sign Hill which has been less disturbed and has higher quality habitat communities (Figure 5).

Parks and Recreation staff is already doing—and should continue—invasive plant removal to reduce competition. While host plant and grassland management to benefit butterflies is an important operational consideration, host plants should not be planted in areas where their presence could constrain maintenance operations or future construction activities. Host plants should also not be planted in areas where they would not naturally occur or where they could attract butterflies into harm's way or create reproductive sinks. For example, if most host plants are found on the south facing slopes of the hill, and these areas have been shown to support high numbers of butterflies, it would not be advisable to plant host plants on the north facing slopes even if they could survive. This could result in some butterflies laying eggs on the cooler side of the hill, which would be likely to reduce their success due to asynchronous development timeframes. In addition, wherever host plants are on the site, they must be viewed as both a valuable resource and a constraint. Impacting either of the host plants on the site would only be recommended if a valid Biological Opinion from the United States Fish and Wildlife Service has been issued. Adverse impacts would likely require some form of mitigation.

Limiting direct impacts from visitors to host plants through educational outreach, barriers and strategic trail design is important to maintain host plant populations. Educational and etiquette signage can be installed in strategic locations to describe the butterflies and their host plants and communicate expectations for visitors such as staying on the trail or not picking flowers. Strategic signage locations may be where visitors historically have traveled off-trail, or at natural resting points on the trail where people are already stopping. The trail reroutes described in Section 8.2 are conceptual and implementation of any segment would need protocol level surveys prior to ground disturbance. It is recommended that protocol level surveys be conducted as the trail design is being developed so plants can be avoided. Because many host plants already exist surrounding segments of the Ridge Trail currently being maintained, it is recommended that barriers be used to delineate the trail margin and limit off-trail travel. Barriers can vary widely, though generally they should be low enough to not obstruct views from the trail, or views of the plants if signage is present. Fencing is a common barrier and Parks and Recreation staff have already employed both temporary and permanent fencing along the Ridge Trail. If SSF considers the option of adding permanent fencing, it is recommended that modern wooden or metal

fencing be employed to match the signage material and style preferences discovered during round two of community outreach (Section 7.2.2).

Example of permanent fencing on Sign Hill.

Natural types of barriers may also be employed, such as logs which SSF has on the site. SSF has already implemented log delineation on certain lengths of trail. Logs can be cut lengthwise to ensure they do not roll out of place and may also double as seating. If barrier logs are to be used as seating in sensitive host plant areas, it is recommended they be carved into benches with backrests so it is clear to visitors that their feet should remain on the trail while sitting on the log bench. Other types of natural barriers include dead woody brush (as a temporary barrier) and vegetation. For the trails on Sign Hill, native vegetation (that are not host plants) can be planted along trail margins to protect the host plants behind from visitors brushing against them. Typically, woody or shrubby vegetation is more effective at preventing off-trail travel, though these plants are often slow to establish and may require co-locating fencing until the plants are large enough. However, the possible use of shrubby vegetation to prevent off-trail travel should be carefully weighed against the potential impacts of shrubland encroachment into grasslands.

In areas where there may not be enough space for fencing or a buffer of native plants, trail delineation may be most appropriate. Trails are often delineated with rocks or other on-site materials, or with short fencing and paired with signage. The potential switchback section of the Ridge Trail may be a candidate for delineation given the steep slopes and close proximity of one switchback to another. Switchback cutting in this area is expected to be mitigated by the adjacent steps which would allow those visitors who desire more speed and exercise to skip the switchbacks. This section of the Ridge Trail could be grown into its own nature trail where visitors can see plants up close and read interpretive signage. Thimble-eye or post and cable fencing are useful options for delineating trail margins with minimal impact and space requirements.

OPERATIONAL CONSIDERATIONS

Because SSF is already performing restoration and monitoring, recommendations included here are merely to guide the future of this existing program. Additional staffing and funding may be required as a one-time or ongoing cost of relatively large-scale invasive species removal of the regrowing acacia stand and vegetation communities dominated by non-native species.

8.2 Improve Trail Safety and Ease of Use

The recommendations provided in this section aim to create and maintain safe trails while striving to achieve access for people of all ages and those who may have physical disabilities and/or challenges, while acknowledging that site conditions on Sign Hill make it difficult to build and maintain easily accessible trails. Almost all existing trails have sections that are extremely steep and recommended to receive some amount of rerouting to increase safety. Rerouting steep alignments can also help create a mix of easy, intermediate, and difficult trails to serve a variety of visitor interests and experiences (Table 9). The round one public outreach results also showed that people valued the trails in Sign Hill and would like to see the trails enhanced and provide opportunities for exercise.

All trail maintenance, improvements and reroutes should follow trail construction best practices. California State Parks has developed their Trails Handbook (2019) which provides guidance for trail design, construction, and maintenance (including trail decommissioning) and is recommended to be followed in the implementation of the recommendations below.

8.2.1 Repair Current Alignments

The Letters Trail, and other trail segments, contain long running slopes, steep hill slopes, and varying levels of erosion. Multiple types of drainage techniques, including rolling dips or inside ditches may be needed depending on the specific site conditions. The following guidelines provide general points for installing trail drainage. These techniques are not only recommended for addressing existing erosion on trails, but for all new and rerouted trails as well.

DIPS AND WATER BARS

Rolling/reverse grade dips or water bars will be constructed to disperse flow and to minimize the potential for concentrated flow, which might otherwise cause rilling or gullying. Rolling dips are more durable and drivable than water bars and are therefore the preferred method.

Dip and bar spacing are dependent upon grade, soil type, and expected runoff volume. General guidance for spacing dips is as follows, although the specific engineering specification may differ, depending on site conditions and other factors:

- 2–3 percent grade = 200 to 300 feet
- 5–7 percent grade = 160 to 180 feet
- 8–10 percent grade = 140 to 150 feet

DITCH RELIEF CULVERTS AND OUTLETS

Ditch relief culverts are necessary to drain an inside ditch at specified intervals to prevent excess velocities in the ditch or overflow onto the trail from the ditch. Relief culverts convey the flow under and across the trail or roadway to the out-sloped area below. When a ditch relief or permanent culvert empties onto a steep slope, an extension of the piping may be warranted to prevent erosion at the outlet.

SLOPE STABILITY

Steep slopes adjacent to trails and roadways can result in slumping or gullying that can damage the road or trail and degrade water quality. The following measures are to be considered in stabilizing steep slopes adjacent to trails and roads:

- Lay back the slope (modify to 2:1 or flatter) and vegetate
- Rip rap a steep slope (1:1)
- Retaining wall

Slopes that are sloped back to 2:1 or flatter and seeded may also require temporary erosion-control blanket installations to stabilize the hill slope while the vegetation matures. A retaining wall may only be applicable in special cases where a short vertical slope (around three to five feet) needs to be stabilized in a park area that includes some urban or residential interface.

Biotechnical treatments, such as wattles or woody debris revetments, are the preferred method for slope stabilization over hardscape solutions, such as rip rap, when the designs are feasible under existing and forecasted site conditions.

OPERATIONAL CONSIDERATIONS

One-time funding would be required to implement these techniques as they are specialized and need to be performed by a professional. Recurring funding may be periodically required to maintain or alter these treatments as they are assessed for efficacy over time.

8.2.2 Re-route Alignments and Construct New Trails

Round two of public outreach provided feedback indicating that people wanted to see rerouted trails that were less steep as well as new trails and trail connections. Figure 6 shows potential trail alignments that were overwhelmingly supported by the public (Trail Option 3). These trails alignments were designed to:

1) Lessen trail slopes, by following the contours of Sign Hill to the extent feasible;
2) Enhance visitor experiences, by providing varied routes and views; and
3) Avoid impacts to known restoration areas and native plant populations associated with the callippe silverspot and mission blue butterflies.

The alignments in this OSMP are purely conceptual and aim to provide options for the future of Sign Hill. Surveying and professional design will be required prior to construction of these trails.

Because of the current steep slopes of the Seubert and Iris trails (24 percent and 27 percent respectively), erosion on those trails, and steep hill slopes, reducing the slopes through rerouting may possibly be achieved by combining these two trails into one, Seubert/Iris Trail, still connecting the Poplar Ave trailhead to near the summit of the hill. To allow for potential new views of the letters, the potential Seubert/Iris Extension creates a loop between the Seubert/Iris Trail and the Ridge Trail uphill from the letters. Considerations for this segment include protecting the sign letters and identified sensitive habitat from impacts resulting from trail construction or erosion.

The Eucalyptus Loop is proposed to be rebuilt in generally the same location with low grades to provide a more relaxing experience. While the original Eucalyptus Loop Trail extended beyond SSF property, this new alignment is contained within Sign Hill boundaries (Figure 6).

The proposed Letters Extension would create a loop from the Letters Trail to the Ridge Trail. This segment may potentially provide new views to the letters and would allow visitors a designated space to have up-close experiences with dense patches of native plants. Considerations for this segment include keeping visitors on-trail and protecting these plants from trampling.

The currently heavily eroded, steep segment of the Ridge Trail (29 percent currently) may receive multiple treatments. Replacing the existing visitor-created trails with longer switchbacks can be provided to reduce the trail slope significantly; however, to provide a variety of trail strenuousness, stone or wood steps may be installed along the existing alignment.

The Trails Handbook indicates that 16 percent linear trail slope is around the maximum for pedestrians if environmental conditions are favorable, however, if conditions are less favorable or if the trails should accommodate a wider range of visitors like children and seniors, maximum slopes should be closer to 10 percent. The potential trail alignments described in this section aim to meet the 16 percent slope guideline and are presented in Table 9.

Table 10. Trail Concept Slopes

TRAIL SEGMENTS	AVERAGE % SLOPE
POTENTIAL TRAIL ALIGNMENTS	
Eucalyptus Trail	9%
Letters Extension	8%
Ridge Trail	14% (switchbacks)
Seubert/Iris Trail	14%
Seubert/Iris Extension	12%

8.2.3 Decommission Trails

Generally, visitor-created trails should be decommissioned as soon as they are observed. Newly created trails may appear as vegetation trampling occurs and these trails are much easier to decommission and rehabilitate at an early stage. The well-established visitor-created trails in Sign Hill may need to be decommissioned using several techniques described in the Trails Handbook, including installing barriers or native materials, fencing, soil decompaction, and revegetation. SSF seemed to have success with installing straw wattles and woody brush as barriers to a trail undergoing decommissioning. With SSF's current restoration efforts, installing signage that identifies decommissioned trails as restoration areas may be useful.

The visitor-created trails accessing the sign letters should be closed first. Signage or other messaging can discuss the instability of the slope and sensitivity of the historic letters as well as the sensitive mission blue butterfly habitat that is present amongst the letters. Maintaining one or two maintenance access trails to the letters for SSF staff may be desired, but keeping visitors from using these trails could be a challenge.

The remaining visitor-created trails are well established, and decommissioning may happen as SSF has resources to do so. Decommissioning these trails may be most successful when paired with new trail construction.

OPERATIONAL CONSIDERATIONS

One-time funding will be needed for trail realignment construction projects. Increasing ongoing funding and staffing for trail repairs and regular maintenance to keep the trails safe and accessible will also needed.

8.3 Maintain Letters

8.3.1 Maintenance of Historic Letters

Because of the low potential for buried archaeological resources and the lack of integrity of the electric sign footings, recommendations are only made for the historic concrete letters. Since the sign is listed on the National Register and California Register, maintenance must follow the guidelines outlined in *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (Grimmer 2017). To ensure these guidelines are followed and applied correctly, it is recommended that SSF work with an architectural historian to develop or at least review any stabilization work the letters may require. Existing maintenance plans for vegetation trimming/mowing and repainting of the letters should be reviewed by an architectural historian to ensure compliance with the standards.

SSF city staff had begun noticing and attempting to mitigate erosion around the edges of some letters and were concerned about their structural integrity and cracking. After the 2022-2023 storms created a large gully between two rows of letters, the stability concerns for the letters are now even more urgent. A geotechnical study will be needed to evaluate the integrity and stability of the letters. This study should also address stabilization of the gully and a permanent solution for the emergency check dams currently in place. An architectural historian will need to be involved in this study since some modern reinforcement solutions may not comply with the standards for historic properties.

Additionally, maintenance/reinforcement plans for the letters will need to consider protection for the silver lupine growing among the letters and mission blue butterflies.

OPERATIONAL CONSIDERATIONS

One-time funding will be needed for a geotechnical study and consultation with an architectural historian. Funding assistance for rehabilitation projects or preservation plans related to the historic sign may be found through the California State Parks Office of Historic Preservation's Certified Local Government Program (California State Parks 2023).

No additional ongoing staffing or program funding is expected for maintenance of the sign at this point. However, while funding is not expected at this time, future dedicated funding to these efforts will be required due to the historic and sensitive nature of the sign.

Figure 6. Conceptual Trail Plan: All Options

Sign Hill Open Space Management Plan
San Mateo County, California

wra Environmental Consultants

Figure 6. Conceptual Trail Plan (Trail Option 3)

8.4 Improve Visitor Experience and Increase Public Awareness

8.4.1 Improve Visitor Experience

The following recommendations for improving visitor experience at Sign Hill have been informed by the results of multiple public outreach efforts conducted during the master planning process (Section 7) as well as from conversations with SSF staff.

ENHANCED TRAILS AND WAYFINDING

Safer trails that offer a wider variety of experiences are largely addressed by Section 8.2 which shows options for maintaining trails as well as realigning or creating new trails.

Trails on Sign Hill can also be enhanced through improvements to wayfinding signage. Wayfinding signage should be installed at every trail junction and identify each trail at the intersection. Current wayfinding signs on-site include a measure of distance, and it is recommended that this be continued, but with more specificity. Common practice for distance measurements on wayfinding signs is to denote the distance to the next junction and the name and location of that junction.

These types of distance measurements can be customized to the site, describing the distance to destinations such as “X miles to summit,” or “X feet to view of letters.”

A difficulty rating system for trails is recommended due to the steep slopes and trails on Sign Hill. A commonly used system adapts the colored shapes used for ski runs. These symbols can be added to park maps as well as on-site wayfinding signage. These types of rating systems help visitors choose appropriate trails for their fitness/skill level, increasing safety and overall enjoyment of the open space.

To aid with wayfinding on the site, it is recommended that SSF designate names for each of the trailheads and include these names on the trailhead kiosks. This way, visitors can more easily identify where they are on a park map when they arrive, and wayfinding signs can include a distance to a particular trailhead. Currently, SSF refers to trailheads by the name of the street they can be accessed from which can be maintained and trailheads can be named Ridgeview, Poplar, and Spruce if desired.

It is also recommended that large prints of the site map replace the small maps in trailhead kiosks. The existing map is difficult to find because the current kiosks serve multiple functions as a SSF bulletin board. A larger version would be needed especially if information like difficulty ratings will be added to the map. Larger maps could include additional information including the location of nearby restrooms. Write-in responses during outreach efforts indicated that they would like to see restrooms on-site. The construction of permanent restrooms is not currently feasible for SSF. Trailhead kiosk signage should indicate that there are no restrooms on the site but could show on the map where the nearest public restrooms are.

SEATING

Community outreach revealed that visitors wanted additional seating on Sign Hill and the publicly preferred trail options presented in Section 7.2.2 allows for more seating location options. Outreach results also showed a preference for reclaimed wood seating. Given that SSF

has a collection of logs on-site from tree removal efforts, these could be used to create the desired seating.

To maximize access of the panoramic views from Sign Hill, most seating could be positioned at higher elevations on the hill. Seating would allow visitors to take breaks as they ascend Sign Hill. However, given the extent of host plants at the summit and along the Ridge Trail, additional seating here should be limited. New seating can be installed prior to habitat restoration activities to reduce the amount of disturbance to native plants and animals.

Existing bench on Sign Hill.

8.4.2 Improve Public Awareness

One way to increase public awareness of Sign Hill is to not only identify the name of the trailhead at trailhead kiosks, but also identify the site. This label hierarchy is common practice and helps to create a sense of place and identity. For example, the kiosk at Ridgeview Court would have “Sign Hill” written in large font near the top and “Ridgeview Court Trailhead” below in smaller font.

Increasing public awareness for the site can be aided by off-site signage. To mirror the increased wayfinding signage on the trails, it is recommended that off-site wayfinding or directional signage be installed to help visitors get to Sign Hill. At least one sign directing visitors to each trailhead from the surrounding neighborhoods is recommended.

A key component of public awareness is the regulations regarding use of Sign Hill’s trails. Currently, the signage relating regulations is inconsistent among trailhead kiosks. It is recommended that all rules be contained on one regulatory sign which is posted at all trailheads. If it has not been done already, a set of rules should be developed to govern recreation at Sign Hill and be available through SSF’s website. These rules should include:

- No biking
- Dogs must be on-leash no longer than six feet, and handlers must remove dog waste to a garbage can (in accordance with South San Francisco Municipal Code)
- Visitors must walk on designated trails only
- No littering
- No smoking (due to the high potential for wildfire)

INTERPRETATION AND ENGAGEMENT

The clear responses from the community outreach indicate that SSF would do well to install interpretive signage that covers several topics, specifically native plants, history, and landmarks visible from Sign Hill. Of course, interpretive signage discussing native plants may also include the additional popular topics of native wildlife and geology/natural history as these topics are intertwined. In fact, topics that may be desired by visitors can also provide opportunities for SSF to reinforce appropriate behaviors as well as bolster public support for management actions. These topics may include:

- Mission blue butterfly, its host plant and its listed status and conservation history, reminders to stay on trails
- Callippe silverspot butterfly, its host plant, rarity, and its conservation story including the need to stay on trails
- Island biogeography ecological theories and how Sign Hill, along with San Bruno Mountain are essentially islands of unique habitat surrounded by an increasingly urbanized landscape. Effects of natural isolation and habitat fragmentation associated with development are easily observed and understood in the context of Sign Hill.
- Historic significance of the sign letters and history of South San Francisco
- Geology and seismology of the region
- Views visible from Sign Hill like notable landmarks or historic relevance
- Why more trees aren't always better
- Cultural heritage of the region
- Stewardship of Sign Hill and the importance of staying on designated trails

Interpretive signage can be clustered in areas where visitors may be walking slowly or resting, at locations where a feature of interest is visible, or throughout the site. Outreach respondents indicated they prefer signage that is modern in style and either wood or metal are acceptable materials. The signage style, material, and construction should be consistent across all sign types (kiosks, wayfinding, interpretive and regulatory) to foster place identity and streamline maintenance. Interpretive signage should be written in both English and Spanish.

On-site interpretive programs can bolster information presented on signage or address new or niche topics. Staff's on-site presence for these programs can also serve to educate visitors of site regulations and appropriate behavior. Research has demonstrated that on-site park/protected area staff are an effective method for achieving compliance with regulations (Kidd et al. 2015; Widner & Roggenbuck 2000).

Park interpretation can also happen off-site through SSF's website, recreation programming, marketing campaigns, or presentations at local schools and/or libraries. Researching and developing interpretive materials can be time intensive and skilled staff or contractors would be needed to accomplish this work. Partnering with local schools or non-profits could also provide additional capacity for off-site interpretive programs. These types of programs can bring information to people who have never visited or are unable to visit Sign Hill.

Updating SSF's Parks and Recreation website can include the addition of interpretive material and other ways to engage with Sign Hill, like virtual tours.

Volunteerism and education and should be continued and likely expanded given the large amount of interest shown by outreach respondents. Ongoing trail maintenance and trash removal

will be a constant need in which outreach respondents expressed interest. Volunteers also play a huge role in helping manage invasive species; acting as a “force multiplier” to make a larger impact with little monetary costs. A dedicated trail maintenance program and/or trail building specialist on staff, or a contractor would be needed to facilitate volunteer trail work. Sign Hill Stewards play a large part in satisfying the many volunteer requests the SSF Parks and Recreation Department receives and complements the larger citywide initiative to engage more volunteers.

OPERATIONAL CONSIDERATIONS

One-time as well as programmatic funding will be needed to develop and maintain signage and seating, as well as interpretive materials or programs. To grow volunteer or engagement programs, additional staff and programmatic funding would be warranted to develop materials, engage the public, and track progress against restoration or maintenance plans.

Volunteers participating with Sign Hill Stewards removing invasive mustard plants.

8.5 Increase Resiliency Against Wildfire

As described in section 4.0 Wildfire Hazards, the 2020 Diamond Fire burned 16 acres of Sign Hill, starting near the historic sign and letter “S” in SAN on the south-facing slope. Multiple agencies as well as CAL FIRE responded and dropped flame retardant on the hill via plane. No structures were lost, and minor damage was done to a few homes from falling embers. Thousands of trees

were killed during the fire which started as a grass fire and then quickly spread to a crown fire. The fuels treatment performed after this fire to get Sign Hill into CAL FIRE defensible space compliance represent the first of many significant steps SSF has taken in recent years to reduce wildfire fuels on Sign Hill.

8.5.1 Wildfire Fuel Hazard Reduction

Through removal of an acacia grove, burned stands of Monterey pines and thinning or removing eucalyptus groves across the south-facing slope of Sign Hill and along the southern boundary of Sign Hill, SSF has reduced major wildfire fuels threats. After inspecting these areas, WRA's Senior Restoration Contractor determined that additional large-scale tree removals were not necessary to reduce the threat of wildfire. However, localized tree removal and ladder fuel reduction may still be needed on the north-facing and south-facing slopes respectively. Additionally, areas that have been treated must now be maintained and regrowth of fuels managed. Several options for maintaining these areas and managing wildfire fuels include:

- Prescribed burns to reduce woody fuels and stimulate native grasses.
- Cutting vegetation back through grazing animals, mowing, or manual removal.
- Monitoring these existing fuel reduction treatment areas for fuel loads should be incorporated into SSF's existing vegetation monitoring efforts.

Vegetation trimming or removal will need to follow seasonal wildlife protection guidelines. Similarly, prescribed burns will need to follow any applicable CAL FIRE and Bay Area Air Quality Management District regulations.

The eastern facing slopes of Sign Hill were historically less impacted by non-native tree plantings and largely consist of native grasslands (Figure 2). The majority of the northern facing slopes in Sign Hill are not managed by SSF and consist of primarily of native shrub-scrub habitat. Both these east and north facing slopes vegetation communities are generally resilient to fire though the recommended maintenance actions above can be applied to these areas if needed. Rather, monitoring efforts should focus on changes to these communities including areas of sudden vegetation mortality (or precursors like insects, disease, or drought), and spread of fire-prone invasive species. Notably, any future fuel reduction and vegetation cutting activities should be timed and monitored appropriately to ensure protection of wildlife species.

To maintain treated areas or remove trees in additional areas, SSF has previously and should continue to follow CAL FIRE guidelines for creating defensible space. Specifically, tree branches within six feet of the ground should be removed (SSF has prescribed 12-15 feet due to slopes), and trees growing over shrubs should have three times the height of the shrub of clearance to the lowest branches (Figure 7). Horizontal spacing between large shrubs and trees should also be maintained depending on the steepness of the slope (Figure 8) (CAL FIRE, 2023).

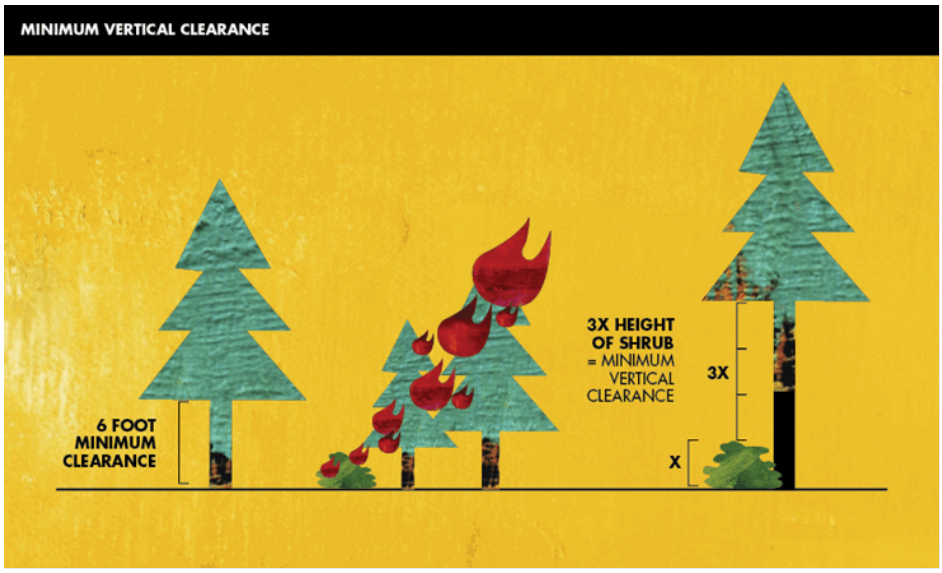


Figure 7. CAL FIRE Defensible Space Guidelines Vertical Spacing

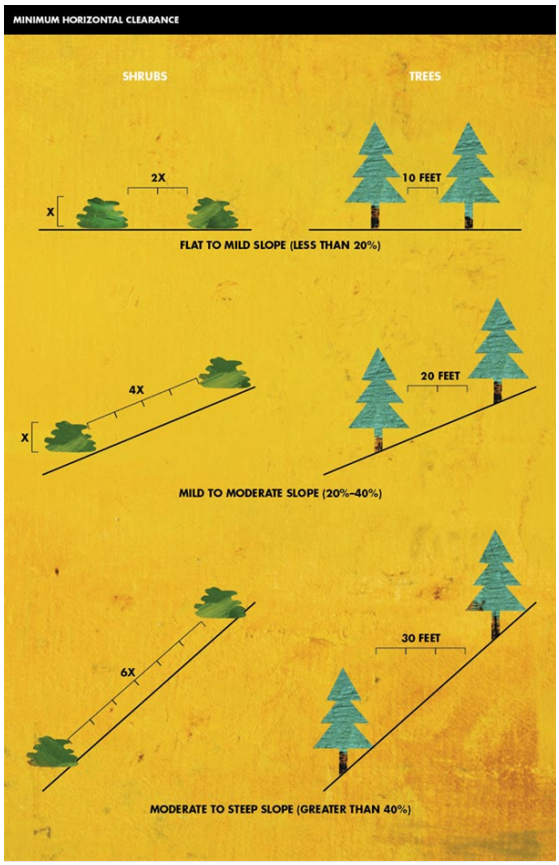


Figure 8. CAL FIRE Defensible Space Guidelines Horizontal Spacing

8.5.2 Neighbor Education

Because Sign Hill is surrounded by residential development with notably large lots with boundaries that extend beyond resident's fences, a key component to wildfire resiliency will be

coordination with these neighbors for wildfire fuels management. A program for the neighbors of Sign Hill can be developed by SSF to educate and empower residents. For example, the Nature Neighbor Program for residents neighboring the Santa Monica Mountains National Recreation Area provides guidance for neighbors on a range of topics from protecting their homes from wildfire, to co-existing with wildlife (Santa Monica Mountains National Recreation Area, 2023). While the topics covered by the Nature Neighbor Project may be useful, they are not necessarily specific to the location. A neighbor program for Sign Hill would need to be tailored with site-specific information and issues. Wildfire related coordination that a park neighbor program could address include:

- Providing parcel maps showing property boundaries of Sign Hill and neighboring residences
- Hosting workshops to establish shared goals and expectations for SSF and neighboring property owners regarding vegetation and fuels management
- Working with local waste management companies to assist in hauling of fuel material after residents have worked to clear their properties

Neighboring properties near the Spruce Avenue trailhead and on Franklin Avenue have stands of trees which may need to be evaluated to ensure compliance with the CAL FIRE standards for defensible space (CAL FIRE, 2023). A pilot neighborhood education program could begin with these property owners. Additionally, a park neighbor program could also provide guidance for protecting the callippe silverspot and mission blue butterflies on neighboring private land, or other locally specific conservation issues.

OPERATIONAL CONSIDERATIONS

Managing existing fuel treatment areas and monitoring for non-native species regrowth and spread is currently a struggle for SSF city staff. While similar vegetation monitoring and mowing or manual treatment is already taking place, fuel reduction season conflicts with prime restoration and endangered species monitoring season. These tasks should be viewed separately in terms of staffing and additional funding for contract work or additional staff is required to continue both efforts. Currently, SSF only has funding for two part-time employees dedicated to this work.

Development of a new program aimed at coordination with and education for neighbors will also likely need additional programmatic staffing and funding.

9.0 IMPLEMENTATION PRIORITIES AND TIMING

The following section outlines priority actions and recommendations for implementation (Table 11) that would occur over the 20-year planning period for which the OSMP has been developed. The priority actions in Section 9.1 are not ranked and the timing of their implementation will depend on availability of funding and staff, the occurrence of wildfire, or severe storm events, and environmental or historical compliance requirements. The table is organized into six categories, which align with the five objectives identified in Section 1.2 and includes a sixth category pertaining to funding and operations related actions. The table includes 50 actions, with most pertaining to expanding and enhancing habitat restoration (12 actions), followed by eight actions for improving visitor experiences and operations and funding. Maintaining the sign letters and improving education and interpretation education programs both include six actions and there are five actions for improving trails and mitigation of wildfire hazards.

To further expand and enhance habitat restoration, multiple actions are recommended to occur during the first two years of OSMP implementation. Some of these actions include installing log barriers to keep visitors from walking across restoration areas and restoring new areas for butterfly host and nectar plants in locations adjacent to existing populations, which is one of multiple ongoing actions in this category.

To continue improving trails, ongoing monitoring of off-trail use is recommended, as well as planning and implementing more long-term projects such as building new alignments for the Eucalyptus and Liberty Trails and decommissioning previous alignments.

To best maintain the historic letters, there are multiple recommendations described for the first two years of OSMP implementation, including performing geotechnical and architectural historian assessment on the letters and surrounding areas, and then stabilizing the letters in years three through five.

To Improve visitor experiences and increase public awareness, multiple recommended actions within years one and two are described to install better on-site maps and signage, while recommendations in years three through five focus on providing information about Sign Hill off-site and/or online.

To improve community engagement, education and interpretation, recommendations include continuing and expanding the existing Sign Hill Stewards program in years one and two to expanding the program in years three through five, while also developing other programming opportunities (e.g., SSF's recreation and child care programs or conservation organizations). In years six through ten, recommendations described include instating these identified programs as part of SSF Parks and Recreation course programming.

Recommendations regarding wildfire hazard mitigation include maintaining existing fire breaks and efforts to meet CAL FIRE standards in years one and two to removing invasive tree species on Sign Hill while retaining native, beneficial species, and leaving dead trees for raptor nesting in years six through ten.

Finally, operations and funding recommendations include identifying one-time funding sources for the sign letters evaluation and reinforcement, trail drainage, and trail construction in years one and two to augmenting SSF Parks and Recreation staff with additional part time, seasonal positions in years three through five. Staffing recommendations are conceptual and may require more or less staffing or funding as the OSMP is implemented.

Additional recommendations and their timing may be found in Table 11.

9.1 Priority Actions

1. **Conduct protocol-level surveys for special-status species:** Conduct surveys to verify presence or absence of those special status species with at least moderate potential to occur on Sign Hill. These species include the following:
    - Mission blue butterfly
    - Callippe silverspot butterfly
    - Pallid bat
    - Fringed myotis bat

- Western red bat
- Dusky footed woodrat
- Bent flowered fiddleneck
- Coast rockcress
- Coastal triquetrella
- Diablo helianthella
- San Francisco collinsia
- San Francisco wallflower
- San Francisco gumplant
- San Francisco campion
- San Francisco owls clover
- Scouler's catchfly

2. **Stabilize letters with guidance from architectural historian:** Since the gully formation between the 'O' and 'I' during the 2022-2023 rainstorms, investigating potential long-term damage, and if necessary, stabilizing the historic letters is increasingly urgent.
3. **Trail erosion repairs in current alignments:** Because on-trail erosion can cause off-trail erosion and subsequent issues for other activities such as native habitat restoration and stabilization of the letters, trail repairs should be prioritized ahead of larger scale restoration. This erosion has caused some off trail trampling and trail braids.
4. **Remove regrowing acacia and eucalyptus:** Because the acacia and eucalyptus trees were recently cut and they grow vigorously (up to 12' or more in a year), waiting to remove stumps and regrowth could result in need to cut back the entire stand again. This helps both fuel management and restoration efforts.
5. **Trail re-alignments and new trail construction:** New trails and alignment construction may happen simultaneously with trail repairs but will require additional preparation and expertise including a robust design period with further public outreach.
6. **Habitat restoration and fire fuels management:** SSF can continue these activities while the other implementation actions are occurring, but more resources should be allocated to this effort. Appendix E includes a calendar of activities that SSF follows when conducting invasive species management for the purposes of habitat restoration and wildfire fuels reduction.

9.2 Timing

Table 11. Recommendation Implementation Timing

	1-2 YEARS	3-5 YEARS	6-10 YEARS	10+ YEARS
Expand and Enhance Habitat Restoration	• Install barriers (e.g., logs, non-nectar native vegetation, fencing) along trails to protect butterfly host plant areas from off-trail visitor travel • Manage regrowth of previously removed non-native trees and reduce scrub encroachment (ongoing) • Propagate host plants and nectar plants and monitor existing restoration areas (ongoing) • Restore/protect areas for rare plant species (on-going) • Restore new areas for butterfly host and nectar plants in locations adjacent to existing populations (ongoing)	• Explore introductions for federally endangered butterflies of nearby San Bruno Mountain; yellow stone crop host plant for San Bruno elfin and purple owl's clover for bay checkerspot • Restore areas currently occupied by non-native species or areas covered in scrub species (ongoing) • Conduct rare plant surveys in conjunction with new trail alignment designs • Fund and construct greenhouse nursery for host plant cultivation	• Restore decommissioned trail areas with native plants	• Acquire one or both privately owned open space parcels • Consider acquiring residential properties on Franklin for future access points

	1-2 YEARS	3-5 YEARS	6-10 YEARS	10+ YEARS
Improve Trails and Maintain Letters	• Monitor off-trail use through periodic surveys of vegetation trampling/soil disturbance (ongoing) • Perform geotechnical and architectural historian assessment on letters and surrounding areas • Install signage at trailheads and along trails to identify designated, appropriate viewpoints for letters, etc. • Decommission existing visitor created trails	• Continue installation of drainage features on trails and begin design of complex drainage infrastructure where needed • Implement minor trail and step improvements/repairs as feasible • Implement programs for volunteer or staff trail docents to encourage visitors to stay on trail and interpret sensitive resources like restoration areas and Hillside Sign • Reinforce Hillside Sign with guidance from Architectural historian and geotechnical specialist. • Develop a maintenance plan for the Hillside Sign that is approved by an architectural historian	• Build new alignments for Eucalyptus and Liberty trails and decommission previous alignments • Build new alignments for Seubert and Iris trails, and decommission previous alignments	

	1-2 YEARS	3-5 YEARS	6-10 YEARS	10+ YEARS
Improve Visitor Experiences and Increase Public Awareness	• Install larger trail maps at trailhead kiosks that can be updated as trails undergo construction • Add permanent site and trailhead name signage to trailhead kiosks • Replace on-site wayfinding signage • Revamp Sign Hill website to be more accessible and provide interpretive information	• Install additional seating • Install off-site signage directing vehicles to Park • Install permanent trail map at trailhead kiosk indicating difficulty of trails	• Explore additional opportunities for quality-of-life amenities and additional entrances	
Improve Education & Interpretation	• Continue and expand existing Sign Hill Stewards program • Pilot Young Naturalist Club after-school program • Install interpretive signage (detail to be added from recent outreach results)	• Expand educational and stewardship programs internally and through partnering with local schools, non-profit organizations, SSF's Recreation and Child Care programs or conservation organizations	• Include Sign Hill as curriculum within Parks and Recreation programming (such as summer camps, afterschool, or senior programs)	• Explore the opportunity to create and coordinate curriculum with SSFUSD to engage more students with nature
Wildfire Hazard Mitigation	• Maintain existing fire breaks and efforts to maintain CAL FIRE standards • Inform adjacent parcels of property boundaries and responsibilities	• Complete tree and brush removals for fuel reduction goals • Explore potential for controlled burns in appropriate areas	• Remove all invasive tree species on Park while retaining native, beneficial species; leaving dead trees for raptor nesting	

	1-2 YEARS	3-5 YEARS	6-10 YEARS	10+ YEARS
Operations and Funding	• Identify and apply for applicable grants for maintenance, restoration, construction, and acquisition (ongoing) • Create full-time staff position to manage natural resources, educational experiences, and volunteer groups • Identify one-time funding sources for Hillside Sign evaluation and reinforcement, trail drainage, and trail construction	• Create a dedicated staffing, supplies and services budget for trail/site maintenance, restoration, and fuel load management • Allocate funding for multiple part-time staff to supplement seasonal work • Partner with other agencies to accomplish fuel reduction work on an on-going basis • Have staff-verified volunteers capable of working on tasks to supplement staffing	• Expand the restoration work to other open spaces such as the Bay Trail to facilitate success of native species across SSF	

9.3 Conclusion

Sign Hill is a unique and special place not only in SSF, but in the whole Bay Area. The hill is a beautiful dichotomy of nature and human interaction with the message sprawled across the southern slopes announcing the city's industrious past ironically hosting some of the most sensitive and rare habitat for endangered species. As such, it is imperative that the habitat found on the Sign Hill be preserved, managed, and expanded upon well into the future.

Sign Hill is SSF's only true open space and provides a unique experience for residents and visitors alike to learn about natural systems, recreate, and even experience history up close by walking amongst the letters. This OSMP and the recommendations provided will help keep Sign Hill environmentally healthy and accessible for all. The work that has been completed on Sign Hill to date represents a monumental effort to restore important native habitats on Sign Hill.

Implementation of this OSMP will dove-tail with the previous work to create a balance between recreation, habitat restoration, and history—creating a home for fauna, a destination park for residents, and announcing SSF's dedication to a sustainable and eco-conscious future.

10.0 REFERENCES

Alexander, P., & Hamm, C. (1916). *History of San Mateo County*. Burlingame: Burlingame Publishing.

Barrow, E. (2023). *Cultural Resources Study for the Sign Hill Open Space Master Plan.* Rohnert Park: Tom Origer & Associates.

Beier, P., & Loe, S. (1992). In my experience: A checklist for evaluating impacts to wildlife movement corridors. *Wildlife Society Bulletin*, 434-440.

Calflora. (2023, February). Retrieved from calflora.org

California Department of Fish and Wildlife. (2023). *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Retrieved from https://wildlife.ca.gov/conservation/planning/connectivity/CEHC

California Department of Fish and Wildlife. (2023, February). *CNDDB Maps and Data*. Retrieved from Biogeographic Data Branch: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data

California Department of Forestry and Fire Protection (CAL FIRE). (2023, July). *Fire Hazard Severity Zones (FHSZ)*. Retrieved from California Office of the State Fire Marshal: https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/

California Department of Forestry and Fire Protection. (2023, July). *Defensible Space*. Retrieved from https://www.fire.ca.gov/dspace

California Native Plant Society. (2023, February). *A Manual of California Vegetation, Online Edition.* Retrieved from http://vegetation.cnps.org

California Native Plant Society. (2023, February). *Inventory of Rare and Endangered Plants (online edition, v9.5)*. Retrieved from http://rareplants.cnps.org/

California State Parks. (2019). *Trails Handbook*. Sacramento: Department of Parks and Recreation.

California State Parks. (2023, July). *Local Government Assistance*. Retrieved from Office of Historic Preservation: https://ohp.parks.ca.gov/?page_id=1072

City of South San Francisco. (2015). *Parks and Recreation Master Plan.*

City of South San Francisco. (2020). *City of South San Francisco Urban Forest Master Plan.*

City of South San Francisco. (2022). *Shape SSF: 2040 General Plan.*

Consortium of California Herbaria. (2023, February). *CCH2 Data Portal*. Retrieved from https://cch2.org/portal/index.php

Environmental Collaborative. (2015). *Biological Resource Assessment: Sign Hill Park Site, City of South San Francisco.*

Google Earth. (Accessed 2023). Aerial Imagery 1985-2022.

Grimmer, A. E. (2017). *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.* Washington, D.C.: U.S. Department of the Interior, National Park Service, Technical Preservation Services.

Kidd, A., Monz, C., D'Antonio, A., Manning, R., Reigner, N., Goonan, K., & Jacobi, C. (2015). The effect of minimum impact education on visitor spatial behavior in parks and protected areas: An experimental investigation using GPS-based tracking. *Journal of Environmental Management*, 53-62.

Lewis, E. (n.d.). *Sign Hill History and Facts.* South San Francisco: Sign Hill Habitat Restoration Project.

National Resources Conservation Service. (2023). *Web Soil Survey, Soil Survey Area: San Mateo County, Eastern Part, and San Francisco County, California.* United States Department of Agriculture.

NETROnline. (2023). Retrieved from historicaerials.com

Santa Monica Mountains National Recreation Area. (2023, May). *Nature Neighbor Project*. Retrieved from https://www.nps.gov/samo/learn/management/nature-neighbor-project.htm

Soule, M., & Terborgh, J. (1999). The policy and science of regional conservation. In M. Soule, *Continental Conservation* (pp. 1-17). Island Press.

United States Censue Bureau. (2023, June). *Quick Facts: South San Francisco, California*. Retrieved from https://www.census.gov/quickfacts/southsanfranciscocitycalifornia

Widner, C., & Roggenbuck, J. (2000). Reducing theft of petrified wood at Petrified Forest National Park. *Journal of Interpretation Research*.

Zemke, B. (2023, May). Personal communication. (J. Baas, Interviewer)

APPENDIX A. SUPPLEMENTAL BIOLOGICAL SITE ASSESSMENT

1.0 INTRODUCTION

1.1 Purpose

The purpose of this report is to inform the Sign Hill Open Space Master Plan (OSMP) and provide the results of a supplemental biological resources assessment (BRA) to the City of South San Francisco (City). A site visit took place on February 9, 2023 where staff from WRA, Inc. (WRA) reviewed an approximately 91-acre area (Study Area). This assessment utilized an existing 2015 Biological Resource Assessment (Environmental Collaborative 2015), resources provided by the City of South San Francisco, and databases to provide an updated evaluation of biological resources on the site.

The primary purpose of this assessment is to gather the information necessary to complete a review of biological resources and identify sensitive resources that could be affected by implementing the OSMP. This report describes the results of the site visit for which the Study Area was assessed concerning: (1) the potential to support special-status plant and wildlife species; (2) the potential presence of sensitive biological communities such as wetlands or riparian habitats subject to regulatory agency jurisdiction; and (3) the potential presence of other sensitive biological resources protected by local, state, and federal laws and regulations. Attachment 1 is a potentials table which evaluates each individual special-status species that occurs in the region with respect to its potential to occur in the Study Area and be affected by potential future project activities.

This assessment also provides guidance for future open space planning endeavors on the property which balance the needs of the visiting public with on-site sensitive resources. High-level fuels management recommendations are also included. The Study Area is within a densely developed residential area of South San Francisco. The Study Area is bounded to the north by privately owned open space lands, and to the south, west, and east by residential development.

1.2 Project Location

The Study Area is located in South San Francisco, San Mateo County, California. The Study Area consists of 65 acres of City owned Sign Hill and 27 acres of privately owned parcels north of Sign Hill (**Attachment 1** - **Figure 1**).

2.0 REGULATORY BACKGROUND

2.1 Sensitive Natural Communities

Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. The CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2023a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2023b). Vegetation alliances are ranked 1 through 5 in the CNDDB based on NatureServe's (2020) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by either the CDFW or the U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Sensitive natural communities also include streams, lakes and associated riparian vegetation protected by CDFW under Sections 1600–1616 of the California Fish and Game Code (CFGC). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act and Section 21083.4 of the California Public Resources Code.

2.2 Wetlands, Streams, and Aquatic Areas

The U.S. Army Corps of Engineers (Corps) regulates “Waters of the U.S.” under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all non-wetland waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCB) protect waters within this broad regulatory scope through many different regulatory programs. Regulated areas under these programs include wetlands and unvegetated water bodies (such as lakes and streams) meeting defined criteria described in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and related Supplements and Regulatory Guidance Letters. Waters of the State include wetlands and other surface waters protected by the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021).

2.3 Special-status Species

This report assesses the presence and potential presence of species protected by a range of federal and state laws and regulations. Specific species of plants, fish, and wildlife may be designated as threatened or endangered by the Federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features “essential to the conservation of the species.” Specific protections and permitting mechanisms for these species differ under each of these acts, and a species’ designation under one law does not automatically provide protection under the other. CFGC also includes lists of “Fully Protected Species,” which includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGC. Special protections for nesting birds and breeding bats are also provided by the Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, and sections 3503, 3503.5

and 3513 of CFGC. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. The Marine Mammal Protection Act (MMPA) was enacted in 1972 and protects all marine mammals within the territorial boundaries of the United States from take. Under the California Native Plant Protection Act (NPPA), the CDFW has listed 64 "rare" or "endangered" plant species, and prevents "take," with few exceptions, of these species. Plant species on the CNPS Rare and Endangered Plant Inventory (Inventory; CNPS 2023a) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some Rank 3 species, are also considered special-status plant species and must be considered under CEQA. Rank 4 and some Rank 3 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare.

2.4 Additional CEQA-specific Protections

To address additional species protections afforded under the CEQA, the CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." Additionally, any species listed as sensitive within local plans, policies, and ordinances are sensitive under the CEQA. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under the CEQA.

2.5 Local Policies

The City of South San Francisco Municipal code identifies resources that are protected within Sign Hill, including watercourses and trees. These ordinances are described in detail below.

Watercourse Protection Ordinance: Discharge into, modification of, development within 30 feet of, or diversion of any watercourse within the City of South San Francisco are not permitted unless a written permit has been issued from the Director of Public Works, per City Municipal Code Section 14.04.190.

Tree Protection Ordinance: **Table 1** outlines trees that are protected under City Municipal Code Chapter 13.30, "Tree Preservation," and permits for removal or pruning of protected trees are administered by the Parks and Recreation Department.

Table 1. Protected Trees

SPECIES	CIRCUMFERENCE[1]	STATUS
California bay (*Umbellularia californica*)	30"	Heritage
Oak (*Quercus* spp.)	30"	Heritage
Cedar (*Cedrus* spp.)	30"	Heritage
California buckeye (*Aesculus californica*)	30"	Heritage
Catalina ironwood (*Lyonothamnus asplenifolium*)	30"	Heritage
Strawberry tree (*Arbutus* spp.)	30"	Heritage
Mayten (*Maytenus boaria*)	30"	Heritage
Little Gem Dwarf Magnolia (*Magnolia grandiflora* "Little Gem")	30"	Heritage
Blue gum (*Eucalyptus globulus*)	75"	Protected
Black acacia (*Acacia melanoxylon*)	75"	Protected
Myoporum (*Myoporum lactum*)	75"	Protected
Sweetgum (*Liquidambar styraciflua*)	75"	Protected

SPECIES	CIRCUMFERENCE[1]	STATUS
Glossy privet (*Lingustrum lucidum*)	75”	Protected
Lombardy poplar (*Populus nigra*)	75”	Protected
Any upright, single-trunked tree	48”	Protected
A tree or stand of trees that is unique/important to the public[2]	None specified	Protected
A stand of trees that are dependent on each other for survival	None specified	Protected

[1] Measured at 54 inches above natural grade

[2] As determined by the director of parks and recreation department of SSF

It is unlawful to remove or prune protected or heritage trees, except as provided for in Section 13.30.070 (Emergencies) and as provided for in Section 13.30.060 (Notices and Permits) of the Ordinance. An emergency might occur at Sign Hill due to storm damage or wildfire, rendering a heritage tree a public safety hazard.

Tree Removal Permit conditions of approval may include:

- 3:1 replacement ratio for each removed tree, with 15-gallon replacements,
- 2:1 replacement ratio for each removed tree, with 24” x 24” box replacements, or
- Fee payment to the City’s tree fund, as specified in Section 13.30.080(d).

The City’s Parks and Recreation Department provides oversight for and issues the tree removal permits.

3.0 ASSESSMENT METHODS

Prior to the site visit, the WRA biologist reviewed literature resources and performed database searches to assess the potential for sensitive biological communities (e.g., wetlands) and special-status species (e.g., endangered plants), including:

- Web Soil Survey of San Mateo County (USDA 2023)
- San Francisco South 7.5-minute U.S. Geological Survey (USGS) quadrangle (USGS 2021)
- Contemporary aerial photographs (Google Earth 2023)
- Historical aerial photographs (NETR 2023)
- National Wetlands Inventory (USFWS 2023a)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2023)
- California Native Plant Society Inventory of Rare Plants (CNPS 2023)
- Consortium of California Herbaria (CCH1, CCH2 2023)
- U.S. Fish and Wildlife Service (USFWS) List of Federal Endangered and Threatened Species (USFWS 2023b)
- A Manual of California Vegetation, Online Edition (CNPS 2023)
- Preliminary Descriptions of the Terrestrial Natural Communities (Holland 1986)
- California Natural Community List (CDFW 2023)
- CDFW Publication, California Bird Species of Special Concern in California (Shuford and Gardali 2008)
- CDFW and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)

- ebird: An online database of bird distribution and abundance [web application; accessed March 2023]

Database searches (i.e., CNDDB, CNPS, IPaC) for special-status species focused on the San Francisco South USGS 7.5-minute quadrangle and adjacent quadrangles near the site (San Francisco North, Hunters Point, San Mateo, and Montara Mountain).

On February 9, 2023, WRA biologists Brian Freiermuth and Ivy Poisson visited the Study Area to map land cover types, document plant and wildlife species present, and evaluate on-site habitat for the potential to support special-status species. The private parcels were not visited per se, they were viewed from City property and assessed remotely with publicly available data. WRA biologists worked closely with City Natural Resource Specialist Candace La Croix to identify and map land cover types. The Study Area was reviewed for the presence of aquatic resources including wetlands and unvegetated waters of the State and waters of the U.S. Methods for identifying these areas relied on the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), Arid West Regional Supplement (Corps 2008), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (Lichvar 2008), U.S. Army Corps of Engineers Regulatory Guidance Letter 05-05 (Corps 2005), and related documentation. For any streams observed, top of bank is identified in the field by indicators such as benching and changes in vegetation.

4.0 EXISTING CONDITIONS

4.1 Vegetation Communities and Land Cover Types

During the site visit, WRA Inc. (WRA) evaluated the species composition and area occupied by distinct vegetation communities, aquatic communities, and other land cover types. Mapping of these classifications utilized a combination of existing vegetation data (Environmental Collaborative 2015, Golden Gate National Parks Conservancy et al. 2022), historic and recent aerial imagery (NETR 2023 and Google Earth 2023), and ground surveys. Communities are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the *California Sensitive Natural Communities* List (CDFW 2023) and *A Manual of California Vegetation, Online Edition* (MCV; CNPS 2023). These resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases it is necessary to identify other appropriate vegetative classifications based on the best professional judgment of WRA biologists.

Extensive development began circa the 1950s in the areas surrounding the Study. Prior to this development, Sign Hill appeared to be grassland habitat with limited tree cover canopy (NETR 2023). Aerial imagery from 1946 indicates the beginning of the planted eucalyptus stand in the southwest corner of the Study Area; this is evidenced by the arrangement of trees in linear rows. In addition, Alphonse Seubert, a local resident, is estimated to have planted more than 5,000 trees starting from the 1960s (Environmental Collaborative 2015). Tree species that were commonly planted and are still present at the site include eucalyptus, coast live oak, Monterey cypress, and Monterey pine.

A reconnaissance-level site visit was conducted by WRA which was not sufficient to identify vegetation communities to an alliance or association level; in addition, the alliance-level mapping conducted in 2015 by Environmental Collaborative is now out of date considering

significant changes resulting from recent fires and fuel management activities. Therefore, land cover mapping as described in this report and map remains broad; this is summarized in **Table 2** and depicted on **Figure 2** of **Attachment 1**. The vegetation communities as described below list dominant and notable plant species (e.g., special-status plants or plants that support listed butterfly species). A full list of observed species is included in **Attachment 2**. This includes observations from the 2017 rare plant surveys conducted by Environmental Collaborative, City staff, and Park stewards in addition to plant observations made by WRA during the reconnaissance visit in February 2023.

Table 2. Land Cover Types within the Study Area

COMMUNITY/LAND COVERS	ACRES WITHIN STUDY AREA
Tree Groves	19.73
Shrubland	8.28
Grassland (native)	16.19
Grassland (non-native)	19.72
Developed	1.83

4.1.1 Tree Groves

Planted groves are located throughout the Study Area, concentrated in the southern portion (**Figure 2**). These trees were initially planted around the 1940s through the 1960s, as indicated by historic aerial imagery (NETR 2023). Coast live oak (*Quercus agrifolia*), eucalyptus (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*), Monterey cypress (*Hesperocyparis macrocarpa*), black acacia (*Acacia melanoxylon*) are commonly planted tree species. Less common tree species include coast redwood (*Sequoia sempervirens*), deodar cedar (*Cedrus deodara*), and sweetgum (*Liquidambar styraciflua*). While there are clusters of the same species in certain areas (Monterey pine and Monterey cypress at the western trailhead, for example) these groves are not representative of naturally occurring vegetation communities. In addition, due to the lack of consistent species dominance in the tree canopy, no MCV alliances or associations were assigned to this land cover type. Previously, these stands were denser and more widespread, but the 2020 Diamond fire which burned over 16 acres of the park and fuel management practices that began in 2019 greatly reduced the spread and density of these tree groves.

Understory cover ranges from sparse (especially under eucalyptus stands) to dense cover of weedy/invasive species due to recent disturbance. Understory species includes: wild oats (*Avena* spp.), Italian thistle (*Carduus pycnocephalus*), Bermuda buttercup (*Oxalis pes-capre*), fennel (*Foeniculum vulgare*), shortpod mustard (*Hirshfeldia incana*), English ivy (*Hedera helix*), and other non-native grasses. Non-native/invasive shrub species such as cotoneaster (*Cotoneaster* sp.), pyracantha (*Pyracantha fortuneana*), and French broom (*Genista monspessulana*) occur along the fringes of the stands of tree plantings and continue into the grassland habitat.

4.1.2 Shrubland

Shrubland cover within the Sign Hill is dominated by coyote brush (*Baccharis pilularis* shrubland), poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), coffee berry (*Frangula californica* ssp. *californica*), toyon (*Heteromeles arbutifolia*), sticky monkeyflower (*Diplacus aurantiacus*), and blue elderberry (*Sambucus mexicana*). Poison oak is prevalent and forms dense thickets in the moist, north-facing slopes of Sign Hill.

Dominant species within the herbaceous layer include hummingbird sage (*Salvia spathacea*), horkelia (*Horkelia* californica), coast iris (*Iris longipetala*, CRPR 4.2), pearly everlasting (*Anaphalis margaritacea*), and bee plant (*Scrophularia californica*).

4.1.3 Native Grassland

Native grassland was historically the dominant cover over the Study Area and surrounding lands. Native grasslands still occupy most of the Sign Hill ridgeline and extends onto the private parcels to the north and northeast, the parklands to the southeast.

While native grass and forb species may be observed across Sign Hill, some of the less disturbed or appropriately managed areas contain higher concentrations of native species. Although the boundaries between native and nonnative grassland vegetation communities is represented by a distinct line on **Figure 2**, field conditions exhibit a gradient, or a gradual shift in vegetation assemblage from native-dominated to nonnative-dominated. The native grassland vegetation community as mapped and described here represents areas that tend to be dominated by native species; these areas also typically include rare plants and larval hosts for special-status butterflies.

Representative native grass species include purple needlegrass (*Nassella pulchra*), California brome (*Bromus sitchensis* var. *carinatus*), meadow barley (*Hordeum brachyantherum*), blue wildrye (*Elymus glaucus*), California oatgrass (*Danthonia californica*), Hall's bent grass (*Agrostis hallii*), June grass (*Koeleria macrantha*), and beardless wild rye (*Elymus triticoides* ssp. *triticoides*). Beardless wild rye forms dense, almost monotypic stands in some locations on the north and northeast-facing hillsides. Purple needlegrass are present in the highest density around the Hillside Sign where annual summer mowing has been performed but can also be found dispersed throughout the Study Area.

Forbs observed within the native grasslands include coast iris, soap plant (*Chlorogalum pomeridianum*), yarrow (*Achillea millefolium*), California poppy (*Eschscholzia californica*), checkerbloom (*Sidalcea malvaeflora*), hummingbird sage (*Salvia spathacea*), silver bush lupine (*Lupinus albifrons* var. *collinus*), varied lupine (*Lupinus variicolor*), golden violet (*Viola pedunculata*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), blue-eyed grass (*Sisyrinchium bellum*), and California buttercup (*Ranunculus californicus*).

Larval host plants of the federally endangered Mission blue butterfly (*Icaricia icariodes missionensis*) and Callippe silverspot butterfly (*Speyeria callippe callippe*) are also scattered throughout the native grasslands; these consist of silver bush lupine and Lindley's varied lupine for the Mission blue butterfly and golden violet for the Callippe silverspot butterfly.

While nonnative and invasive herbaceous species may also be observed within native grasslands, they are not considered dominant.

4.1.4 Non-native Grassland

Non-native grasslands occupy most of the south-facing slopes located at lower elevations within the Study Area where more disturbance has occurred. Although there are native species (and recruitment of native species) observed within nonnative grasslands, they tend to be in lower concentrations, as small clusters or as an individual specimen.

Common species in the areas of non-native grasslands include wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), foxtail barley (*Hordeum leporinum*), mustard (*Brassica* spp.), wild radish (*Rhaphanus sativus*), bindweed (*Convolvulus arvensis*), cheeseweed (*Malva parviflora*), and bur clover (*Medicago polymorpha*). In some locations, highly invasive non-native species are replacing non-native grasses, including stands of fennel (*Foeniculum vulgare*), Bermuda buttercup, iceplant, yellow-star thistle (*Centaurea solstitialis*), bristly ox-tongue (*Helminthotheca echioides*), Italian thistle (*Carduus pycnocephalus*), pampas grass (*Cortaderia jubata*), and wild radish.

4.1.5 Developed

Developed cover includes residences (including yards) adjacent to the Study Area, hardscape (parking lots, roads, and sidewalks), paved trails, and utility facilities.

4.2 Soils

Three soil series are mapped within the Study Area: Candlestick-Kron-Buriburi complex, 30–75 percent slopes; Orthents, cut and fill, 15–75 percent slopes; and Urban land-Orthents, cut and fill complex, 5–75 percent slopes. Each of these soil series are described in greater detail below and is shown on **Figure 2**. Generally, the soils within the Study Area are slightly acidic, non-saline to very slightly saline, and not serpentine (Calflora 2023, NRCS 2023).

Candlestick-Kron-Buriburi complex: This series consists of shallow and variable loamy (mostly fine sandy loams) soils formed from hard fractured residuum weathered from sandstone, at elevations of 200–1,340 feet. This soil series is well drained with high runoff, is not rated as hydric, and is typically found in windy coastal plains. The soil components range from non-saline to very slightly saline. This mapping unit dominates the Study Area.

Orthents, cut and fill: This series consists of variable depth and variable soil textures, and is formed from residuum, at elevations of 0–700 feet. This soil series is well drained, is not rated as hydric, and is typically found in loamy mountains. This mapping unit is only located on the western side of the Study Area at the western trailhead, adjacent to residential development.

Urban land-Orthents, cut and fill complex: This soil series occurs mostly in urban areas and consists of soil material that has been moved mechanically and mixed, with highly variable texture. In addition, this series may consist of varying amounts of soil, gravel, and other solid materials. This series is typically well drained and is not rated as hydric. This mapping unit is located on the southeastern edges of the Study Area, adjacent to residential development.

4.3 Sensitive Plant Species

Based upon a review of online databases and internal City GIS species occurrence maps, a total of 89 special-status plant species have been documented in the five 7.5-minute USGS quadrangles (San Francisco North, San Francisco South, San Mateo, Montara Mountain, and Hunter's Point) surrounding Sign Hill. Species that are unlikely or have no potential to occur in

the Study Area were eliminated from further consideration for one or more of the following reasons:

- Edaphic (soil) conditions (e.g., alkaline, serpentine, sandy) necessary to support the special-status plant species are not present in the Study Area;
- Topographic conditions (e.g., montane, elevations) necessary to support the special-status plant species are not present in the Study Area;
- Associated natural communities (e.g., swamps, coastal dunes) necessary to support the special-status plant species are not present in the Study Area;
- The Study Area is geographically isolated from the documented range of the special-status plant species; or
- Recent evaluation of historical records has determined that these species are extirpated from the region in which the Study Area is located.

Of the 89 special-status plant species documented within the Study Area vicinity, nine special-status plant species have high or moderate potential to occur in the Study Area, and two special-status plant species have been documented in the Study Area.

Habitat suitability and species descriptions were developed based on California Native Plant Society's (CNPS) Rare Plant Inventory (California Native Plant Society, 2023), Calflora (Calflora, 2023), Consortium of California Herbaria 2 (CCH2) (Consortium of California Herbaria, 2023), and California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife, 2023). Many of the follow species are also found on nearby San Bruno Mountain to which Sign Hill is naturally a foothill. Many of the plant communities were once contiguous between the parks before Sign Hill was biogeographically separated by housing the developments in Paradise Valley.

Bent-flowered fiddleneck (*Amsinckia lunaris*, CRPR Rank 1B.2). Moderate Potential. Bent-flowered fiddleneck is an annual forb in the forget-me-not family (*Boraginaceae*) that blooms from March to June. It typically occurs in open areas within cismontane woodland, valley and foothill grassland, and coastal bluff scrub habitat often underlain by clay substrate at elevations ranging from 10–1,625 feet (CDFW 2023, CNPS 2023, Hickman 1993). Observed associated species include coast live oak, blue oak (*Quercus douglasii*), California juniper (*Juniperus californicus*), buck brush (*Ceanothus cuneatus*), poison oak, miniature lupine (*Lupinus bicolor*), foothill lotus (*Acmispon brachycarpus*), calf lotus (*A. wrangelianus*), fringe pod (*Thysanocarpus curvipes*), q-tips (*Micropus californicus*), cream cups (*Platystemon californicus*), slender tarweed (*Madia gracilis*), common yarrow, goldenback fern (*Pentagramma triangularis*), one-sided bluegrass (*Poa secunda*), woolly sunflower (*Eriophyllum lanatum*), and slender wild oat (*Avena barbata*) (CDFW 2023).

The nearest documented occurrence of bent-flowered fiddleneck is from 1963 on San Bruno Mountain, approximately 1.5 miles to the northwest. The most recent documented occurrence of this species is from 2018 on Upper Crystal Springs Reservoir, approximately 11 miles south of the Study Area (CDFW 2023). Potentially suitable grassland and openings in other habitat types are present in the Study Area. Appropriately timed surveys are recommended for this species.

Coast rockcress (*Arabis blepharophylla*, CRPR Rank 4.3) High Potential. Coast rock cress is a perennial forb in the mustard family (*Brassicaceae*) that blooms from February to May. It typically occurs on rocky outcrops and coastal bluffs, in broadleaf upland forest, coastal bluff

scrub, coastal prairie, and coastal scrub habitats at elevations ranging from 10–3,575 feet (CDFW 2023, CNPS 2023). Known associated species include coyote brush, broadleaf stonecrop (*Sedum spathulifolium*), common yarrow, poison oak, soap root, polypody fern (*Polypodium* sp.), red larkspur (*Delphinium nudicaule*), cow parsnip (*Heracleum maximum*), silver lupine (*Lupinus albifrons*) (CCH2 2023).

This species was observed at Sign Hill in 2012, along the western ridgeline (Calflora 2023). Potentially suitable rocky habitat is present. Appropriately timed surveys are recommended for this species.

San Francisco collinsia (*Collinsia multicolor*, Rank 1B.2) Moderate Potential. San Francisco collinsia is an annual herb in the plantain family (*Plantaginaceae*) that blooms from March through May, occasionally starting to bloom in February. It typically occurs in northern coastal scrub, closed-cone pine forest habitats at elevations ranging from 100–900 feet (CNPS 2023). Known associated species include coast live oak, bay laurel, coast redwood, western chokeberry (*Prunus demissa*), small flowered nemophila (*Nemophila parviflora)*, elegant clarkia (*Clarkia unguiculata)*, and poison oak (CCH2 2023).

The nearest documented occurrence is from 1988 on the eastern ridgeline of San Bruno Mountain, approximately 1 mile northeast of the Study Area. The most recent documented occurrence is from 2019, on the western ridgeline of San Bruno Mountain (Calflora 2023). The Study Area contains potentially suitable habitat on north-facing slopes in rocky soils where vegetation density is low. Appropriately timed surveys are recommended for this species.

San Francisco wallflower (*Erysimum franciscanum*, Rank 4.2) Moderate Potential. San Francisco wallflower is a perennial for in the mustard family (*Brassicaceae*) that blooms from March to June. It typically occurs on serpentine or granitic substrates in chaparral, coastal dunes, coastal scrub, and valley and foothill grassland habitats at elevations ranging from 0–1,800 feet (CNPS 2023). Observed associated species include bracken fern, beach sagewort (*Artemisia pycnocephala*), lizard tail (*Eriophyllum staechadifolium*), purple needlegrass (*Stipa pulchra*), and Italian ryegrass (*Festuca perennis*) (CCH 2023).

The nearest documented occurrence is from 1979, approximately 0.25 mile west of the Study Area. The most recent documented occurrence is from 2021, on San Bruno Mountain approximately 1.25 miles northeast of the Study Area (CDFW 2023). Potentially suitable rocky habitat is present. Potentially suitable grassland and openings in scrub are present in the Study Area. Appropriately timed surveys are recommended for this species.

San Francisco gumplant (*Grindelia hirsutula* var. *maritima*, Rank 3.2) Moderate Potential. San Francisco gumplant is a perennial herb in the daisy family (*Asteraceae*) that blooms from June to September. It typically occurs on coastal bluff scrub, coastal scrub, valley and foothill grassland/sandy or serpentine soils at elevations ranging from 50–1,310 feet (15–400 meters) (CNPS 2023).

The nearest documented occurrence is from 1960 on San Bruno Mountain, approximately 1 mile north of the Study Area. The most recent documented occurrence is from 2011 near San Gregorio, approximately 25 miles south of the Study Area (CDFW 2023). Potentially suitable rocky habitat is present. Potentially suitable scrub and grassland habitat are present in the Study Area. Appropriately timed surveys are recommended for this species.

Diablo helianthella (*Helianthella castanea*, Rank 1B.2) Moderate Potential. Diablo Helianthella is a woody perennial species in the sunflower (*Asteraceae*) family that blooms from March through June. It typically occurs in broadleaved upland forest, chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland, often on rocky substrates at elevations ranging from 180–3,900 feet (60-1,300 meters) (CNPS 2023, CDFW 2023). Known associated species include California bay, poison oak, interior live oak (*Quercus wislizenii*), sticky monkey flower (*Diplacus aurantiacus*), coyote bush, chamise (*Adenostoma fasciculata*), wild oat (*Avena* spp.), and ripgut brome (CDFW 2018).

The nearest documented occurrence is from 2012 on the eastern ridge of San Bruno Mountain, approximately 1 mile north of the Study Area (CDFW 2023). Potentially suitable rocky habitat is present. Potentially suitable grassland and shrub habitat are present in the Study Area. Appropriately timed surveys are recommended for this species.

Scouler's catchfly (*Silene scouleri* ssp. *scouleri*, Rank 2B.2) High Potential. Scouler's catchfly is a perennial herb in the pink family (*Caryophyllaceae*) that blooms from June through August; occasionally, this species may start blooming as early as March, and may continue blooming as late as September. It typically occurs in coastal bluff scrub, coastal prairie, and valley and foothill grassland habitats at elevations ranging from 0–1,970 feet (CDFW 2023, CNPS 2023). Known associated species include coyote brush, poison oak, Pacific manzanita (*Arctostaphylos pacifica*), seaside buckwheat (*Eriogonum latifolium*), blueblossom (*Ceanothus thyrsiflorus*), and Douglas iris (*Iris douglasiana,* CDFW 2023).

The nearest documented occurrence is from 1963 on the eastern ridge of San Bruno Mountain, approximately 1 mile north of the Study Area (CDFW 2023). The most recent documented occurrence is from 2016 on Pedro Point, approximately 7 miles southwest of the Study Area (CDFW 2023). Potentially suitable rocky and thin-soiled habitat is present. Additionally, there is a Calflora observation within the Study Area. Appropriately timed surveys are recommended for this species.

San Francisco campion (*Silene verecunda* ssp. *verecunda*, CRPR Rank 1B.2) Moderate Potential. San Francisco campion is a perennial herb in the pink family (*Caryophyllaceae*) that blooms from March through July; occasionally, this species may start blooming as early as February, and may continue blooming as late as August. It typically occurs in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland at elevations ranging from 100–2,115 feet (CNPS 2023). Known associated species include California orach (*Extriplex californica*), sea fig (*Carprobrotus chilense*), gum plant (*Grindelia stricta* var. *platyphylla*), bluff lettuce (*Dudleya farinosa,* CDFW 2023).

The nearest and most recent documented occurrence is from 2018 on the western ridge of San Bruno Mountain, approximately 1.5 miles northwest of the Study Area (CDFW 2023). Potentially suitable rocky habitat is present. Potentially suitable scrub and grassland habitats are present in the Study Area. Appropriately timed surveys are recommended for this species.

San Francisco owl's-clover (*Triphysaria floribunda*, CRPR Rank 1B.2) Moderate Potential. San Francisco owl's-clover is an annual herb in the broomrape family (*Orobanchaceae*) that blooms from April to June. It typically occurs in coastal prairie, coastal scrub, and valley and foothill grassland habitats, usually on serpentine substrates. Observed associated species include bishop

pine (*Pinus muricata*), coyote brush, common velvet grass (*Holcus lanatus*), silver hair grass (*Aira caryophylla*), butter 'n' eggs (*Triphysaria eriantha*), and checker mallow (*Sidalcea malviflora*; CCH 2023).

The nearest documented occurrence is from 1963 on San Bruno Mountain, approximately 1 mile north of the Study Area. The most recent documented occurrence is from 2009 at the Presidio, approximately 10 miles north of the Study Area (CDFW 2023). Potentially suitable rocky habitat within scrub and grassland habitat are present in the Study Area. Appropriately timed surveys are recommended for this species.

Coastal triquetrella (*Triquetrella californica*, CRPR Rank 1B.2) Moderate Potential. Coastal triquetrella is a moss in the family *Pottiaceae*. It typically occurs on thin, rocky or gravelly soils in coastal bluff scrub and coastal scrub near the coast at elevations ranging from 30–330 feet (CDFW 2023, CNPS 2023). Known associated species include coyote brush, California sagebrush, polypody fern, ceanothus, and grasses (CDFW 2023).

The nearest and most recent documented occurrence is from 2013 on the western ridge of San Bruno Mountain, approximately 1 mile north of the Study Area (CDFW 2023). The Study Area contains potentially suitable areas with thin soil and rocky substrate, with naturally occurring low cover of taller vegetation. Appropriately timed surveys are recommended for this species.

4.4 Sensitive Wildlife Species

Potential sensitive wildlife species were identified using a query of the California Natural Biodiversity Database (CDFW 2023) that focused on the same five USGS quadrangles used for the plant search. Of the special-status wildlife species documented in the vicinity of the Study Area, most were excluded based on a lack of habitat features. Features not found within the Study Area that are required to support special-status wildlife species include:

- Sand dunes or bare gravelly outcrops;
- Large burrows;
- Presence of specific host plants; or
- Caves, bridges, or abandoned buildings.
- Rocky intermittent and/or perennial streams,
- Forests, beaches, tidal marsh, streams, ponds, and other habitat types.

The absence of such habitat features eliminates components critical to the survival or movement of most special-status species found in the vicinity. Two special-status butterfly species, Mission blue butterfly (*Icaricia icarioides missionensis*), and Callippe silverspot butterfly have been documented in the Study Area. Surveys for mission blue butterflies are conducted annually from March-June and incidental sightings of Callippe silverspot butterflies are documented by City staff.

White-tailed kite (*Elanus luecurus*), a fully protected species in California, has potential to occur on Sign Hill and may nest there. Sign Hill has some marginal habitat that could support olive-sided flycatcher (*Contopus cooperi)*. The site provides suitable nesting habitat for a wide range of nesting birds, including raptors, that despite having no special status, receive protections from impacts that could result in nest failure during nesting. Most native birds in the United States, including common species are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFGC) sections 3503, 3503.5 and 3513. Under these

laws/codes, the deliberate take of birds and their nests, eggs, and young is prohibited. Typically, during any tree removal actions, pre-construction surveys would be conducted and if active nests are found, buffers around the subject tree(s) would be established. Nests would then be periodically monitored until the young have left the nest.

Several special-status and common bat species including pallid bat [*Antrozous pallidus*], fringed myotis [*Myotus thysanodes*] and western red bat [*Lasiurus blossevillii*]) have potential to occur in large trees in Sign Hill. Dusky-footed woodrat (*Neotoma fuscipes annectens*) has the potential to occur in forested areas with dense undergrowth or in dense brush. The potential for these and other regional special-status species to occur in proposed work areas and be affected by the proposed project are evaluated in Attachment 1, and recommendations for the avoidance and protection of these species is summarized along with notes about typical habitat usage for each species.

4.5 Wildlife Corridors

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed habitat connectivity data available through CDFW from the Essential Connectivity Areas dataset (CDFW 2023). Additionally, aerial imagery (Google Earth 2023) for the local area was referenced to assess if local core habitat areas were present within or connected to the Study Areas. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

Because the Study Area is not connecting one open space area to another, it is not considered part of a wildlife corridor. While common wildlife species presumably utilize the site to some degree for movement at a local scale, the Study Area itself does not provide corridor functions beyond connecting similar agricultural areas and no barriers to wildlife movement will be created as a result of the OSMP.

5.0 FINDINGS AND BEST PRACTICES

5.1 Special-status Species

5.1.1 Plants

Upon review of existing conditions, species distributions, and habitat requirements, 10 special-status plant and eight special-status wildlife species have been documented in the Study Area and/or have a moderate potential or higher potential to occur within the Study Area. Because special-status plants and host plants for special-status insects have been documented in the Study Area, it is recommended that plant surveys should be conducted in the year of Project implementation, in work areas and within 25 feet of them. If no rare plants or special-status insect host plants are detected, no further action is needed. If rare plants or special-status insect host plants are detected, the Project may require further review to satisfy CEQA requirements if rare plants or special-status insect host plants cannot be avoided.

5.1.2 Birds

Olive-sided flycatcher and white-tailed kite have a limited potential to nest within the Study Area, but nesting cannot be ruled out. CFGC prohibits disturbance to active nest sites for native nesting birds, including white-tailed kite and olive-sided flycatcher.

To comply with existing standards, a pre-construction breeding bird survey is recommended, and should be conducted by a qualified biologist, if vegetation and/or ground disturbance would occur between February 1 and September 1. The survey would need to occur no more than seven days prior to the start of construction and would need to review areas within 500 feet of the proposed areas of project-related disturbance. If occupied nests are observed during the pre-construction survey, the biologist would establish a “no disturbance buffer” surrounding the active nest and activities within that buffer zone would be prohibited until any young present have fledged or the nest is otherwise no longer active. The buffer distance would be established by the biologist based on factors such as the species observed, type of adjacent disturbance, and sensitivity of the nesting bird to disturbance. Given the low probability that sensitive species would be present within or adjacent to the area of construction, potential impacts to special-status wildlife species are less than significant. To ensure compliance with existing standards and Fish and Game Code, we recommend that the survey protocols described above be incorporated into the project description or be included as a Condition of Approval for the project.

5.1.3 Mammals

San Francisco Dusky-footed woodrat has potential to occur and build middens within the Study Area; however, it is unlikely that middens would be present in any of the areas where Project activities would occur. To avoid impacts to woodrats, it is recommended that prior to brush removal in areas with dense undergrowth or shrubby thickets, a survey for the presence of woodrat middens should be conducted by a qualified biologist. If no woodrat middens are detected, no additional avoidance measures are recommended. If middens are detected, it is recommended that they be avoided by five (5) feet. If middens cannot be avoided, additional measures, such as development of a woodrat midden removal plan by a qualified biologist and

subsequent review and authorization of the plan by the CDFW (prior to implementation) is recommended.

Special-status bat species and non-status bats with maternity roost protections, have potential to occur and reproduce within the Study Area. To reduce potential impacts to maternity roosting bats, avoid removing trees in the bat maternity season (March 1–September 1). If this timeframe cannot be avoided, for any trees measuring greater than 36 inches DBH, a pre-removal assessment should be conducted to see if any potential maternity roost are present (only the largest trees on the site would provide thermal stability sufficient for maternity roosts). If any are detected, they shall be avoided until the maternity season is ended. For day roosting bats, any felled trees should remain on the ground overnight so that any roosting bats can escape.

5.2 Sensitive Vegetation and Aquatic Communities

Sensitive vegetation communities are determined at the alliance and association level. Depending on the extent of impact for the proposed trail alignment(s), focused biological surveys along the impacted areas may be conducted for vegetation community mapping and to determine avoidance, minimization, and mitigation measures.

There were no aquatic features observed during the February 2023 visit.

5.3 Local Plans and Policies

As stated in Section 2.5, the issuance of tree removal permits is overseen by the City's Parks and Recreation Department. Although there may be trees located within the Study Area that qualify as a Protected Tree (e.g., blue gum eucalyptus with a circumference of 75 inches measured 54 inches above natural grade), the Parks and Recreation Department may exercise their discretionary powers to remove these trees for public safety and habitat restoration purposes.

Fire safety is one of the Parks and Recreation Department's top priorities. Observing and implementing Cal Fire standards include maintaining a 100-foot fire break around the perimeter of the Sign Hill park boundary where no trees shall be allowed to grow, establishing fire breaks between tree stands, and thinning tree groves within the park interior.

Habitat management objectives require tree removal to preserve listed butterfly species' habitat. Tree stands or canopies that are observed to be encroaching on butterfly habitat are prioritized for removal to preserve the appropriate grass- and shrubland habitat suitable for butterflies.

Ultimately, tree removal is at the discretion of the Parks and Recreation Department and would typically only occur outside of nesting season. If tree removals are necessary within the nesting season, nesting bird surveys (or other biological surveys as appropriate) would occur prior to tree removal.

5.4 Wildlife Corridors

The Project would have no impact on existing established wildlife corridors.

5.5 Habitat Conservation Plans

The Project does not overlap and is not in proximity to an area covered by an existing Habitat Conservation Plan; therefore, the project would not conflict with such a plan.

6.0 MANAGEMENT RECOMMENDATIONS

The evaluations or recommendations in this section apply to Sign Hill only, since the City does not own the entirety of the Study Area yet; however, since Sign Hill contains resources and habitats identical to, or similar to the privately-owned property to the north, these recommendations may be applied to the Study Area once the privately owned land is acquired by the City.

6.1 Resource Surveys

The City currently monitors both rare plants, butterfly host plants and mission blue butterflies on Sign Hill.

If the City acquires additional parcels on the north slopes of Sign Hill, those areas will need to be surveyed for rare plants, butterflies, and host plants. These areas will also need to be included in vegetation mapping updates.

The City may update vegetation mapping as needed to help with resource allocation and prioritization and restoration tracking/reporting for grants. The most recent aerial imagery from drone surveys or NearMap may be used to update vegetation map, mostly using aerial imagery interpretation with limited ground truthing.

6.2 Tree Removal

While the thinned Eucalyptus groves are less likely to result in dangerous fast-moving fires, without regular maintenance of the understory, dangerous fire risk remains. In windy areas such as the Study Area, where fires could potentially move quickly to nearby residential areas, it is recommended that the understory be regularly maintained or that all these trees be removed. If maintaining a forest community in parts of the Study Area near the nearby residences is a priority, it is recommended that Eucalyptus groves be transitioned to more fire-resilient species dominated communities, such as coast live oak forest, over time. In addition to reducing fire risks, the coast live oak woodland community provides much higher habitat value to native wildlife and plant species. Wildlife, especially birds benefit from the food resources (acorns and native insects that use oaks as hosts) and native understory plants are able to survive better in soils that are not contaminated by Eucalyptus oils.

6.3 Habitat Enhancement and Restoration

6.3.1 Insect Host Plant Protection and Augmentation and Maintenance of Nectar Resources.

Butterfly host plants, particularly golden violet and silverbush lupine, which support Callipe silverspot butterfly and Mission blue butterfly, respectively are critical to maintain on the site if these Federal-listed butterflies are to persist on Sign Hill. Golden violet presents challenges due to its difficulty in propagation, whereas silverbush lupine is relatively easy to cultivate. Golden violet may be a limiting factor for Callippe silverspot butterfly on the site because it is relatively

uncommon, making each individual plant a valuable resource. Conversely, silverbush lupine is abundant, and does not appear to be a limiting factor. Effective management of these two host plants would be one of the most important steps that can be taken to benefit the butterflies of Sign Hill. Limiting direct impacts from visitors to host plants through educational outreach, barriers and strategic trail routing are recommended. Some of these steps are already being implemented. Additional efforts could be focused surveys to identify more areas that support host plants and subsequent management steps (e.g., invasive plant removal to reduce competition). Beyond management of host plants, maintenance of open, native grasslands that provide the nectar resources for these species is also an important management objective. While host plant and grassland management to benefit butterflies is an important operational consideration, host plants should not be planted in areas where their presence could constrain park maintenance or future construction activities. Host plants should also not be planted in areas where they would not naturally occur or where they could attract butterflies into harm's way or create reproductive sinks. For example, if most host plants are found on the south-facing slopes of the Sign Hill, and these areas have been shown to support high numbers of butterflies, it would not be advisable to plant host plants on the north facing slopes even if they could survive. This could result in some butterflies laying eggs on the cooler side of the hill, which would be likely to reduce their success due to asynchronous development timeframes. In addition, wherever host plants are on the site, they must be viewed as both a valuable resource and a constraint. Impacting either of the host plants on the site would only be recommended if a valid Biological Opinion from the United States Fish and Wildlife Service has been issued. Adverse impacts would likely require some form of mitigation.

Though the listed butterflies are of the highest importance with respect to insects on the site, other pollinators may become focal points in the coming years. Currently, there are three bumblebee species that are candidates for listing under the California Endangered Species Act (CESA). While none of these candidate species are likely to be present on Sign Hill now, western bumblebee probably did occur there at one time, based on nearby documented occurrences and suitable onsite habitat. It is possible that this species could be reintroduced to Sign Hill in the future. No recommendations beyond continued maintenance and enhancement of native grasslands are made for native bees at this time.

6.4 Community Stewardship Through Education and Outreach

The current use of the Study Area as a local park provides an excellent opportunity for outdoor recreation to the (mostly) immediate community. The lack of restrooms, playgrounds, parking, and other amenities reduces the appeal to a larger audience and the existence of Sign Hill is poorly known. The fragility of the habitat on the site, particularly in areas where listed butterfly host plants are present and the steepness of the terrain, which makes erosion more likely when people go off trails, presents a challenge for balancing a desire to have Sign Hill more well-visited and protecting the fragile resources that are present. Based on the current surrounding development and associated infrastructure, it seems unlikely that there are many opportunities to add large parking areas. The addition of bathrooms in at least one location is likely feasible, but this would result in more maintenance needs. While dramatically increasing the visitation to Sign Hill under current conditions may be infeasible, and could lead to some undesirable outcomes, improving interpretation of the uniqueness of the area for those folks that do visit could enhance visitor experience and possibly reduce the impact of use which could balance some visitation increases if those were to occur. Interpretive topics specific to Sign Hill could include:

- Mission blue butterfly, its host plant and its listed status and conservation story, reminders to stay on trails
- Callippe silverspot butterfly, its host plant, rarity on Sign hill and its conservation story including the need to stay on trails
- Island biogeography ecological theories and how Sign Hill, along with San Bruno Mountain are essentially islands of unique habitat surrounded by an increasingly urbanized landscape. Effects of natural isolation and habitat fragmentation associated with development are easily observed and understood in the context of Sign Hill.
- Island and Sky Island biogeography concepts
- Unique wind-swept landscape; rare plants that specialize in these areas
- Why more trees aren't always better
- The role of fire
- Stewardship and staying on designated trails

An overarching goal of open space management is to encourage and inspire people to interact with and appreciate that natural world. Small community parks are important conduits to the natural world and Sign Hill offers a unique and rare opportunity for nature appreciation and an avenue for better understanding of natural processes; however, it would be fairly easy for many people to walk the trails in the park and not realize how special the site is. This presents an excellent opportunity for more and enhanced interpretation of Sign Hill, the natural processes that have formed it and its inhabitants, and their future. Beyond the interpretive exhibits discussed in the previous section, additional, less traditional methods of community outreach could include guided nature walks for community members or visiting local school science classes to inspire appreciation of this poorly known resource. Concepts described in the previous section can be used as a framework for these engagements.

7.0 REFERENCES

Calflora. 2023. Cal Flora. Available online at: Calflora.org. Most recently accessed: February 2023.

California Department of Fish and Wildlife, and California Department of Transportation. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. California Department of Fish and Wildlife, Sacramento, CA.

California Department of Fish and Wildlife. 2023. California Natural Diversity Database. Biogeographic Data Branch, Vegetation Classification and Mapping Program, Sacramento, California. Available online at: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data; most recently accessed: February 2023

California Native Plant Society (CNPS). 2023a. A Manual of California Vegetation, Online Edition. Available online at: http://vegetation.cnps.org. Most recently accessed: February 2023.

California Native Plant Society (CNPS). 2023b. Inventory of Rare and Endangered Plants (online edition, v9.5). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: February 2023.

Consortium of California Herbaria 1 (CCH1). 2023. CCH1: Featuring California Vascular Plant Data from the Consortium of California Herbaria and Other Sources. Data provided by the Consortium of California Herbaria. Available online at: http://ucjeps.berkeley.edu/consortium/; most recently accessed: February 2023.

Consortium of California Herbaria 2 (CCH2). 2023. CCH2 Portal. Online at: http://cch2.org/portal/index.php; most recently accessed: February 2023.

eBird. 2023. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed: February 2023).

Environmental Collaborative. 2015. Biological Resource Assessment: Sign Hill Park Site, City of South San Francisco. March 25, 2015.

Environmental Laboratory. 1987. Corp of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Technical Report Y-87-1, Vicksburg, Mississippi.

Golden Gate National Parks Conservancy, et al. 2022. San Mateo Fine Scale Vegetation Map. Available: https://www.arcgis.com/home/item.html?id=c1d1ea74e5014dcba6331e8ce01e7d49 Most recently accessed: February 2023

Google Earth. 2023. Aerial Imagery 1985-2022. Most recently accessed: February 2023

Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California, The Resources Agency, Department of Fish and Game, Sacramento, CA.

Lichvar and McColley, 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers, Hanover, New Hampshire.

NatureServe. 2020. At-risk species by county or watershed. https://www.natureserve.org/access-data. Accessed 2023.

NETR 2023. Nationwide Environmental Title Research. Historical aerial photographs. Accessed 2023.

SWRCB 2021. California State Water Resources Control Board. State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html. Accessed 2023.

Shuford, W.D. and Gardali, T., eds. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Thomson, R.C., A.N. Wright, and H.B. Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. Co-published by the California Department of Fish and Wildlife and University of California Press. Oakland, California.

U.S. Army Corps of Engineers (Corps). 2005. Regulatory Guidance Letter No. 05-05. Ordinary High Water Mark Identification. December 7.

U.S. Army Corps of Engineers (Corps). 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Page 135. U.S. Army Engineer Research and Development Center, ERDC/EL TR-08-28, Vicksburg, Mississippi.

U.S. Fish and Wildlife Service (USFWS). 2023a. National Wetland Inventory. Available online at: https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper. Most recently accessed: February 2023.

U.S. Fish and Wildlife Service (USFWS). 2023b. List of Federal Endangered and Threatened Species. Available online at: https://ecos.fws.gov/ipac/. Most recently accessed: February 2023.

U.S. Geological Survey (USGS). 2021. San Francisco South Quadrangle, California. 7.5-minute topographic map. Most recently accessed: February 2023.

U.S. Department of Agriculture (USDA). Natural Resources Conservation Service. 202. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov; most recently accessed: February 2023.

Attachment 1. Figures

Figure 1. Study Area and Regional Location

Sign Hill Open Space Management Plan
San Mateo County, California

0 200 400 Feet

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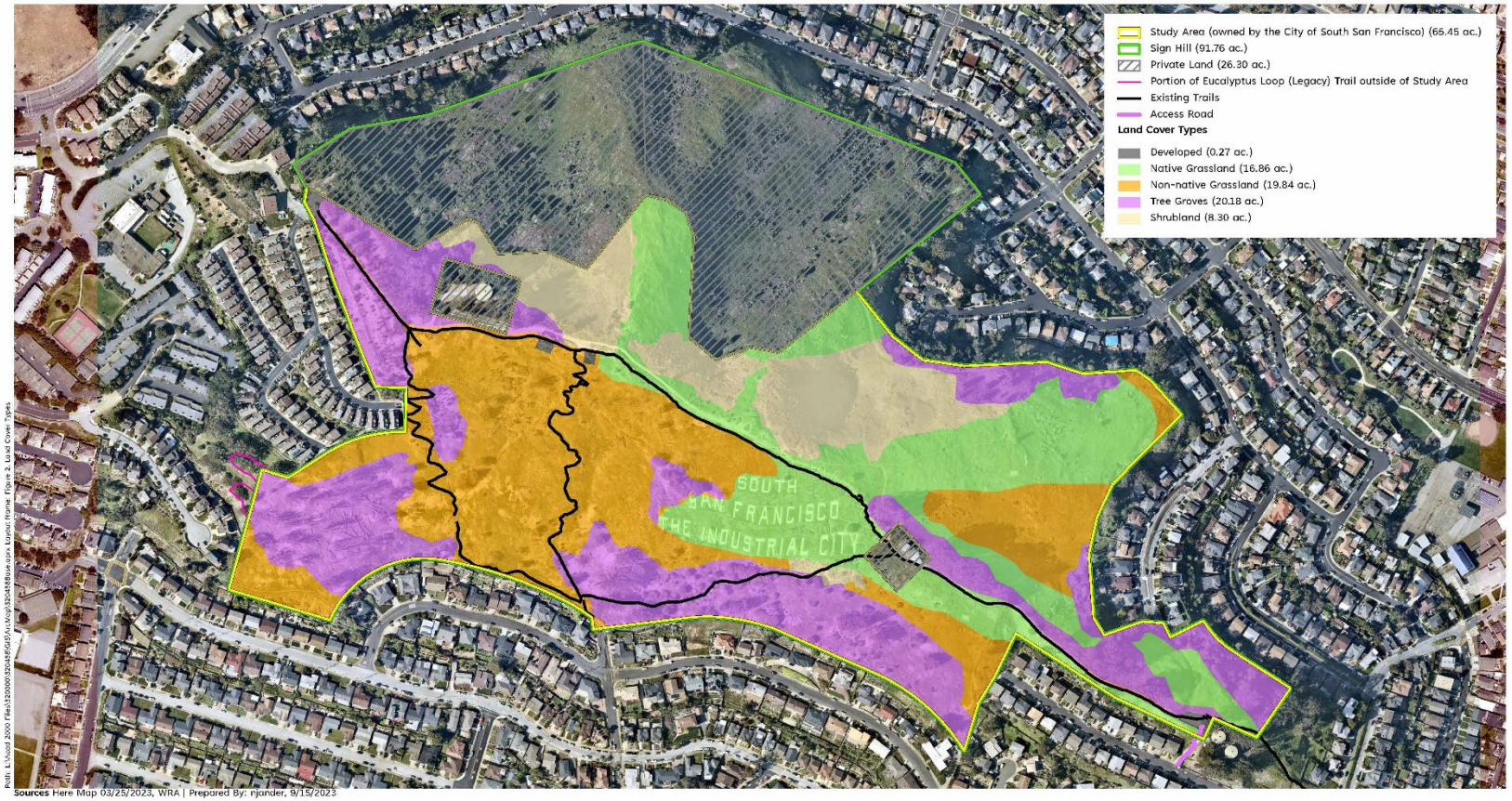

Path: L:\Xcel 2000 Files\320000\320458\GIS\Arcgis\320458bas.aprx Layout Name: Figure 2. Land Cover Types

Sources Here Map 03/25/2023, WRA | Prepared By: njander, 9/15/2023

Figure 2. Land Cover Types

Sign Hill Open Space Management Plan
San Mateo County, California

wra Environmental Consultants

Figure 3. Soil Types

Sign Hill Open Space Management Plan
San Mateo County, California

0 200 400 US Feet

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wra Environmental Consultants

Attachment 2. Species Potentials Tables

Potential for Special-Status Plant and Wildlife Species to occur within the Sign Hill Study Area, South San Francisco, CA. List compiled from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Database, and a search of the California Dept. of Fish and Wildlife (CDFW) Natural Diversity Database (CDFW 2023) and California Native Plant Society (CNPS) Rare Plant Inventory for the San Francisco North, San Francisco South, San Mateo, Montara Mountain, and Hunter's Point USGS 7.5' quadrangles and a review of other CDFW lists and publications.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		PLANTS		
San Mateo thorn-mint ***Acanthomintha duttonii***	FE, SE, Rank 1B.1	Chaparral, valley and foothill grassland. Elevation ranges from 165 to 985 feet (50 to 300 meters). Blooms Apr-Jun.	**No Potential.** Although chaparral and valley/foothill grassland habitat was observed, San Mateo thorn-mint is a strict serpentine endemic and serpentine vertisol clays are not present within the Study Area.	No further actions are recommended for this species.
Blasdale's bent grass ***Agrostis blasdalei***	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms May-Jul.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species.
Franciscan onion ***Allium peninsulare var. franciscanum***	Rank 1B.2	Cismontane woodland, valley and foothill grassland. Elevation ranges from 170 to 1000 feet (52 to 305 meters). Blooms (Apr)May-Jun.	**Unlikely.** Although valley/foothill grassland habitat was observed, microhabitat/suitable substrate of clay soils are not present within the Study Area.	No further actions are recommended for this species.
bent-flowered fiddleneck ***Amsinckia lunaris***	Rank 1B.2	Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Moderate Potential.** Potentially suitable grassland and openings in other habitat types are present in the Study Area.	Appropriately timed surveys are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
coast rockcress ***Arabis blepharophylla***	Rank 4.3	Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 10 to 3610 feet (3 to 1100 meters). Blooms Feb-May.	**Present.** Potentially suitable rocky habitat is present. Additionally, there are Calflora observations within and adjacent to the Study Ara.	Appropriately timed surveys are recommended for this species.
Franciscan manzanita ***Arctostaphylos franciscana***	FE, Rank 1B.1	Coastal scrub (serpentine). Elevation ranges from 195 to 985 feet (60 to 300 meters). Blooms Feb-Apr.	**No Potential.** Although cosatal scrub habitat was observed, microhabitat/suitable substrate of serpentine outcrops are not present within the Study Area.	No further actions are recommended for this species.
San Bruno Mountain manzanita ***Arctostaphylos imbricata***	SE, Rank 1B.1	Chaparral, coastal scrub. Elevation ranges from 900 to 1215 feet (275 to 370 meters). Blooms Feb-May.	**Unlikely.** This species has a highly restricted range, and is only known from the ridgeline of San Bruno Mountain. Additionally, no species of *Arctostaphylos,* a conspicuous, woody group of plants, were observed during the February 9, 2023, site visit.	No further actions are recommended for this species
Presidio manzanita ***Arctostaphylos montana ssp. ravenii***	FE, SE, Rank 1B.1	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 150 to 705 feet (45 to 215 meters). Blooms Feb-Mar.	**No Potential.** Although chaparral and coastal scrub habitats were observed, Presidio manzanita is a strict serpentine endemic and microhabitat/suitable substrate of rocky serpentine slopes are not present within the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Montara manzanita ***Arctostaphylos montaraensis***	Rank 1B.2	Chaparral (maritime), coastal scrub. Elevation ranges from 260 to 1640 feet (80 to 500 meters). Blooms Jan-Mar.	**Unlikely.** This species has a highly restricted range, known only from granitic rock on Montara Mountain and from a small number of individuals at a single location near the ridgeline of San Bruno Mountain. Additionally, no species of Arctostaphylos, a conspicuous, woody group of plants, were observed during the February 9, 2023, site visit.	No further actions are recommended for this species
Pacific manzanita ***Arctostaphylos pacifica***	SE, Rank 1B.1	Chaparral, coastal scrub. Elevation ranges from 1085 to 1085 feet (330 to 330 meters). Blooms Feb-Apr.	**Unlikely.** This species has a highly restricted range, and is only known from two individuals at a single location near the ridgeline of San Bruno Mountain. Additionally, no species of Arctostaphylos, a conspicuous, woody group of plants, were observed during the February 9, 2023, site visit.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Kings Mountain manzanita ***Arctostaphylos regismontana***	Rank 1B.2	Broadleafed upland forest, chaparral, north coast coniferous forest. Elevation ranges from 1000 to 2395 feet (305 to 730 meters). Blooms Dec-Apr.	**Unlikely.** Although broadleafed upland forest is present in the Study Area, the nearest occurrences of this species are approximately 8 miles south on Montara Mountain. There it occurs in chaparal on granite substrate, and such habitat is absent from the Study Area. Additionally, no species of Arctostaphylos, a conspicuous, woody group of plants, were observed during the February 9, 2023, site visit.	No further actions are recommended for this species
marsh sandwort ***Arenaria paludicola***	FE, SE, Rank 1B.1	Marshes and swamps (brackish, freshwater). Elevation ranges from 10 to 560 feet (3 to 170 meters). Blooms May-Aug.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
Carlotta Hall's lace fern ***Aspidotis carlotta-halliae***	Rank 4.2	Chaparral, cismontane woodland. Elevation ranges from 330 to 4595 feet (100 to 1400 meters). Blooms Jan-Dec.	**No Potential.** Although chaparral and cismontane woodland habitat was observed, microhabitat/suitable substrate of serpentine slopes/crevices/outcrops are not present within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
ocean bluff milk-vetch ***Astragalus nuttallii var. nuttallii***	Rank 4.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 395 feet (3 to 120 meters). Blooms Jan-Nov.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
coastal marsh milk-vetch ***Astragalus pycnostachyus var. pycnostachyus***	Rank 1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Elevation ranges from 0 to 180 feet (0 to 55 meters). Blooms (Apr)Jun-Oct.	**No Potential.** This species is known from the immediate coast in mesic areas, such as streams, marshes, riparian areas, and such habitats are absent from the Study Area.	No further actions are recommended for this species
alkali milk-vetch ***Astragalus tener var. tener***	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools. Elevation ranges from 5 to 195 feet (1 to 60 meters). Blooms Mar-Jun.	**No Potential.** This species is restricted to alkaline substrate, which is absent from the Study Area.	No further actions are recommended for this species
Oakland star-tulip ***Calochortus umbellatus***	Rank 4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 2295 feet (100 to 700 meters). Blooms Mar-May.	**Unlikely.** Although cismontane woodland and valley/foothill grassland habitat was observed, Oakland star-tuplip occurrences are strongly associated (65-74%) with serpentine substrate, which is absent from the Study Area. Additionally, this species is not known from the San Franicsco Peninsula. The nearest occurrence is approximately 16 miles north.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
pink star-tulip ***Calochortus uniflorus***	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 35 to 3510 feet (10 to 1070 meters). Blooms Apr-Jun.	**Unlikely.** This species occurs in seasonally wet areas, which are absent from the Study Area. This species also often occurs on serpentine substrate, which is absent from the Study Area. The nearest documented occurrence (Calflora) is 10 miles to the south, along the Upper Crystal Springs Reservoir.	No further actions are recommended for this species
bristly sedge ***Carex comosa***	Rank 2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland. Elevation ranges from 0 to 2050 feet (0 to 625 meters). Blooms May-Sep.	**No Potential.** This species is known from wetland habitat, which is absent from the Study Area.	No further actions are recommended for this species
northern meadow sedge ***Carex praticola***	Rank 2B.2	Meadows and seeps (mesic). Elevation ranges from 0 to 10500 feet (0 to 3200 meters). Blooms May-Jul.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
johnny-nip ***Castilleja ambigua var. ambigua***	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools (margins). Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.	**No Potential.** This species is known from coastal terrace and wetland habitats, which are absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
pappose tarplant ***Centromadia parryi ssp. parryi***	Rank 1B.2	Chaparral, coastal prairie, marshes and swamps (coastal salt), meadows and seeps, valley and foothill grassland (vernally mesic). Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.	**Unlikely.** Although vally/foothill grassland habitat was observed, vernally mesic (often alkaline) microhabitat is not present within the Study Area.	No further actions are recommended for this species
Point Reyes salty bird's-beak ***Chloropyron maritimum ssp. palustre***	Rank 1B.2	Marshes and swamps (coastal salt). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
San Francisco Bay spineflower ***Chorizanthe cuspidata var. cuspidata***	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 10 to 705 feet (3 to 215 meters). Blooms Apr-Jul(Aug).	**No Potential.** This species is known from dunes and other strongly sandy areas, which are absent from the Study Area.	No further actions are recommended for this species
robust spineflower ***Chorizanthe robusta var. robusta***	FE, Rank 1B.1	Chaparral (maritime), cismontane woodland (openings), coastal dunes, coastal scrub. Elevation ranges from 10 to 985 feet (3 to 300 meters). Blooms Apr-Sep.	**No Potential.** This species is known from dunes and other strongly sandy areas, which are absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Franciscan thistle ***Cirsium andrewsii***	Rank 1B.2	Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.	**Unlikely.** This species is often known from wetland habitat, sometimes on serpentine substrate, and such habitat and substrate are absent from the Study Area. The nearest extant occurrence is approximately 10 miles north, in serpentine seeps.	No further actions are recommended for this species
fountain thistle ***Cirsium fontinale var. fontinale***	FE, SE, Rank 1B.1	Chaparral (openings), cismontane woodland, meadows and seeps, valley and foothill grassland. Elevation ranges from 150 to 575 feet (45 to 175 meters). Blooms (Apr)May-Oct.	**No Potential.** This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species
Mt. Tamalpais thistle ***Cirsium hydrophilum var. vaseyi***	Rank 1B.2	Broadleafed upland forest, chaparral, meadows and seeps. Elevation ranges from 785 to 2035 feet (240 to 620 meters). Blooms May-Aug.	**No Potential.** This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species
compact cobwebby thistle ***Cirsium occidentale var. compactum***	Rank 1B.2	Chaparral, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 15 to 490 feet (5 to 150 meters). Blooms Apr-Jun.	**Unlikely.** Although coastal scrub habitat was observed, dune microhabitat and clay substrates are not present within the Study Area.	No further actions are recommended for this species
Presidio clarkia ***Clarkia franciscana***	FE, SE, Rank 1B.1	Coastal scrub, valley and foothill grassland (serpentine). Elevation ranges from 80 to 1100 feet (25 to 335 meters). Blooms May-Jul.	**No Potential.** This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
round-headed collinsia ***Collinsia corymbosa***	Rank 1B.2	Coastal dunes. Elevation ranges from 0 to 65 feet (0 to 20 meters). Blooms Apr-Jun.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
San Francisco collinsia ***Collinsia multicolor***	Rank 1B.2	Closed-cone coniferous forest, coastal scrub. Elevation ranges from 100 to 900 feet (30 to 275 meters). Blooms (Feb)Mar-May.	**Moderate Potential.** The Study Area contains potentially suitable habitat on north-facing slopes in rocky soils where vegetation density is low.	Appropriately timed surveys are recommended for this species.
clustered lady's-slipper ***Cypripedium fasciculatum***	Rank 4.2	Lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 330 to 7990 feet (100 to 2435 meters). Blooms Mar-Aug.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
western leatherwood ***Dirca occidentalis***	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland. Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).	**Unlikely.** This species is typically known from cool, shady areas in established native habitat, and such conditions are very limited within the Study Area. The nearest occurrence of this species is approximately 5 miles southwest of the Study Area.	No further actions are recommended for this species
California bottle-brush grass ***Elymus californicus***	Rank 4.3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug(Nov).	**Unlikely.** This species is typically known from cool, shady areas in established native habitat, and such conditions are very limited within the Study Area. The nearest occurrence of this species is approximately 8 miles south of the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
marsh horsetail ***Equisetum palustre***	Rank 3	Marshes and swamps. Elevation ranges from 150 to 3280 feet (45 to 1000 meters). Blooms Unk.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
San Mateo woolly sunflower ***Eriophyllum latilobum***	FE, SE, Rank 1B.1	Cismontane woodland (often serpentine, roadcuts), coastal scrub, lower montane coniferous forest. Elevation ranges from 150 to 1085 feet (45 to 330 meters). Blooms May-Jun.	**Unlikely.** This species is known from intact, shady, native forest habitat, which is very limited within the Study Area. The nearest occurrence is approximately 6 miles south of the Study Area.	No further actions are recommended for this species
San Francisco wallflower ***Erysimum franciscanum***	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Elevation ranges from 0 to 1805 feet (0 to 550 meters). Blooms Mar-Jun.	**Moderate Potential.** Potentially suitable grassland and openings in scrub are present in the Study Area.	Appropriately timed surveys are recommended for this species.
Hillsborough chocolate lily ***Fritillaria biflora var. ineziana***	Rank 1B.1	Cismontane woodland, valley and foothill grassland. Elevation ranges from 490 to 490 feet (150 to 150 meters). Blooms Mar-Apr.	**No Potential.** Although cismontane woodland and valley/foothill grassland habitat was observed, Hillsborough chocolate lily is a broad serpentine endemic species (85-94% of known occurrences are on serpentine substrate) and microhabitat/suitable substrate of serpentine is not present within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Marin checker lily ***Fritillaria lanceolata var. tristulis***	Rank 1B.1	Coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 50 to 490 feet (15 to 150 meters). Blooms Feb-May.	**Unlikely.** Although coastal scrub habitat was observed, this species is not known from the area, the nearest occurrence being approximately 12 miles to the northwest, at the Marin headlands.	No further actions are recommended for this species
fragrant fritillary ***Fritillaria liliacea***	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	**Unlikely.** Although cismontane woodland, coastal scrub, and valley/foothill grassland habitat was observed, microhabitat/suitable substrate of clay soils are not present within the Study Area. The nearest modern occurrence is approximately 10 miles south.	No further actions are recommended for this species
blue coast gilia ***Gilia capitata ssp. chamissonis***	Rank 1B.1	Coastal dunes, coastal scrub. Elevation ranges from 5 to 655 feet (2 to 200 meters). Blooms Apr-Jul.	**No Potential.** This species is known from dunes and other strongly sandy areas, which are absent from the Study Area.	No further actions are recommended for this species
dark-eyed gilia ***Gilia millefoliata***	Rank 1B.2	Coastal dunes. Elevation ranges from 5 to 100 feet (2 to 30 meters). Blooms Apr-Jul.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
San Francisco gumplant ***Grindelia hirsutula var. maritima***	Rank 3.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland. Elevation ranges from 50 to 1310 feet (15 to 400 meters). Blooms Jun-Sep.	**Moderate Potential.** Potentially suitable scrub and grassland habitat are present in the Study Area.	Appropriately timed surveys are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Diablo helianthella ***Helianthella castanea***	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation ranges from 195 to 4265 feet (60 to 1300 meters). Blooms Mar-Jun.	**Moderate Potential.** Potentially suitable grassland and shrub habitat are present in the Study Area.	Appropriately timed surveys are recommended for this species.
congested-headed hayfield tarplant ***Hemizonia congesta ssp. congesta***	Rank 1B.2	Valley and foothill grassland. Elevation ranges from 65 to 1835 feet (20 to 560 meters). Blooms Apr-Nov.	**Unlikely.** Although grassland is present, no extant occurrences of this species are known for the San Francisco Peninsula. The nearest occurrence is in Marin County.	No further actions are recommended for this species
short-leaved evax ***Hesperevax sparsiflora var. brevifolia***	Rank 1B.2	Coastal bluff scrub (sandy), coastal dunes, coastal prairie. Elevation ranges from 0 to 705 feet (0 to 215 meters). Blooms Mar-Jun.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
Marin western flax ***Hesperolinon congestum***	FT, ST, Rank 1B.1	Chaparral, valley and foothill grassland. Elevation ranges from 15 to 1215 feet (5 to 370 meters). Blooms Apr-Jul.	**No Potential.** Although valley/foothill grassland habitat was observed, this species is a strict serpentine endemic and suitable serpentine substrate is not present within the Study Area.	No further actions are recommended for this species
water star-grass ***Heteranthera dubia***	Rank 2B.2	Marshes and swamps (alkaline, still, slow-moving water). Elevation ranges from 100 to 4905 feet (30 to 1495 meters). Blooms Jul-Oct.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Kellogg's horkelia ***Horkelia cuneata var. sericea***	Rank 1B.1	Chaparral (maritime), closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 35 to 655 feet (10 to 200 meters). Blooms Apr-Sep.	**Unlikely.** Although chaparral (maritime), closed-cone coniferous forest, and coastal scrub habitats were observed, microhabitat/suitable substrate of dunes and coastal sandhills are not present within the Study Area.	No further actions are recommended for this species
Point Reyes horkelia ***Horkelia marinensis***	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 15 to 2475 feet (5 to 755 meters). Blooms May-Sep.	**Unlikely.** Although coastal scrub habitat was observed, microhabitat/suitable substrate of sandy flats and dunes are not present within the Study Area.	No further actions are recommended for this species
harlequin lotus ***Hosackia gracilis***	Rank 4.2	Broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.	**Unlikely.** Suitable mesic habitat is absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
island tube lichen ***Hypogymnia schizidiata***	Rank 1B.3	Chaparral, closed-cone coniferous forest. Elevation ranges from 1180 to 1330 feet (360 to 405 meters). Blooms .	**Unlikely**. The nearest occurrences are approximately 7 miles southwest, occurring in maritime chaparral, which is absent from the Study Area.	No further actions are recommended for this species
coast iris ***Iris longipetala***	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun).	**Present.** This species was observed in the Study Area on February 9, 2023.	Appropriately timed surveys are recommended for this species.
perennial goldfields ***Lasthenia californica ssp. macrantha***	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Jan-Nov.	**Unlikely.** This species is restricted to the immediate coast, and the Study Area is too far inland.	No further actions are recommended for this species
beach layia ***Layia carnosa***	FT, SE, Rank 1B.1	Coastal dunes, coastal scrub (sandy). Elevation ranges from 0 to 195 feet (0 to 60 meters). Blooms Mar-Jul.	**No Potential.** There is no suitable habitat for this species within the Study Area. The coastal scrub within the Study Area is not sandy.	No further actions are recommended for this species
serpentine leptosiphon ***Leptosiphon ambiguus***	Rank 4.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 395 to 3710 feet (120 to 1130 meters). Blooms Mar-Jun.	**No Potential.** Although coastal scrub and valley/foothill grassland habitats were observed, this is a strict serpentine endemic species; suitable serpentine substrate is not present within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
coast yellow leptosiphon ***Leptosiphon croceus***	SE, Rank 1B.1	Coastal bluff scrub, coastal prairie. Elevation ranges from 35 to 490 feet (10 to 150 meters). Blooms Apr-Jun.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
large-flowered leptosiphon ***Leptosiphon grandiflorus***	Rank 4.2	Cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). Blooms Apr-Aug.	**Unlikely.** Strongly sandy substrate is absent from the Study Area. The nearest occurrence is the species is approximately 35 miles southwest.	No further actions are recommended for this species
broad-lobed leptosiphon ***Leptosiphon latisectus***	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	**Unlikely.** The nearest modern occurrence is approximately 60 miles north.	No further actions are recommended for this species
rose leptosiphon ***Leptosiphon rosaceus***	Rank 1B.1	Coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
Crystal Springs lessingia ***Lessingia arachnoidea***	Rank 1B.2	Cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 195 to 655 feet (60 to 200 meters). Blooms Jul-Oct.	**No Potential.** This species is restricted to serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species
San Francisco lessingia ***Lessingia germanorum***	FE, SE, Rank 1B.1	Coastal scrub (remnant dunes). Elevation ranges from 80 to 360 feet (25 to 110 meters). Blooms (Jun)Jul-Nov.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
woolly-headed lessingia ***Lessingia hololeuca***	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	**Unlikely.** Although broadleafed upland forest, coastal scrub, and valley/foothill grassland habitat was observed, suitable substrate of clay and/or serpentine is not present within the Study Area.	No further actions are recommended for this species
Ornduff's meadowfoam ***Limnanthes douglasii ssp. ornduffii***	Rank 1B.1	Meadows and seeps. Elevation ranges from 35 to 65 feet (10 to 20 meters). Blooms Nov-May.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
San Mateo tree lupine ***Lupinus arboreus var. eximius***	Rank 3.2	Chaparral, coastal scrub. Elevation ranges from 295 to 1805 feet (90 to 550 meters). Blooms Apr-Jul.	**Unlikely.** Although potentially suitable scrub habitat is present, only the common var. *arboreus* is known from the area. The nearest occurrence of var. *eximius* is approximately 6 miles south of the Study Area.	No further actions are recommended for this species
arcuate bush-mallow ***Malacothamnus arcuatus***	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 50 to 1165 feet (15 to 355 meters). Blooms Apr-Sep.	**Unlikely.** Although cismontane woodland habitat was observed, microhabitat of gravelly alluvium is not present within the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Mt. Diablo cottonweed ***Micropus amphibolus***	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 150 to 2705 feet (45 to 825 meters). Blooms Mar-May.	**Unlikely.** Although cismontane woodland and grassland habitats are present, there are no nearby occurrences of this species. The closest occurrence of this species is approximately 13 miles north.	No further actions are recommended for this species
marsh microseris ***Microseris paludosa***	Rank 1B.2	Cismontane woodland, closed-cone coniferous forest, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 1165 feet (5 to 355 meters). Blooms Apr-Jun(Jul).	**Unlikely.** Although cismontane woodland, coastal scrub, and grassland are present, there are no extant occurrences of this species in the vicinity of the Study Area. The nearest occurrence is approximately 20 miles north.	No further actions are recommended for this species
northern curly-leaved monardella ***Monardella sinuata ssp. nigrescens***	Rank 1B.2	Chaparral (scr co.), coastal dunes, coastal scrub, lower montane coniferous forest (scr co., ponderosa pine sandhills). Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms (Apr)May-Jul(Aug-Sep).	**No Potential.** This species is known from strongly sandy areas, which are absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
woodland woollythreads ***Monolopia gracilens***	Rank 1B.2	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), valley and foothill grassland. Elevation ranges from 330 to 3935 feet (100 to 1200 meters). Blooms (Feb)Mar-Jul.	**Unlikely.** Although grassy areas are present in the Study Area, there are no nearby occurrences of this species, the closest being approximately 8 miles to the south. Additionally, this species often occurs on serpentine substrate, which is absent from the Study Area.	No further actions are recommended for this species
white-rayed pentachaeta ***Pentachaeta bellidiflora***	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland (often serpentine). Elevation ranges from 115 to 2035 feet (35 to 620 meters). Blooms Mar-May.	**Unlikely.** Cismontane woodland and valley/foothill habitat and microhabitat/suitable substrate of open dry rock slopes and grassy areas are present within the Study Area; however, the closest CNDDB occurrence located 1.5 miles to the northeast (edge of San Bruno Mountain) is likely extirpated. The nearest extant population is approximately 8 miles to the south, at Crystal Springs Reservoir.	No further actions are recommended for this species
Choris' popcornflower ***Plagiobothrys chorisianus var. chorisianus***	Rank 1B.2	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 10 to 525 feet (3 to 160 meters). Blooms Mar-Jun.	**Unlikely.** This species is known from wetland and mesic habitats, which are absent from the Study Area.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
San Francisco popcornflower ***Plagiobothrys diffusus***	SE, Rank 1B.1	Coastal prairie, valley and foothill grassland. Elevation ranges from 195 to 1180 feet (60 to 360 meters). Blooms Mar-Jun.	**Unlikely.** This species is known from clay soils and seasonally wet areas, which are absent from the Study Area. The nearest extant occurrence is approximately 35 miles south.	No further actions are recommended for this species
hairless popcornflower ***Plagiobothrys glaber***	Rank 1A	Marshes and swamps (coastal salt), meadows and seeps (alkaline). Elevation ranges from 50 to 590 feet (15 to 180 meters). Blooms Mar-May.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
Oregon polemonium ***Polemonium carneum***	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6005 feet (0 to 1830 meters). Blooms Apr-Sep.	**Unlikely.** Although coastal scrub habitat is present, all occurrences outside of the far North Coast Range are assumed to be extirpated.	No further actions are recommended for this species
Marin knotweed ***Polygonum marinense***	Rank 3.1	Marshes and swamps (brackish, coastal salt). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms (Apr)May-Aug(Oct).	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
Hickman's cinquefoil ***Potentilla hickmanii***	FE, SE, Rank 1B.1	Closed-cone coniferous forest, coastal bluff scrub, marshes and swamps (freshwater), meadows and seeps (vernally mesic). Elevation ranges from 35 to 490 feet (10 to 149 meters). Blooms Apr-Aug.	**Unlikely.** Although open scrub habitat is present in the Study Area, the nearest occurrence of this species is approximately 9 miles southwest.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Lobb's aquatic buttercup ***Ranunculus lobbii***	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	**Unlikely.** Although cismontane woodland, north coast coniferous forest, and valley/foothill grassland habitats were observed, mesic microhabitats are not present within the Study Area.	No further actions are recommended for this species
adobe sanicle ***Sanicula maritima***	SR, Rank 1B.1	Chaparral, coastal prairie, meadows and seeps, valley and foothill grassland. Elevation ranges from 100 to 785 feet (30 to 240 meters). Blooms Feb-May.	**Unlikely.** Although valley/foothill grassland habitat was observed, suitable substrate of moist clay or ultramafic soils are not present within the Study Area.	No further actions are recommended for this species
chaparral ragwort ***Senecio aphanactis***	Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Elevation ranges from 50 to 2625 feet (15 to 800 meters). Blooms Jan-Apr(May).	**Unlikely.** Although cismontane woodland and coastal scrub habitats were observed, microhabitat of drying alkaline flats or clay substrate are not present within the Study Area.	No further actions are recommended for this species
Scouler's catchfly ***Silene scouleri ssp. scouleri***	Rank 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms (Mar-May)Jun-Aug(Sep).	**High Potential.** Potentially suitable rocky and thin-soiled habitat is present. Additionally, there is a Calflora observations within the Study Area.	Appropriately timed surveys are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
San Francisco campion ***Silene verecunda ssp. verecunda***	Rank 1B.2	Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 100 to 2115 feet (30 to 645 meters). Blooms (Feb)Mar-Jul(Aug).	**Moderate Potential.** Potentially suitable scrub and grassland habitats are present in the Study Area.	Appropriately timed surveys are recommended for this species.
Santa Cruz microseris ***Stebbinsoseris decipiens***	Rank 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 1640 feet (10 to 500 meters). Blooms Apr-May.	**Unlikely.** Although scrub and grassland habitat are present, the nearest of occurrence of this species is approximately 13 miles north.	No further actions are recommended for this species
California seablite ***Suaeda californica***	FE, Rank 1B.1	Marshes and swamps (coastal salt). Elevation ranges from 0 to 50 feet (0 to 15 meters). Blooms Jul-Oct.	**No Potential.** There is no suitable habitat for this species within the Study Area.	No further actions are recommended for this species
two-fork clover ***Trifolium amoenum***	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 15 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	**Unlikely.** There are no extant occurrences in the vicinity of the Study Area. The nearest extant occurrences are in Marin County.	No further actions are recommended for this species

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
saline clover ***Trifolium hydrophilum***	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.	**No Potential.** Although valley/foothill grassland habitat was observed, microhabitat/suitable substrate of mesic or alkaline sites are not present within the Study Area.	No further actions are recommended for this species
San Francisco owl's-clover ***Triphysaria floribunda***	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 525 feet (10 to 160 meters). Blooms Apr-Jun.	**Moderate Potential.** Potentially suitable scrub and grassland habitat are present in the Study Area.	Appropriately timed surveys are recommended for this species.
coastal triquetrella ***Triquetrella californica***	Rank 1B.2	Coastal bluff scrub, coastal scrub. Elevation ranges from 35 to 330 feet (10 to 100 meters). Blooms .	**Moderate Potential.** The Study Area contains potentially suitable areas with thin soil and naturlly occurring low cover of taller vegetation.	Appropriately timed surveys are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		WILDLIFE		
		AMPHIBIANS AND REPTILES		
California giant salamander ***Dicamptodon ensatus***	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic for over a year.	**No Potential.** No aquatic habitat is present to support this species.	No further recommendations are warranted.
California red-legged frog ***Rana draytonii***	FT, SSC, RP	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	**No Potential.** No aquatic habitat is present to support this species. There are no documented CNDDB occurrences of this species within 2 miles of the Study Area (CDFW 2023), including on San Bruno Mountain. The Study Area is surrounded by development including dense residential development which precludes access to the site from any nearby population sources. Because no aquatic habitat is present, there are no nearby occurrences and no migratory corridors are present that might allow access to the site by the	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
			species, it has no potential to occur.	
Central coast clade of the foothill yellow-legged frog ***Rana boylii***	SE, FE (proposed), SSC	Found in or adjacent to rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Feeds on both aquatic and terrestrial invertebrates.	**No Potential.** No aquatic habitat is present to support this species.	No further recommendations are warranted.
San Francisco garter snake ***Thamnophis sirtalis tetrataenia***	FE, SE, CFP, RP	Vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	**No Potential.** No aquatic or marsh habitat is present to support this species. Additionally, there are no populations of red-legged frogs (preferred prey source) to support the species. Lastly, no migratory corridors exist that might allow dispersing individuals to enter the site.	No further recommendations are warranted.
green sea turtle ***Chelonia mydas***	FT (west coast populations)	Found in fairly shallow waters inside reefs, bays and inlets with marine grass and algae. Open beaches with a sloping platform and minimal disturbance are required for nesting. This species exhibits high site fidelity.	**No Potential.** No marine habitats are present to support this species.	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Pacific (western) pond turtle ***Actinemys marmorata***	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	**No Potential.** No ponds or marsh habitat is present to support this species. The site is surrounded by residential development and pond turtles, if present nearby would be unlikely to successfully migrate into the site.	No further recommendations are warranted.
BIRDS				
Alameda song sparrow ***Melospiza melodia pusillula***	SSC	Year-round resident of salt marshes bordering the south arm of San Francisco Bay. Inhabits primarily pickleweed marshes; nests placed in marsh vegetation, typically shrubs such as gumplant.	**No Potential.** There are no marsh habitats on the site or nearby. Common song sparrow subspecies may occur in the Study Area.	No further recommendations are warranted.
bald eagle ***Haliaeetus leucocephalus***	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor; breeding population is growing. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	**No Potential.** No suitable aquatic foraging features are present nearby to support foraging by the species.	No further recommendations are warranted.
American peregrine falcon ***Falco peregrinus anatum***	FD, SD, CFP, BCC	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with	**Unlikely.** No high buildings, suitable cliffs or similar features are present to support nesting. The species	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds, especially waterbirds. Forages widely.	may occasionally pass through or forage on the site.	
tricolored blackbird ***Agelaius tricolor***	ST, SSC	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	**No Potential.** There are no marshes or other suitable habitats present to support nesting by the species.	No further recommendations are warranted.
olive-sided flycatcher ***Contopus cooperi***	SSC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	**Moderate Potential.** The Study Area contains marginal forest habitat for this species.	Conduct nesting bird surveys prior to initiation of any tree removal activities. If any nests are identified, avoid by 500 feet until young have fledged.
long-eared owl ***Asio otus***	SSC	Occurs year-round in California. Nests in trees in a variety of woodland habitats, including oak and riparian, as well as tree groves.	**Unlikely.** The woodlands surrounding the Project Area are highly disturbed and surrounded by development and as such are not likely to	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		Requires adjacent open land with rodents for foraging, and the presence of old nests of larger birds (hawks, crows, magpies) for breeding.	support nesting by this species.	
golden eagle ***Aquila chrysaetos***	BCC, CFP	Occurs year-round in rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of range; also nests in large trees, usually within otherwise open areas.	**No Potential.** There are no cliffs, mountains or other similar large features to support nesting by this species.	No further recommendations are warranted.
bank swallow ***Riparia riparia***	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Project Area does not contain suitable cliffs, or banks to support nesting by this species.	No further recommendations are warranted.
burrowing owl	SSC, BCC	Year-round resident and winter visitor. Occurs in	**Unlikely.** There are no burrowing owl occurrences	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Athene cunicularia		open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	documented in the Study Area or immediately nearby in the CNDDB. E-bird occurrences for the area are generally for birds moving through, or birds that are in more flat-land habitats. Burrows that would support this species are rare or absent from the site.	
California black rail ***Laterallus jamaicensis coturniculus***	ST, CFP	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	**No Potential.** No suitable marsh habitats are present.	No further recommendations are warranted.
California Ridgway's (clapper) rail ***Rallus obsoletus obsoletus***	FE, SE, CFP	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on molluscs and crustaceans.	**No Potential.** No suitable marsh habitats are present.	No further recommendations are warranted.
marbled murrelet ***Brachyramphus marmoratus***	FT, SE	Predominantly coastal marine. Nests in old-growth coniferous forests up to 30	**No Potential.** The Project Area and immediate surrounds do not contain old	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		miles inland along the Pacific coast, from Eureka to Oregon border, and in Santa Cruz/San Mateo Counties. Nests are highly cryptic, and typically located on platform-like branches of mature redwoods and Douglas firs. Forages on marine invertebrates and small fishes.	growth forest required to support nesting by this species.	
California least tern ***Sternula antillarum browni***	FE, SE, CFP	Summer resident along the coast from San Francisco Bay south to northern Baja California; inland breeding also very rarely occurs. Nests colonially on barren or sparsely vegetated areas with sandy or gravelly substrates near water, including beaches, islands, and gravel bars. In San Francisco Bay, has also nested on salt pond margins.	**No Potential.** The Project Area is not next to an aquatic source and does not contain suitable sandy or alkaline flats to support nesting by this species.	No further recommendations are warranted.
San Francisco common yellowthroat ***Geothlypis trichas sinuosa***	BCC, SSC	Resident of the San Francisco Bay region, in fresh and salt water marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**No Potential.** No suitable aquatic habitat is present to support marshes or other vegetation required for nesting by this species.	No further recommendations are warranted.
western snowy plover	FT, SSC, BCC, RP	Federal listing applies only to the Pacific coastal population. Year-round	**No Potential.** The Project Area is not next to an aquatic source and does not	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Charadrius nivosus (alexandrines) nivosus		resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	contain suitable sandy or alkaline flats to support nesting by this species.	
FISH				
hardhead ***Mylopharodon conocephalus***	SSC, FS sensitive	Found in low to mid-elevation streams in the Sacramento-San Joaquin drainage; also occurs in the Russian River and tributaries. Favors clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic Centrarchids predominate.	**No Potential.** No perennial water features are present to support fish.	No further recommendations are warranted.
longfin smelt ***Spirinchus thaleichthys***	FC, ST, SSC, RP	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	**No Potential.** No perennial water features are present to support fish.	No further recommendations are warranted.
Delta smelt ***Hypomesus transpacificus***	FT, SE, RP	Lives in the Sacramento-San Joaquin estuary in areas where salt and freshwater systems meet. Occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at	**No Potential.** No perennial water features are present to support fish.	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		salinities > 10 ppt; most often at salinities < 2 ppt.		
steelhead - central CA coast DPS ***Oncorhynchus mykiss irideus***	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** No perennial water features are present to support fish.	No further recommendations are warranted.
tidewater goby ***Eucyclogobius newberryi***	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches; requires fairly still but not stagnant water and high oxygen levels.	**No Potential.** No perennial water features are present to support fish.	No further recommendations are warranted.
INVERTEBRATES				
Crotch bumblebee ***Bombus crotchii***	SC	Crotch bumblebee occurs primarily in central and southern California, from coastal areas inland to the foothills. Largely extirpated from the central valley. Occurs in grassland and scrub habitats, and has also been documented inagricultural areas. Nests	**Unlikely.** This species has not been historically or recently detected on the SF peninsula.	No further recommendations.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		are built in pre-existing cavities.		
Bombus occidentalis **western bumblebee**	SC	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (CDFW 2019). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g., mammal burrows). Food plant families include Lamiaceae, Fabaceae, and Asteraceae	**Unlikely.** Nearby historic documented occurrences are located near the Study Area (CDFW 2023). However, recent state-wide surveys indicate this species has dramatically declined and it is assumed to be extirpated from the area.	No further recommendations are warranted.
Suckley's cuckoo bumblebee ***Bombus suckleyi***	SC	Cuckoo bumble bees enter developing and established nests of other bumble bees, kill or subdue the host queen, lay her own eggs and control the workers to continue collecting pollen and nectar to provision (feed) her offspring.	**Unlikely.** This species has not been historically or recently detected on the SF peninsula.	No further recommendations are warranted.
Bay checkerspot butterfly ***Euphydryas editha bayensis***	FT, SSI, RP	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurscens* are the secondary host plants.	**Unlikely.** This species has not been detected on Sign Hill. Nearby populations from San Bruno Mountain are considered extirpated. The specie's host plants are rare or absent in the Study Area.	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Mission blue butterfly ***Icaricia icarioides missionensis***	FE, SSI, RP	Inhabits grasslands and coastal chaparral of the San Francisco peninsula and southern Marin County, but mostly found on San Bruno Mountain. Three larval host plants: *Lupinus albifrons*, *L. variicolor*, and *L. formosus*, of which *L. albifrons* is favored.	**Present.** This species occurs on Sign Hill.	Avoid removal of host plants (*Lupinus sp.*). Do not remove substantial nectar resources. If host plants must be removed they should be replaced at a ratio of not less than 2:1 onsite. Any removal of host plants that could result in take of individual butterflies in any life stage would require consultation and permitting through the United States Fish and Wildlife Service.
monarch butterfly ***Danaus plexippus***	FC, SSI	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	**Unlikely to Roost or Reproduce.** The Project Area is not along a coastline, and eucalyptus trees within the vicinity do not form a tight grove that would provide shelter from winds to support roosting by this species. Host plants for the larva are not documented in the Study Area. The species may fly through the Study Area and may use nectar resources.	No further recommendations are warranted.
callippe silverspot butterfly ***Speyeria callippe callippe***	FE, SSI	Two populations in San Bruno mountain and the Cordelia Hills are recognized. Hostplant is *Viola pedunculata*, which is found on serpentine soils. Most adults found on east-facing	**Present.** This species has been detected in the Study Area.	Avoid removal of host plants (*Viola pedunculata*). Do not remove substantial nectar resources. If host plants cannot be avoided, they should be transplanted into the nearest location with suitable soils. Any removal

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		slopes; males congregate on hilltops in search of females.		or movement of host plants that could result in take of individual butterflies in any life stage would require consultation and permitting through the United States Fish and Wildlife Service.
Myrtle's silverspot butterfly ***Speyeria zerene myrtleae***	FE, RP, SSI	Restricted to the fog belt of northern Marin and southernmost Sonoma County, including the Point Reyes peninsula; extirpated from coastal San Mateo County. Occurs in coastal prairie, dunes, and grassland. Larval foodplant is typically *Viola adunca*. Adult flight season may range from late June to early September.	**Unlikely.** This species has been extirpated from the San Francisco Peninsula.	No further recommendations are warranted.
San Bruno elfin butterfly ***Callophrys mossii bayensis***	FE, SSI	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on in rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, *Sedum spathulifolium*.	**No Potential.** This species has never been documented on Sign Hill and rocky outcrops do not support its host plant. The species is unlikely to move between suitable habitat on San Bruno Mountain due to distance and development barriers that exist between Sign Hill and suitable habitat on San Bruno Mountain.	No further recommendations are warranted.
MAMMALS				

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
big free-tailed bat ***Nyctinomops macrotis***	SSC, WBWG med-high	Occurs rarely in low-lying arid areas. Requires high cliffs or rocky outcrops for roosting sites.	**No Potential.** No suitable cliffs or other potential habitats are present to support this species. Rocky outcrops in the study area doe not contain suitable gaps for this species.	No further recommendations are warranted.
southern sea otter ***Enhydra lutris nereis***	FT, CFP, MMC SSC	Nearshore marine environments from about Año Nuevo, San Mateo County. To Point Sal, Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	**No Potential.** No marine habitats are present to support this species.	No further recommendations are warranted.
North American porcupine ***Erethizon dorsatum***	G5, S3	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Lower montane coniferous forest, North coast coniferous forest, Upper montane coniferous forest. Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges.	**Unlikely.** The Study Area is surrounded by urban development and porcupine would be unlikely to be able to access the site. Habitat in the Study Area is extremely limited in quality and extent. The occurrence in the CNDDB is from 1972 and there are no more recent nearby occurrences.	No further recommendations are warranted.
fringed myotis ***Myotis thysanodes***	WBWG High	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest,	**Moderate Potential.** Some of the trees surrounding and within the Study Area may support roosting by this	To reduce impacts to maternity roosting bats, avoid removing trees in the bat maternity season (March

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	species. However, the Study Area is surrounded by development and lacks foraging areas as well as water sources for bats, which makes the site unlikely to support long-term occupation.	1- September 1). If this timeframe cannot be avoided, for any trees measuring greater than 36 inches DBH, a pre-removal assessment should be conducted to see if any potential maternity roost are present. If any are detected, they shall be avoided until the maternity season is ended. For day roosting bats, any felled trees should remain on the ground overnight so that any roosting bats can escape.
hoary bat ***Lasiurus cinereus***	WBWG Medium	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Moderate Potential.** Some of the trees surrounding and within the Study Area may support roosting by this species. However, the Study Area is surrounded by development and lacks foraging areas as well as water sources for bats, which makes the site unlikely to support long-term occupation.	To reduce impacts to maternity roosting bats, avoid removing trees in the bat maternity season (March 1- September 1). If this timeframe cannot be avoided, for any trees measuring greater than 36 inches DBH, a pre-removal assessment should be conducted to see if any potential maternity roost are present. If any are detected, they shall be avoided until the maternity season is ended. For day roosting bats, any felled trees should remain on the ground

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
				overnight so that any roosting bats can escape.
pallid bat ***Antrozous pallidus***	SSC, WBWG High	Found in a variety of habitats ranging from grasslands to mixed forests, favoring open and dry, rocky areas. Roost sites include crevices in rock outcrops and cliffs, caves, mines, and also hollow trees and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Moderate Potential.** Some of the trees surrounding and within the Study Area may support roosting by this species. However, the Study Area is surrounded by development and lacks foraging areas as well as water sources for bats, which makes the site unlikely to support long-term occupation.	To reduce impacts to maternity roosting bats, avoid removing trees in the bat maternity season (March 1- September 1). If this timeframe cannot be avoided, for any trees measuring greater than 36 inches DBH, a pre-removal assessment should be conducted to see if any potential maternity roost are present. If any are detected, they shall be avoided until the maternity season is ended. For day roosting bats, any felled trees should remain on the ground overnight so that any roosting bats can escape.
salt-marsh harvest mouse ***Reithrodontomys raviventris***	FE, SE, CFP	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**No Potential.** The Project Area does not contain any salt marsh.	No further recommendations are warranted.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
San Francisco dusky-footed woodrat ***Neotoma fuscipes annectens***	SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	**Moderate Potential.** The Study Area contains brushy habitats that may support this species.	Prior to work in forested areas and/or areas with dense understories, surveys for nests should be conducted. If nests are detected, they should be avoided by at least 5 feet. If nests cannot be avoided, a nest removal plan should be developed and approved by CDFW prior to implementation.
Townsend's big-eared bat ***Corynorhinus townsendii***	SSC, WBWG High	Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas, e.g. along streams.	**No Potential.** The Study Area does not contain buildings or trees with suitable insulative properties to support a roost for this species. Further no caves, mines or other large subterranean features are present that might provide roosting substrates for this species.	No further recommendations are warranted.
western red bat ***Lasiurus blossevillii***	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. Roosts are usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open	**Moderate Potential**. Broad-leaved trees are mostly absent from the Study Area, but day-roosting individuals may sometimes find refuge in the Study Area.	To reduce impacts to maternity roosting bats, avoid removing trees in the bat maternity season (March 1- September 1). If this timeframe cannot be avoided, for any trees measuring greater than 36 inches DBH, a pre-removal assessment should be conducted to see if any potential maternity roosts

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		fields, in orchards, and sometimes in urban areas.		are present. If any are detected, they shall be avoided until the maternity season is ended. For day roosting bats, any felled trees should remain on the ground overnight so that any roosting bats can escape.
Mountain Lion ***Puma concolor***	SC	Occurs across a large geographic range in north and south America and in a large number of habitat types. Bay Area Mountain lions are most associated with forest and adjacent open areas that support mammalian prey.	**Moderate Potential.** Sign Hill most likely would not support this species for extended timeframes due to its small size and small prey base. However, if an individual mountain lion was to navigate the densely populated areas nearby and end up on Sign Hill, some suitable habitat is present in the Study Area and nearby San Bruno Mountain. This species is highly elusive and avoids interactions with people. As such, any future project activities would not impact mountain lions because they would avoid them. The Study Area represents a habitat fragment within a highly urbanized landscape and is not a significant linkage to larger habitat blocks, nor is itself a significant habitat for the species.	No further recommendations are warranted.

*Special-status only at native occurrences.

FC:	Federal Candidate for Listing
FE:	Federal Endangered
BGEPA:	Bald and Golden Eagle Protection Act Species
FT:	Federal Threatened
SC (E/T):	State Candidate for Listing (Endangered/Threatened)
SE:	State Endangered
SFP:	State Fully Protected Animal
SR:	State Rare
SSC:	Species of Special Concern
ST:	State Threatened
SSI:	Special Status Invertebrate
Rank 1A:	CNPS Rank 1A—Plants presumed extinct in California
Rank 1B:	CNPS Rank 1B—Plants rare, threatened, or endangered in California and elsewhere
Rank 2A:	CNPS Rank 2A—Plants presumed extirpated in California, but more common elsewhere
Rank 2B:	CNPS Rank 2B—Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which CNPS need more information (a review list)
Rank 4:	Plants of limited distribution (a watch list)
RP:	Recovery Plan
WBWG:	Western Bat Working Group High or Medium-high Priority Species

APPENDIX B. CULTURAL RESOURCES STUDY

Cultural Resources Study for the Sign Hill Open Space Master Plan South San Francisco, San Mateo County, California

Eileen Barrow, MA/RPA

April 18, 2023

Cultural Resources Study for the Sign Hill Open Space Master Plan South San Francisco, San Mateo County, California

Prepared by:

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April 18, 2023

ABSTRACT

Tom Origer & Associates conducted a cultural resources study for the Sign Hill Master Plan, South San Francisco, San Mateo County, California. The study was requested and authorized by WRA, Inc. This study was conducted to meet the requirements of the City of South San Francisco and those of the California Environmental Quality Act. The purpose of this report is to identify potential historical resources other than Tribal Cultural Resources, as defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B) and discussed in the Regulatory Context section. Tribal Cultural Resources are defined in Public Resources Code [PRC] 21074 (a)(1)(A)-(B).

The City of South San Francisco is considering rerouting or modifying existing trail segments with safety treatments, trail decommissioning, and the potential addition of viewpoints adjacent to these trails. The City is also considering stabilization to the South San Francisco Hillside Sign.

This study included archival research at the Northwest Information Center, Sonoma State University, examination of the library and files of Tom Origer & Associates, Native American contact, and field inspection of the study area. The South San Francisco Hillside Sign is listed on the National Register of Historic Places and the California Register of Historical Resources. No other cultural resources were found during the course of this study.

This report contains information about the locations of archaeological sites. For the protection of these resources, this report, and such location information, should not be publicly circulated.

Synopsis

Project:	Sign Hill Master Plan
Location:	650 Poplar Avenue, South San Francisco, San Mateo County
Quadrangles:	San Francisco South 7.5' series
Study Type:	Intensive
Scope:	5,567 linear feet of trails
Field Hours:	1.25 person-hours
NWIC #:	22-1453
TOA #:	2023-014S
Finds:	No cultural resources were found within the study area; however, brief recommendations were made regarding possible stabilization efforts for the South San Francisco Hillside Sign which is listed on the National Register of Historic Places (96000761).

Key Personnel

Eileen Barrow provided project oversight and authored the report for this project. Ms. Barrow has been with Tom Origer & Associates since 2005. She holds a Master of Arts in cultural resources management from Sonoma State University. Mrs. Barrow's experience includes work that has been completed in compliance with local ordinances, CEQA, NEPA, and Section 106 (NHPA) requirements. Her professional affiliations include the Society for American Archaeology, the Society for California Archaeology, the California Historical Society, the Sonoma County Historical Society, and the Western Obsidian Focus Group.

Julia Karnowski conducted the NWIC record search and conducted fieldwork for this project. Ms. Karnowski holds a Bachelor of Science in Anthropology from California State Polytechnic University, Pomona, with graduate studies at Sonoma State University. She is affiliated with the Society for California Archaeology, the Society for American Archaeology, and the Society for Historical Archaeology.

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INTRODUCTION

This report describes a cultural resources study for the Sign Hill Master Plan, South San Francisco, San Mateo County, California. The study was requested and authorized by WRA, Inc. This study was conducted to meet the requirements of the City of South San Francisco (City) and those of the California Environmental Quality Act (CEQA). Documentation pertaining to this study is on file at Tom Origer & Associates (File No. 2023-014S).

The City of South San Francisco is considering rerouting or modifying existing trail segments with safety treatments, trail decommissioning, and the potential addition of viewpoints adjacent to these trails. The City is also considering stabilization to the South San Francisco Hillside Sign; though, they have no specific plans at this time.

REGULATORY CONTEXT

The State of California requires that cultural resources be considered during the environmental review process. This process is outlined in CEQA and accomplished by an inventory of resources within a study area and by assessing the potential that historical resources could be affected by development. The term "Historical Resources" encompasses all forms of cultural resources including prehistoric and historical archaeological sites and built environment resources (e.g., buildings, bridges, canals), that would be eligible for inclusion on the California Register of Historical Resources (California Register). An additional category of resources is defined in CEQA under the term "Tribal Cultural Resources" (Public Resources Code Section 21074). They are not addressed in this report because Tribal Cultural Resources are resources that are of specific concern to California Native American tribes, and knowledge of such resources is limited to tribal people. Pursuant to CEQA, as revised in July 2015,

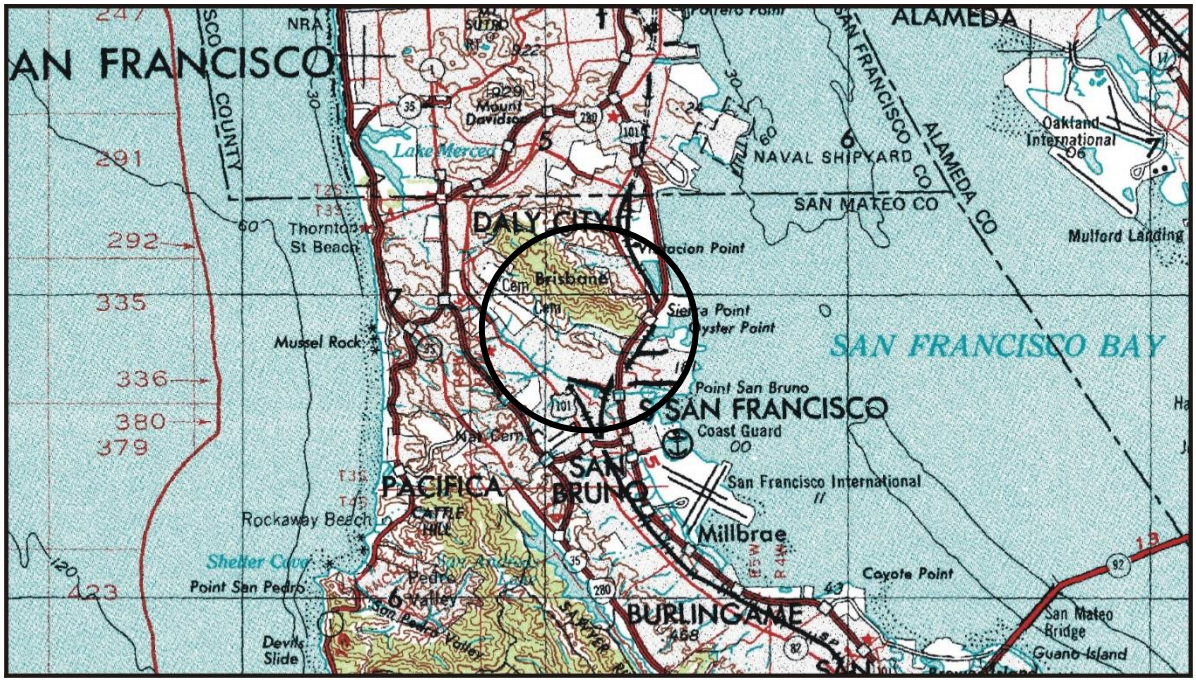

Figure 1. Project vicinity (adapted from the 1956 San Francisco 1:250,000-scale USGS map).

such resources are to be identified by tribal people in direct, confidential consultation with the lead agency (PRC §21080.3.1).

This cultural resources study was designed to satisfy environmental issues specified in the CEQA and its guidelines (Title 14 CCR §15064.5) by: (1) identifying historical resources within the study area; (2) offering a preliminary significance evaluation of the identified cultural resources; (3) assessing resource vulnerability to effects that could arise from project activities; and (4) offering suggestions designed to protect resource integrity, as warranted.

Resource Definitions

Historical resources are classified by the State Office of Historic Preservation (OHP) as sites, buildings, structures, objects and districts, and each is described by OHP (1995) as follows.

> **Site.** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archaeological value regardless of the value of any existing structure.
>
> **Building.** A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail, or a house and barn.
>
> **Structure.** The term "structure" is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.
>
> **Object.** The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.
>
> **District.** A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Significance Criteria

When a project might impact a cultural resource, the project proponent is required to conduct an assessment to determine whether the impact may be one that is significant. Consequently, it is necessary to determine the importance of resources that could be impacted. The importance of a resource is measured in terms of criteria for inclusion on the California Register. A resource may be important if it meets any one of the criteria, or if it is already listed on the California Register or a local register (Title 14 CCR, §4852).

An important resource is one which:

1. Is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

2. Is associated with the lives of persons important to local, California, or national history.

3. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, eligibility for the California Register requires that a resource retains sufficient integrity to convey a sense of its significance or importance. Seven elements are considered key in considering a property's integrity: location, design, setting, materials, workmanship, feeling, and association.

The OHP advocates that all resources over 45 years old be recorded for inclusion in the OHP filing system (OHP 1995:2), although the use of professional judgment is urged in determining whether a resource warrants documentation.

PROJECT SETTING

Study Area Location and Description

The study area is located within the city of South San Francisco, San Mateo County, on Sign Hill which is just south of San Bruno Mountain near the northern end of the San Francisco Peninsula as shown on the San Francisco South 7.5' USGS map (Figure 2). Figure 3 provides a current overview of the study area.

Prior to the development of the area, an unnamed creek flowed along the northern foot of Sign Hill southeast toward San Francisco Bay. This creek was the closest source of natural fresh water to the study area and was approximately 380 meters away.

The geology of the study area consists of Pleistocene (11,700 to 2.55 million years old) slope debris and ravine fill and Pleistocene and Pliocene (11,700 to 5.33 million years old) sandstone and shale (Bonilla 1998).

Soils for the study area primarily consist of Candlestick-Kron-Buriburi soils with a small part of the southern ends of the trail segments consisting of Orthents-cut and fill-Urban land (Kashiwagi and Hokholt 1991:Sheet 3). Candlestick-Kron-Buriburi soils are well-draining sandy, gravelly loams found on coastal uplands. In a natural state, these soils support the growth of grasses, forbs, and coastal brush. Historically parcels containing Candlestick-Kron-Buriburi soils have been used for recreational development, wildlife or watershed habitat, and in some places for homesite development (Kashiwagi and Hokholt 1991:22). Orthents-cut and fill and Urban land soils consist of places where soils have been cut and filled for urban development and/or have been developed (Kashiwagi and Hokholt 1991:30).

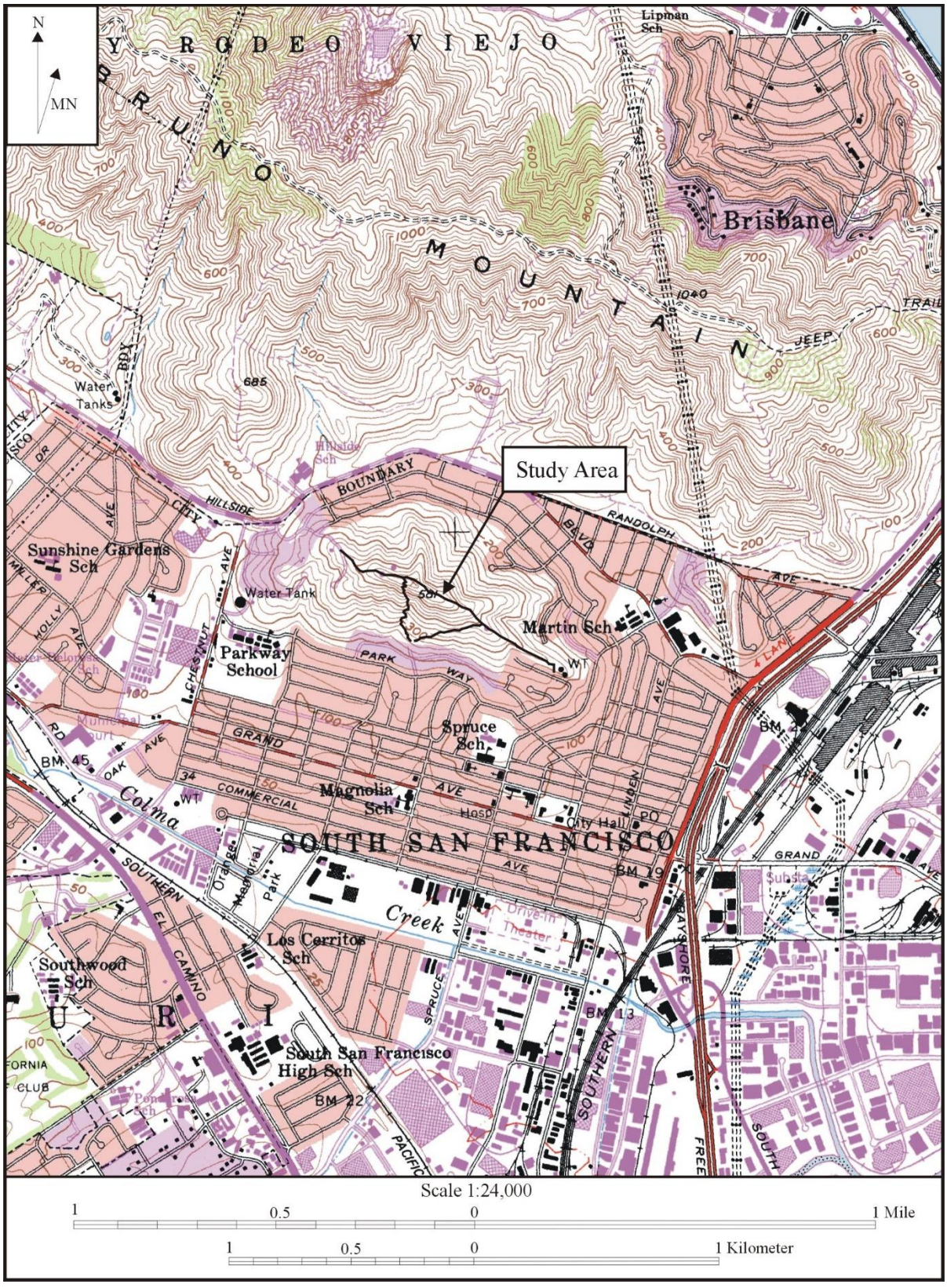

Figure 2. Study Area location (adapted from the 1990 San Francisco South 7.5' USGS topographic maps).

Figure 3. Overview photo of the study area, facing northwest.

Cultural Setting

Prehistory

The concept of prehistory refers to the period of time before events were recorded in writing and vary worldwide. Because there is no written record, our understanding of California prehistory relies on archaeological materials and oral histories passed down through generations. Early archaeological research in this area began with the work of Max Uhle and Nels Nelson. Uhle is credited with the first scientific excavation in California with his work at the Emeryville Shellmound in 1902, and Nelson spent several years (1906 to 1908) surveying the San Francisco Bay margins and California coast for archaeological sites (Nelson 1909). In the 1930s, archaeologists from Sacramento Junior College and the University of California began piecing together a sequence of cultures primarily based on burial patterns and ornamental artifact from sites in the lower Sacramento Valley (Lillard *et al*. 1939; Heizer and Fenenga 1939). Their cultural sequence became known as the Central California Taxonomic System (CCTS), which identified three culture periods termed the Early, Middle, and Late Horizons, but without offering date ranges. Refinement of the CCTS became a chief concern of archaeologists as the century progressed with publications by Richard Beardsley (1948, 1954) and Clement Meighan (1955) based on materials excavated by the University of California archaeological survey.

In 1973, David Fredrickson synthesized prior work, and in combination with his own research, he developed a regional chronology that is used to this day, albeit modified for locality-specific

circumstances. Fredrickson's scheme shows that native peoples have occupied the region for over 11,000 years (which is supported by Erlandson *et al.* 2007), and during that time, shifts took place in their social, political, and ideological regimes (Fredrickson 1973).

In 1960, the first study of obsidian hydration as a dating tool for archaeologists was published (Friedman and Smith 1960). This study showed that the chemical composition of the obsidian and temperature affect the hydration process. It was not until the 1980s that research into this dating method was conducted for the North Bay Area which has four major obsidian sources. In 1987, Thomas Origer devised a hydration chronology for the North Bay Area. This chronology was developed by pairing micron readings taken from stylistically distinctive projectile points and pairing them with radiocarbon dates. Origer was able to develop a hydration rate for Annadel and Napa Valley obsidian sources as a result of his study. Later, Tremaine (1989, 1993) was able to develop comparison constants among the four primary obsidian sources in the North Bay Area.

The development of obsidian hydration rates for the four, primary San Francisco Bay Area obsidian sources have provided archaeologists the ability to obtain dates from sites that could not previously be dated due to lack of diagnostic artifacts or organic material suitable for radiocarbon dating. Origer was able to support and refine Fredrickson's chronology dating tools diagnostic of certain periods (Origer 1987). In an effort to bridge the differences between chronologies, Milliken *et al.* (2007: Figure 8.4) presented a concordance for comparing time periods, cultural patterns, and local variations for the San Francisco Bay Area. Milliken included Dating Scheme D, as presented by Groza in 2002, which is a refinement of previous radiocarbon-based temporal sequences for the San Francisco Bay Area. More recently, Byrd, Whitaker, Mikkelsen, and Rosenthal (2017) called upon archaeologists to abandon previous temporal sequences in favor of Scheme D, further refined in Groza *et al.* 2011. Table 1 assimilates Scheme D, Fredrickson's (1973) chronology, and the obsidian hydration dating scheme from Origer (1987). Note that the Early, Middle, Late Horizon scheme is still evident though refinements have been made within those categories.

Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

These horizons or periods are marked by a transition from large projectile points and millingslabs, indicating a focus on hunting and gathering during the Early Period, to a marine focus during the Middle Period evidenced by the number of shellmounds in the Bay Area. The Middle Period also saw more reliance on acorns and the use of bowl-shaped mortars and pestles. Acorn exploitation increased during the Late Period and the bow and arrow were introduced.

Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones.

Table 1. San Francisco Bay Area Chronology

Temporal Period[1]	Approximate Time Range[1]	~ Hydration Interval (μ)[2]	Scheme D Periods[3]	Approximate Time Range[3]	~ Hydration Interval (μ)[2]
Historical	< AD 1800	<1.20	Historic Mission	AD 1835 to AD 1770	1.10 - 1.27
Upper Emergent	AD 1800 to AD 1500	1.21 - 1.84	Late 2	AD 1770 to AD 1520	1.28 - 1.80
Lower Emergent	AD 1500 to AD 1000	1.85 - 2.58	Late 1b	AD 1520 to AD 1390	1.81 - 2.02
			Late 1a	AD 1390 to AD 1265	2.03 - 2.22
			Middle/Late Transition	AD 1265 to AD 1020	2.23 - 2.55
Upper Archaic	AD 1000 to 500 BC	2.59 - 4.05	Middle 4	AD 1020 to AD 750	2.56 - 2.88
			Middle 3	AD 750 to AD 585	2.89 - 3.06
			Middle 2	AD 585 to AD 420	3.07 - 3.23
			Middle 1	AD 420 to 200 BC	3.24 - 3.80
Middle Archaic	500 BC to 3000 BC	4.06 - 5.72	Early/Middle Transition	200 BC to 600 BC	3.81 - 4.13
			Early	600 BC to 2100 BC	4.14 - 5.18
Lower Archaic	3000 BC to 6000 BC	5.73 - 7.23			
Paleo-Indian	6000 BC to 8000 BC	7.24 - 8.08+			

μ = microns
[1] based on Fredrickson (1994)
[2] based on Napa Glass Mountain rate by Origer (1987) and Effective Hydration Temperature value from the vicinity of Santa Rosa, Sonoma County
[3] based on Groza *et al.* (2011)

Ethnography

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, such as that between Salinan and Seri, that suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico (Golla 2011).

Linguistic evidence shows that between 10,000 and 4,000 years ago inhabitants in the area were Pre-Hokan speakers, and by 6,000 years ago Hokan languages had developed in the San Francisco Bay Area (Moratto 2004:551). Moratto (2004:552-557) hypothesized that about 4,000 years ago Penutian (Utian) speakers began to migrate into the area from the lower Sacramento Valley and established in the East Bay Area. He further hypothesized that Proto-Costanoan people originated in the East Bay Area, and early Costanoans spread to the peninsula about 3,200 years ago (Moratto 2004:554).

At the time of European settlement, the study area was situated within the area controlled by the Ramaytush linguistic group of the Ohlone/Costanoan (Levy 1978). The Ohlone/Costanoan were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures (Kroeber 1925). They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Permanent villages were occupied throughout the year and satellite sites were visited to procure particular resources that were especially abundant or only seasonally available. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant.

Between 1777 and 1797, Spanish missionaries established seven missions in Costanoan territory disrupting Costanoan lifeways and cultural identities and decimated the population. Richard Levy (1978) estimated that Costanoans numbered 10,000 in 1770 and less than 2,000 in 1832 as new diseases were introduced, leading to higher mortality rates and lower birth rates.

For more information about the Ohlone/Costanoan see Bean (1994), Margolin (1978), Milliken (1995), and Teixeira (1997).

History

Historically, the study area lies within the Buri Buri land grant officially granted to José Antonio Sanchez in 1835, though he may have received it as early as 1827 (Cowan 1977:21; GLO 1864; Hoover *et al.* 1966:402). The rancho was confirmed to his heirs (José de la Cruz Sanchez and others) in 1872.

The city of South San Francisco had its beginnings between 1889 and 1892 when Peter Iler obtained options on 3,500 acres of land and created the San Francisco Land and Improvement Company (Alexander and Hamm 1916:60). Among the acreage was the former Home Ranch upon which the city was built. Residential lots lay to the west of the railroad while factory and industry lots lay to the east near San Francisco Bay to be closer to the harbor that was created around this time(Alexander and Hamm 1916:60-61). South San Francisco was marketed as a place of industry and over time, factory after factory was established within the industrial part of the city.

Because of the industry-oriented marketing campaign by early city founders, the city was largely inhabited by working-class families who worked in the various factories that lined the bayfront. So many Irish lived in South San Francisco that there are parts that are still referred to as "Irish Town" (South San Francisco Historical Society 2004:7).

Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

STUDY PROCEDURES AND FINDINGS

Native American Contact

A request was sent to the State of California's Native American Heritage Commission (NAHC) seeking information from the Sacred Lands File and the names of Native American individuals and groups that would be appropriate to contact regarding this project. Letters were also sent to the following groups:

Amah Mutsun Tribal Band of Mission San Juan Bautista
Costanoan Rumsen Carmel Tribe
Indian Canyon Mutsun Band of Costanoan
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
The Ohlone Indian Tribe
Wuksache Indian Tribe/Eshom Balley Band

This contact does not constitute consultation with tribes.

Native American Contact Results

The Native American Heritage Commission replied with a letter dated April 3, 2023, which indicated that the Sacred Lands File has no information about the presence of Native American cultural resources in the project area. A list of additional contacts was provided.

No other comments have been received as of the date of this report. A log of contact efforts is appended to this report, along with copies of correspondence (see Appendix A).

Archival Research Procedures

Archival research included examination of the library and project files at Tom Origer & Associates. This research is meant to assess the potential to encounter archaeological sites and built environment within the study area. Research was also completed to determine the potential for buried archaeological deposits.

A review (NWIC File No. 22-1453) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the NWIC, Sonoma State University, Rohnert Park by Julia Karnowski on March 21, 2023. Sources of information included but were not limited to the current listings of properties on the National Register, California Historical Landmarks, California Register, and California Points of Historical Interest as listed in the OHP's *Historic Property Directory* (2012) and the *Built Environment Resources Directory* (2021).

The OHP has determined that structures in excess of 45 years of age could be important historical resources, and former building and structure locations could be important archaeological sites. Archival research included an examination of 19th and 20th-century maps and aerial photographs to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area.

Ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed. Sources reviewed are listed in the "Materials Consulted" section of this report.

A model for predicting a location's sensitivity for buried archaeological sites was formulated by Byrd *et al.* (2017) based on the age of the landform, slope, and proximity to water. A location is considered to have highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of fresh water, and 150 meters of a confluence. Note, the Holocene Epoch is the current period of geologic time, which began about 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating these factors using the buried site model (Byrd *et al.* 2017:Tables 11 and 12), a location's sensitivity is scored on a scale of 1 to 10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5). Incorporating King's (2004) analysis of buried site potential, the probability of encountering buried archaeological deposits for each class is as follows:

Sensitivity Score[1]	Classification[1]	Probability[2]
<1	Lowest	<1 %
1-3	Low	1-2 %
3-5.5	Moderate	2-3%
5.5-7.5	High	3-5%
>7.5	Highest	5-20%

[1] Byrd *et al.* 2007
[2] King 2004

Archival Research Findings

Archival research showed that the study area had not been previously subjected to a cultural resources survey. However, the South San Francisco Hillside Sign was examined, evaluated, and listed on the National Register of Historic Places and the California Register in 1996 (Goldenberg and Carroll 1996). The sign was listed under Criterion A for its importance in promoting South San Francisco's ties with industry. The sign reads "South San Francisco The Industrial City" and consists of large, flat, concrete letters painted white and set on the south side of what is now referred to as Sign Hill. During Goldenberg and Carroll's evaluation of the sign, they noted the presence of the remains of an electrical sign that was constructed during the 1930s above the concrete sign. The electrical sign blew down in a windstorm in the 1940s, and the remains observed by Goldenberg and Carroll were not considered important due to their lack of integrity (Goldenberg and Carroll 1996). The sign lies near the trails that are a part of this study. A copy of the nomination form can be found in Appendix B.

Eleven studies have been conducted within a quarter-mile of the study area, as listed in Table 2. Three cultural resources are documented within a quarter-mile of the study area (Bevk 2017; Fragoso 1995a, 1995b). These resources are buildings that do not extend into the study area.

There are no reported ethnographic villages or camps in or near the study area (Kroeber 1925; Levy 1985:485).

Review of late 19th and early 20th century historical maps and aerial photos show no buildings or structures within the study area (General Land Office 1864; USCS 1857, 1869; USACE 1939, 1943; USGS 1896, 1899, 1915, 1947, 1950, 1956).

Table 2. Studies conducted within a Quarter-mile of the Study Area.

Author	Date	S#
Archaeological Consulting and Research Services	1974	3032
Billat	2000	27744
BioSystems Analysis, Inc.	1989	11396
Cartier	1982a	4925
Cartier	1982b	5949
Cartier	1997	19400
Chavez	1974	5052
ESA+Orion	2009	36313
Hylkema	1996	18468
Losee	2017	48810
Wills	2016	51959

Based on landform age, our analysis of the environmental setting, and incorporating the Byrd *et al.* (2017) analysis of sensitivity for buried sites, there is a low (1.0) potential for buried archaeological site indicators within the study area.

Field Survey Procedures

An intensive field survey of the study area was completed by Julia Karnowski on April 3, 2023. One and one quarter hours were spent in the field and field conditions were sunny but cool. Ground visibility ranged from excellent to poor, with vegetation being the primary hindrance. In addition to our field survey, some of the hillside sign letters were inspected.

Field Survey Findings

Archaeology

Some broken glass was observed where the former electrical sign was located on the ridge top. Given Goldenberg and Carroll did not find these were important features they were not closely examined (1996).

Built Environment

Some of the footings to the former electrical sign were observed but not documented as Goldenberg and Carroll found that they were not important.

No other buildings or structures were observed within the trail routes.

DISCUSSION AND RECOMMENDATIONS

No archaeological site indicators were observed within the study area. The application of buried sites model indicates a low potential for buried resources within the study area.

A few remains of the former electrical sign that once stood on the ridge of Sign Hill and some glass fragments were observed. These things were not found important when Goldenberg and Carroll were conducting their evaluation of the hillside sign.

The hillside sign lies outside of the current study area; however, some of the letters were examined during this study.

Archaeological Recommendations

No recommendations are warranted.

Built Environment Recommendations

No recommendations are required for the remains of the former electrical sign that are located on the ridge top.

The hillside sign, as mentioned, is listed on the National Register and the California Register (Goldenberg and Carroll 1996). The City is in the process of determining what needs to be done to stabilize and maintain the sign letters. It is our recommendation that the City work with an architectural historian or at minimum, have an architectural historian review any proposed work to ensure it would meet the guidelines outlined in *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (Grimmer 2017).

Accidental Discovery

In keeping with the CEQA guidelines, if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds as required (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

Per the requirements of the California Code of Regulations, Title 14, Chapter 3, Section 15064.5(e) if human remains are encountered during the course of the project, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission, who will then identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

SUMMARY

Tom Origer & Associates completed a cultural resources study for the Sign Hill Master Plan, South San Francisco, San Mateo County, California. The study was requested and authorized by WRA, Inc. The study was conducted to meet the requirements of the City) and those of the CEQA. The South San Francisco Hillside Sign is not located within the study area, but in close proximity to it. The City is contemplating stabilization work and so brief recommendations were provided as specific methods have not yet been determined. No cultural resources were found within the study area; therefore, no project-specific recommendations were made. Documentation pertaining to this study is on file at Tom Origer & Associates (File No. 2023-014S).

MATERIALS CONSULTED

Alexander, P. and C. Hamm
1916 *History of San Mateo County.* Burlingame Publishing, Burlingame.

Archaeological Consulting and Research Services
1974 *Report of the Archaeological Reconnaissance of the Proposed San Bruno Mountain County Parks, San Mateo, County, California.* Document S-3032 on file at the Northwest Information Center, Rohnert Park.

Bean, L. (Editor)
1994 *The Ohlone Past and Present.* Ballena Press, Menlo Park.

Beardsley, R.
1948 Culture Sequences in Central California Archaeology. In *American Antiquity* Vol. 14, No. 1, pp. 1-28.

1954 *Temporal and Areal Relationships in Central California Archaeology*. Reports of the University of California Archaeological Survey 24-25. Berkeley, California.

Bevk, A.
2017 Primary Record for P-41-002554. Document on file at the Northwest Information Center, Rohnert Park.

Billat, L.
2000 *Letter report regarding the Nextel Communications Wireless Telecommunications Service Facility – San Mateo County.* Document S-27744 on file at the Northwest Information Center, Rohnert Park.

BioSystems Analysis, Inc.
1989 *Technical Report of Cultural Resources Studies for the Proposed WTG-West, Inc. Los Angeles to San Francisco and Sacramento, California Fiber Optic Cable Project.* Document S-11396 on file at the Northwest Information Center, Rohnert Park.

Bonilla, M.
1998 *Preliminary Geologic Map of the San Francisco South 7.5' Quadrangle and part of the Hunters Point 7.5' Quadrangle, San Francisco Bay Area, California.* Open-File Report OF-98-354. United States Geological Survey.

Bromfield, D.
1894 *Official map of San Mateo County, California*. Schmidt Label & Lith. Co. San Francisco.

Byrd, B. and R. Allen
2011 *Archaeological Sensitivity Assessment for the Sunnyvale-Velasco Hope San Francisco Redevelopment Project, City of San Francisco, California.* Document S-38298 on file at the Northwest Information Center, Rohnert Park.

Byrd, B., A. Whitaker, P. Mikkelsen, and J. Rosenthal
2017 *San Francisco Bay-Delta Region Context and Research Design for Native American Archaeological Resources Caltrans District 4.* On file at the Caltrans District 04 Office of Cultural Resource Studies, Oakland, California.

Byrd, B., A. Whitaker, P. Mikkelsen, J. Rosenthal, J. Meyer, and P. Kaijankoski
2017 Discovering Sites: Geoarchaeological Approaches to Site Sensitivity and Predictive Modeling. In, *San Francisco Bay-Delta Region Context and Research Design for Native American Archaeological Resources Caltrans District 4.* B. Byrd, A. Whitaker, P. Mikkelsen, and J. Rosenthal. Pp 4-1 through 4-13. On file at the Caltrans District 04 Office of Cultural Resource Studies, Oakland, California.

Cartier, R.
1982a *Limited Subsurface Testing for Archaeological Site Boundary Delineation for the Proposed South Slope Project in the County of San Mateo.* Document S-4925 on file at the Northwest Information Center, Rohnert Park.

1982b *Cultural Resources Evaluation of the South Slope Project on San Bruno Mountain in the County of San Mateo.* Document S-5949 on file at the Northwest Information Center, Rohnert Park.

1997 *Cultural Resources Evaluation for the Spruce School Project in the City of South San Francisco.* Document S-19400 on file at the Northwest Information Center, Rohnert Park.

Chavez, D. and M. Holman
1974 *An Archaeological Reconnaissance of San Bruno Mountain, Phase Two*. Document S-5052 on file at the Northwest Information Center, Rohnert Park.

Cowan, R.
1977 *Ranchos of California: A List of Spanish Concessions 1775-1822 and Mexican Grants 1822-1846.* Academy Library Guild, Fresno, California.

Denny, Edward & Company
1913 Denny's Pocket Map of San Mateo California. Edward Denny & Company, San Francisco.

Department of Parks and Recreation
1976 *California Inventory of Historical Resources*. State of California, Sacramento.

Erlandson, J., T. Rick, T. Jones, and J. Porcasi
2007 One if by Land, Two if by Sea: Who Were the First Californians? In: *California Prehistory: Colonization, Culture, and Complexity*. (pp 53-62) T. Jones and K. Klar, editors. AltaMira Press. Lanham, MD.

ESA+Orion
2009 *Crystal Springs Pipeline No. 2 Replacement Project, San Francisco and San Mateo Counties, California.* Document S-36313 on file at the Northwest Information Center, Rohnert Park.

Fragoso, N.
1995a Historic Resources Inventory form for P-41-000406. Document on file at the Northwest Information Center, Rohnert Park.

1995b Historic Resources Inventory form for P-41-000408. Document on file at the Northwest Information Center, Rohnert Park.

Fredrickson, D.
1973 *Early Cultures of the North Coast Ranges, California*. Ph.D. dissertation. Department of Anthropology, University of California, Davis.

1994 Archaeological Taxonomy in Central California Reconsidered. *In Toward a New Taxonomic Framework for Central California Archaeology*, edited by R. E. Hughes, pp. 91-103. Contributions of the University of California Archaeological Research Facility, volume 52. University of California, Berkeley.

Friedman, I. and R. Smith
1960 A New Dating Method Using Obsidian: Part I, The Development of a Method. *American Antiquity*. 25(4): 476-522.

General Land Office (GLO)
1864 *Plat of the Rancho Buri Buri.* Department of the Interior, Washington, D.C.

Goldenberg, N. and J. Carroll
1996 National Register of Historic Places Continuation Sheet for the South San Francisco Hillside Sign. Document NRIS Reference Number 96000761 on file at the Northwest Information Center, Rohnert Park.

Golla, V.
2011 *California Indian Languages.* University of California Press, Berkeley and Los Angeles.

Grimer, A. (Revised by)
2017 *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. U.S. Department of the Interior, National Park Services Technical Preservation Services. Washington, D.C.

Groza, R.
2002 *An AMS Chronology for Central California* Olivella *Shell Beads.* Master's thesis, Department of Anthropology, San Francisco State University, San Francisco, California.

Groza, R., J. Rosenthal, J. Southon, and R. Milliken
2011 A Refined Shell Bead Chronology for Late Holocene Central California. *Journal of California and Great Basin Anthropology* 31(2):13-32.

Heizer, R. and F. Fenenga
1939 Archaeological Horizons in Central California. *American Anthropologist*, Vol. 41, pp. 378-399.

Hoover, M., H. Rensch, E. Rensch, and W. Abeloe
1966 *Historic Spots in California.* 3rd edition. Stanford University Press, Stanford.

Hoover, M., H. Rensch, E. Rensch, W. Abeloe, and D. Kyle
1990 *Historic Spots in California.* 4th edition. Stanford University Press, Stanford.

2002 *Historic Spots in California.* 5th edition. Stanford University Press, Stanford.

Hylkema, M.
1996 *Historic Properties Survey Report (HPSR) and Negative Archaeological Survey Report for the Proposed Installation of Modular Classrooms at Spruce, Martin, Ponderosa, and Skyline Schools, South San Francisco Unified School District, San Mateo County, California.* Document S-18468 on file at the Northwest Information Center, Rohnert Park.

Kashiwagi, J. and L. Hokholt
1991 *Soil Survey of San Mateo County, Eastern Part, and San Francisco County, California.* United States Department of Agriculture Soil Conservation Service in cooperation with the University of California Agricultural Experiment Station.

King, J.
2004 Surface and Subsurface Archaeological Sensitivity. In *Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region.* Center for Archaeological Research at Davis, University of California.

Kneese, G.
1927 *Official Map of San Mateo County, California*. San Mateo County Surveyor, San Mateo County.

Kroeber, A.
1925 *Handbook of the Indians of California.* Bureau of American Ethnology, Bulletin 78, Smithsonian Institution, Washington, D.C.

Levy, R.
1978 Costanoan. In *California* edited by R. Heizer, pp. 485-495. Handbook of North American Indians, Vol. 8, W. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Lillard, J., R. Heizer, and F. Fenenga
1939 *An Introduction to the Archaeology of Central California*. Sacramento Junior College Department of Anthropology, Bulletin 2, pp. 93, figs. 20 and map, pls. 31).

Losee, C.
2017 Letter Report Regarding Cultural Resources Investigation for AT&T CCL00162 "South San Francisco" 920 Stonegate Drive, South San Francisco, San Mateo County, California 94080.

Margolin, M.
1978 *The Ohlone Way.* Heyday Books, Berkeley.

Meighan, C.
1955 *Archaeology of the North Coast Ranges, California.* Reports of the University of California Archaeological Survey No. 30. University of California, Berkeley.

Milliken, R.
1995 *A Time of Little Choice.* Ballena Press, Menlo Park.

Milliken, R., R. Fitzgerald, M. Hylkema, R. Groza, T. Origer, D. Bieling, A. Leventhal, R. Wiberg, A. Gottsfield, D. Gillette, V. Bellifemine, E. Strother, R. Cartier, and D. Fredrickson
2007 Punctuated Cultural Change in the San Francisco Bay Area. In *California Prehistory: Colonization, Culture, and Complexity,* edited by Terry L. Jones and Kathryn Klar, pp. 99-124. Altamira Press, Walnut Creek, California.

Moore and DePue
1878 *Moore and DePue's Illustrated History of San Mateo County, California.* G.T. Brown, San Francisco.

Moratto, M.
1984 *California Archaeology.* Academic Press, San Francisco.

Munz, P. and D. Keck
1973 *A California Flora and Supplement*. University of California Press, Berkeley.

Nelson, N.
1909 *Shellmounds of the San Francisco Bay Region*. University of California Publications in American Archaeology and Ethnology 7(4). Berkeley.

Office of Historic Preservation
1995 *Instructions for Recording Historic Resources*. Office of Historic Preservation, Sacramento.

2012 *Historic Property Directory*. Office of Historic Preservation, Sacramento.

2021 *Built Environment Resources Directory*. Office of Historic Preservation, Sacramento.

Origer, T.
1987 *Temporal Control in the Southern North Coast Ranges of California:* The Application of Obsidian Hydration Analysis. Papers in Northern California Anthropology, Number 1, Berkeley.

Rosenthal, J. and J. Meyer
2004 *Landscape Evolution and the Archaeological Record: A Geoarchaeological Study of the Southern Santa Clara Valley and Surrounding Region.* Center for Archaeological Research at Davis, University of California.

South San Francisco Historical Society
2004 *South San Francisco*. Arcadia Publishing. San Francisco.

State of California Department of Parks and Recreation
1976 *California Inventory of Historic Resources*. Department of Parks and Recreation, Sacramento.

Teixeira, L.
1997 *The Costanoan/Ohlone Indians of the San Francisco and Monterey Bay Area: A Research Guide.* Ballena Press: Menlo Park.

Tremaine, K.
1989 Obsidian as a Time Keeper: An Investigation in Absolute and Relative Dating. Master's Thesis, Sonoma State University, Rohnert Park, California.

1993 Temporal Ordering of Artifact Obsidians: Relative Dating Enhanced Through the Use of Accelerated Hydration Experiments, in *There Grows a Green Tree*, edited by Greg White, Pat Mikkelsen, William R. Hildebrandt, and Mark E. Basgall, pp. 265-275. University of California Center for Archaeological Research at Davis Publication No. 11, Davis, California.

United States Army Corps of Engineers (USACE)
1939 San Mateo. 15' tactical map. War Department, Washington, D.C.

1943 San Mateo. 15' tactical map. War Department, Washington, D.C.

United States Coast Survey (USCS)
1857 Map Showing the Approaches to San Francisco California. 1/10,000 scale. Department of Commerce, United States Coast and Geodetic Survey, Washington D.C.

United States Coast and Geodetic Survey
1869 Topographic Map of the San Francisco Peninsula, California. 1:40,000 Department of Commerce, United States Coast and Geodetic Survey, Washington D.C.

United States Geological Survey (USGS)
1896 San Mateo. 15’ series map. Geologic Survey, Washington, D.C.

1915 San Mateo. 15’ series map. Geologic Survey, Washington, D.C.

1947 San Francisco South, California. 7.5’ map series. Geological Survey, Washington, D.C.

1950 San Francisco South, California. 7.5’ map series. Geological Survey, Washington, D.C.

1956 San Francisco South, California. 7.5’ map series. Geological Survey, Washington, D.C.

1968 San Francisco South, California (photorevised from the 1956 edition). 7.5’ map series. Geological Survey, Washington, D.C.

Wills, C.
2016 Letter Report Regarding Cultural Resources Records Search and Site Visit Results for T-Mobility LLC Candidate SF03114A (Hillside Elks Lodge), 920 Stonegate Drive, South San Francisco, San Francisco County, California. Document S-51959 on file at the Northwest Information Center, Rohnert Park.

APPENDIX A

Native American Contact

Copies of Correspondence

Native American Contact Efforts
Sign Hill Master Plan
South San Francisco, San Mateo County

Organization	Contact	Action	Results
Native American Heritage Commission		Email 3/20/23	The Native American Heritage Commission replied with a letter dated April 3, 2023, which indicated that the Sacred Lands File has no information about the presence of Native American cultural resources in the project area. A list of additional contacts was provided.
Amah Mutsun Tribal Band of Mission San Juan Bautista	Irene Zwierlein	Email 3/20/23	No response has been received as of the date of this report.
Costanoan Rumsen Carmel Tribe	Tony Cerda	Email 3/20/23	No response has been received as of the date of this report.
Indian Canyon Mutsun Band of Costanoan	Ann Marie Sayers	Letter 3/20/23	No response has been received as of the date of this report.
	Kanyon Sayers-Roods	Email 3/20/23	
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area	Monica Arellano	Letter 3/20/23	No response has been received as of the date of this report.
The Ohlone Indian Tribe	Andrew Galvan Desiree Vigil	Email 3/20/23	No response has been received as of the date of this report.
Wuksache Indian Tribe/Eshom Valley Band	Kenneth Wood	Email 3/20/23	No response has been received as of the date of this report.

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: Sign Hill Trails
County: San Mateo

USGS Quadrangles
Name: San Francisco South
Township 3S Range 5W Section(s) Rancho Buri Buri Land Grant MDBM

Date: March 20, 2023
Company/Firm/Agency: Tom Origer & Associates
Contact Person: Taylor Alshuth

Address: PO Box 1531
City: Rohnert Park Zip: 94927
Phone: (707) 584-8200 Fax: (707) 584-8300
Email: taylor@origer.com

Project Description:
The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco.

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 3, 2023

Taylor Alshuth
Tom Origer & Associates

Via Email to: taylor@origer.com

Re: Sign Hill Trials Project, San Mateo County

To Whom It May Concern:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Cody.Campagne@nahc.ca.gov.

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
San Mateo County
4/3/2023

Amah MutsunTribal Band of Mission San Juan Bautista
Irene Zwierlein, Chairperson
3030 Soda Bay Road — Costanoan
Lakeport, CA, 95453
Phone: (650) 851 - 7489
Fax: (650) 332-1526
amahmutsuntribal@gmail.com

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street — Costanoan
Pomona, CA, 91766
Phone: (909) 629 - 6081
Fax: (909) 524-8041
rumsen@aol.com

Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods, MLD Contact
1615 Pearson Court — Costanoan
San Jose, CA, 95122
Phone: (408) 673 - 0626
kanyon@kanyonkonsulting.com

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28 — Costanoan
Hollister, CA, 95024
Phone: (831) 637 - 4238
ams@indiancanyon.org

Muwekma Ohlone Indian Tribe of the SF Bay Area
Monica Arellano, Vice Chairwoman
20885 Redwood Road, Suite 232 — Costanoan
Castro Valley, CA, 94546
Phone: (408) 205 - 9714
monicavarellano@gmail.com

The Ohlone Indian Tribe
Desiree Vigil, THPO
1775 Marco Polo Way, Apt. 21 — Bay Miwok
Burlingame, CA, 94010 — Ohlone
Phone: (650) 290 - 0245 — Patwin
dirwin0368@yahoo.com — Plains Miwok

The Ohlone Indian Tribe
Andrew Galvan, Chairperson
P.O. Box 3388 — Bay Miwok
Fremont, CA, 94539 — Ohlone
Phone: (510) 882 - 0527 — Patwin
Fax: (510) 687-9393 — Plains Miwok
chochenyo@AOL.com

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct. — Foothill Yokut
Salinas, CA, 93906 — Mono
Phone: (831) 443 - 9702
kwood8934@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Sign Hill Trials Project, San Mateo County.

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Irenne Zwierlein
Amah Mutsun Tribal Band of Mission San Juan Bautista
3030 Soda Bay Road
Lakeport, CA 95453

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Ms. Zwierlein:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Tony Cerda
Costanoan Rumsen Carmel Tribe
244 E 1st Street
Pomona, CA 91766

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Mr. Cerda:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Ann Marie Sayers
Indian Canyon Mutsun Band of Costanoan
P.O. Box 28
Hollister, CA 95024

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Ms. Sayers:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Kanyon Sayers-Roods
Indian Canyon Mutsun Band of Costanoan
1615 Pearson Court
San Jose, CA 95122

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Ms. Sayers-Roods:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

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Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Monica Arellano
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
20885 Redwood Road, Suite 232
Castro Valley, CA 94546

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Ms. Arellano:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Andrew Galvan
The Ohlone Indian Tribe
P.O. Box 3388
Fremont, CA 94539

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Mr. Galvan:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Desiree Vigil
The Ohlone Indian Tribe
1775 Marco Polo Way, Apt. 21
Burlingame, CA 94010

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Ms. Vigil:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com

Tom Origer & Associates
Archaeology / Historical Research

March 20, 2023

Kenneth Woodrow
Wuksache Indian Tribe/Eshom Valley Band
1179 Road Haven Court
Salinas, CA 93906

RE: Sign Hill Trails Project, South San Francisco, San Mateo County

Dear Mr. Woodrow:

I write to notify you of a proposed project within San Mateo County, for which our firm is conducting a cultural resources study. The project proponent is proposing to develop 1.75 miles of trail segments within Sign Hill Park in South San Francisco. The City of South San Francisco is reviewing the project for California Environmental Quality Act compliance.

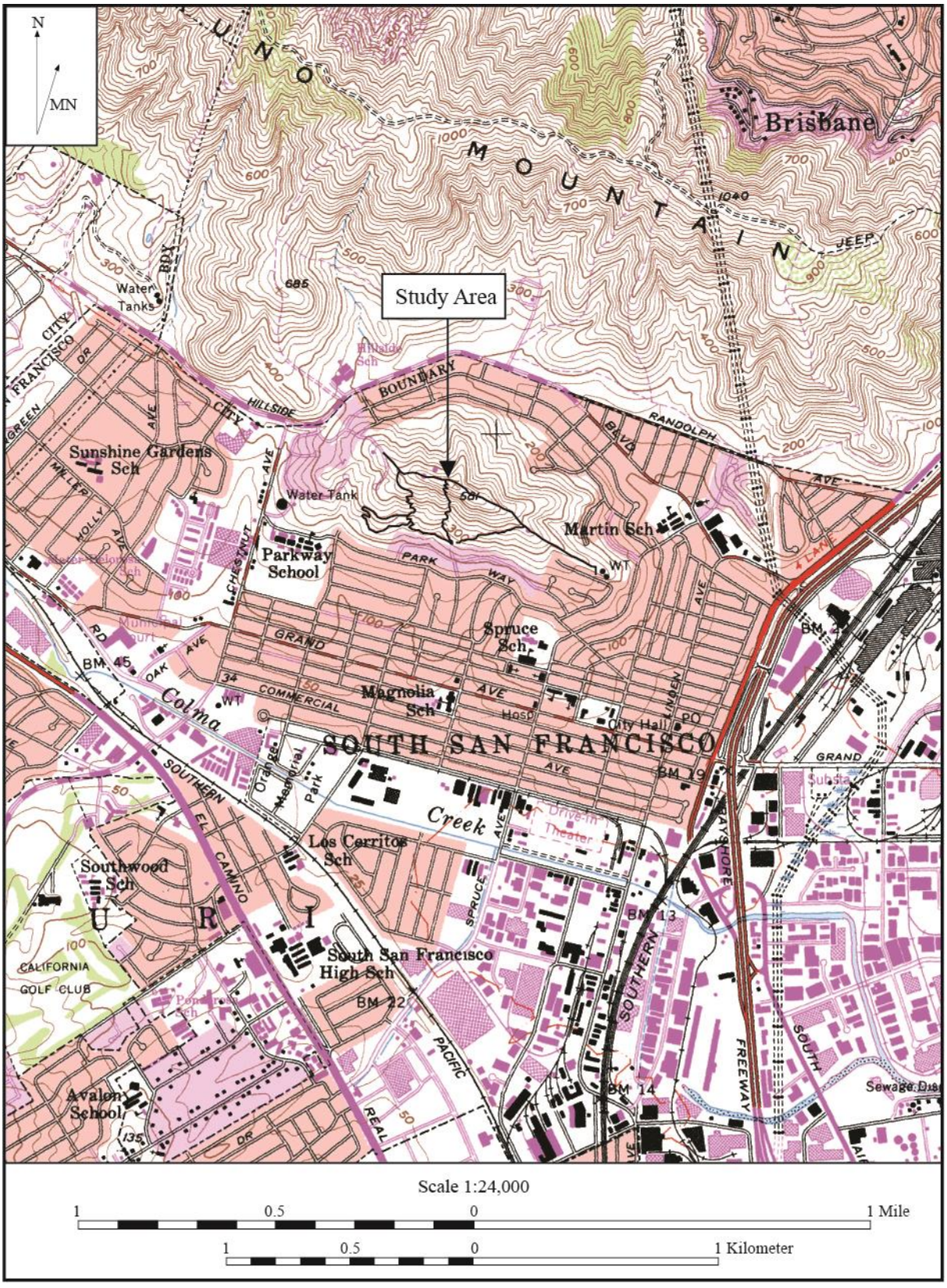
This notification does not constitute formal consultation.

Enclosed is a portion of the San Francisco South, Calif. 7.5' USGS topographic quadrangle showing the project location.

Sincerely,

Taylor Alshuth

Taylor Alshuth
Associate
Email: Taylor@origer.com


N
MN
SUNO MOUNTAIN
Brisbane
Study Area
Water Tanks
CITY
SAN FRANCISCO
BDY
BOUNDARY
HILLSIDE
CITY
RANDOLPH
BLVD
AVE
Sunshine Gardens Sch
Water Tank
Martin Sch
WT
Parkway School
PARK
WAY
CHESTNUT
AVE
HOLLY
AVE
MILLER
GREEN
Spruce Sch
GRAND
AVE
BM 45
OAK
AVE
34
COMMERCIAL
Magnolia Sch
AVE
Hosp
City Hall
PO
Colma
SOUTH SAN FRANCISCO
AVE
BM 19
GRAND
Substa
SOUTHERN
EL CAMINO
Memorial
Park
Creek
Drive-In Theater
AVE
BAYSHORE
Los Cerritos Sch
Southwood Sch
U
R
I
SPRUCE
BM 13
South San Francisco High Sch
CALIFORNIA
GOLF CLUB
Pendra Sch
BM 22
PACIFIC
SOUTHERN
FREEWAY
SOUTH
Sewage Disp
BM 14
Avalon School
REAL
DR
Scale 1:24,000
1
0.5
0
1 Mile
1
0.5
0
1 Kilometer

APPENDIX B

DPR 523 Forms
Resource Documentation

Archaeological site location information should be kept confidential to protect sites from damage by vandals and collectors

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 96000761 Date Listed: 7/11/96

South San Francisco Hillside Sign | San Mateo | CA
Property Name | County | State

N/A
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper — Date of Action: 7/11/96

==========

Amended Items in Nomination:

Historic Function:
The historic functions: Recreation/Culture--Monumment/Marker & Recreation/Culture--Work of Art are added to better identify the resource with like properties already listed.

Area of Significance:
Social History is added as an area of significance.

The amendments noted above reflect an attempt to match the property with other similar properties previously listed in the National Register. The SLR will not affect the State's NR program audit and has been discussed with Cynthia Howse of the CA SHPO.

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)

NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name South San Francisco Hillside Sign

other names/site number

2. Location

steet & number Sign Hill Park N/A ☐ not for publication

city or town South San Francisco N/A ☐ vicinity

state California code CA county San Mateo code 081 zip code 94080

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register Criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☒ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date 6/6/96

State Historic Preservation Officer

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of commenting or other official/Title — Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:
☒ entered in the National Register
☐ See continuation sheet.
☐ determined eligible for the National Register
☐ See continuation sheet.
☐ determined not eligible for the National Register
☐ removed from the National Register
☐ other (explain):

Signature of the Keeper — Date of Action 7/11/96

5. Classification

Ownership of Property
(Check as many boxes as apply)
- ☐ private
- ☒ public-local
- ☐ public-State
- ☐ public-Federal

Category of Property
(Check only one box)
- ☐ building(s)
- ☐ district
- ☐ site
- ☐ structure
- ☒ object

Number of Resources within Property

Contributing	Noncontributing
_____	____buildings
_____	____sites
_____	____structures
1	____objects
1	0 Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)
Other: Advertising, identification

Current Functions
(Enter categories from instructions)
Other: Advertising, identification

7. Description

Architectural Classification
(Enter categories from instructions)
No Style

Materials
(Enter categories from instructions)
Foundation:
Walls:
Roof:
Other: Concrete (Gunite)

Narrative Description
(Enter Categories from instructions)

South San Francisco Hillside Sign
Name of Property

San Mateo,CA
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Registar listing.)

- ☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B Property is associated with the lives of persons significant in our past.
- ☐ C Property embodies the distinctive characteristics of a type, period,or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "X" in all the boxes that apply.)

- ☐ **A** owned by a religious institution or used for religious purposes.
- ☐ **B** emoved from its original location.
- ☐ **C** a birthplace or a grave.
- ☐ **D** a cemetery.
- ☐ **E** a reconstructed building, object,or structure.
- ☐ **F** a commemorative property.
- ☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

Other: City Boosterism

Period of Significance

1929-1946

Significant Date

Significant Person
(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Kneese, George A.
Klassen, Robert A.

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested.
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data

- ☐ State Historic Preservation Office
- ☐ Other State agencyo Federal agency
- ☒ Local government
- ☐ University
- ☐ Other

Name of repository:

_____

South San Francisco Hillside Sign
Name of Property

San Mateo,CA
County and State

10. Geographical Data

Acreage of Property 41 acres

UTM References
(Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing
1	10	551020	4168660
2	10	551605	4168400
3	10	551580	4168280
4	10	550940	4168360

__ See continuation sheet.

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)
See attached

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)
See attached

11. Form Prepared By

name/title Nancy Goldenberg and Joni Carroll

organization Carey & Co. Inc. date April 11, 1995

street & number 123 Townsend St. 400 telephone (415) 957-0100

city or town San Francisco state California zip code 94107

Additional Documentation
Submit the following items with the completed form:

Continuation Sheets

Maps
A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs
Representative **black and white photographs** of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner
(Complete this item at the request of the SHPO or FPO.)

name City of South San Francisco

street & number P.O. Box 711 telephone (415) 877-8500

city or town South San Francisco state California zip code 94080

South San Francisco Hillside Sign
San Mateo County, CA

The South San Francisco Hillside Sign reads:

SOUTH
SAN FRANCISCO
THE INDUSTRIAL CITY

It consists of large, flat concrete letters, painted white, set on the southern side of a steep, 581 foot high hill, that forms part of the San Bruno Mountains. A series of concrete footings are located higher on the hill, the remainder of an electric sign dating from the 1930s. Both the sign and the foundations are within the 41 acre Sign Hill Park, an area maintained by the city of South San Francisco. Although the foundations are obviously ruins (and are not being counted), the primary sign maintains a high degree of integrity, protected as it is within a relatively undeveloped park setting.

The hillside sign forms three lines on the hill. The first line, reading "SOUTH," is 166 feet long; the second, reading "SAN FRANCISCO," is 484 feet long; and the third, "THE INDUSTRIAL CITY," is 628 feet long. The letters themselves range in height from 48 to 65 feet, in an anamorphic arrangement on the contoured hill to create the illusion, from a distance, of straight, regularly-sized and spaced text. Individual legs of the letters are approximately ten feet wide. Letter width varies from a ten foot wide "I" to a 22 foot, 8 inch wide "S." The thickness of the letters appears to be no more than three or four inches, with approximately two inches on average rising above the ground.

With regular maintenance by the city, the sign is in good condition. One exception is the letter "T" of the word "CITY." The vertical leg has slid 40 inches away from the horizontal cross bar: a problem completely undetectable except while standing on the letter itself. The letters are repainted annually with white paint, and the surrounding area cleared of brush.

Above the sign, on the crest of the hill, stand the foundation from the electrical sign. The foundations consist of 35 concrete footings, each 18" square, arranged in a double row approximately 400 feet long. The footings vary in height from approximately one foot to approximately three feet. Nothing else remains of this sign. These footings, as remnants that lack integrity, are not being counted as a resource.

Other elements within the park include unpaved footpaths that zig-zag up the steep hill, and a concrete bench at the crest of the hill. There are no other man-made features within the park.

Sign Hill Park is steep, barren and relatively undeveloped. Vegetation consists primarily of grasses, with coyote bush, crimson sage, and California poppy. Pampas grass currently grows beneath the sign; it is soon to be replaced by native manzanita. There are no trees near the sign, but trees within the park include pine, eucalyptus, live oak and acacia.

South San Francisco Hillside Sign
San Mateo County, CA

Summary Paragraph

The South San Francisco Sign is eligible for the National Register under criterion A for its importance in promoting South San Francisco's ties with industry. In 1923 during the post-war boom, the local Chamber of Commerce decided to advertise the city's welcoming attitude toward industry on a hillside overlooking the city. The first whitewashed sign, reading "South San Francisco the Industrial City," was replaced six years later by a larger, more permanent sign bearing the same message. The choice of a hillside sign to advertise the city can be seen as an outgrowth of two civic boosting traditions: the electric Main Street slogan sign, and the hillside letter.

In addition, the sign may be eligible in the context of aviation history. In 1929, the Daniel Guggenheim Fund for the Promotion of Aeronautics awarded a certificate to the city. The award, signed by Charles Lindbergh, was for having "completed the work of identification for the service of aerial navigation." More research is required to develop this context.

Statement of Significance

South San Francisco was planned as an industrial suburb in the tradition of Homestead, Pennsylvania and Pullman and East St. Louis, Illinois. Encouraged by their successful development of South Omaha into a bustling city centered on the meat-packing industry, some of the country's largest meat-packing companies (known as the Beef Trust) planned to repeat the success of South Omaha on the periphery of San Francisco. This plan, instigated by G.F. Swift in 1888, included a community of separate meat-packing companies around common stock yards and a town for the employees. Swift chose a site near Baden (an earlier community) for his industrial experiment: it was close enough to the market and labor pool of San Francisco and yet far enough away to ensure cheap land, low taxes and a virtual monopoly on local politics. Because other Swift plants were in "South Chicago" and "South Omaha," Swift reputedly favored the name "South San Francisco."

In 1890, Peter Iler, an agent of the Beef Trust, purchased a portion of Rancho Buri Buri, the original Mexican land grant covering more than 15,000 acres south of the San Bruno Mountains. In 1891 the South San Francisco Land and Improvement Company became owner of the land, which was then divided into industrial and residential districts. The South San Francisco Land and Improvement Company financed lighting, sewer connections, and water distribution to all homes. A second corporate body, known after 1894 as the Western Meat Company, took over eighty acres of bay-front land for stock yards and a meat-packing plant. In December 1892 the new $2.5 million meat-packing facility opened. Other industries followed the meat packers to South San Francisco: the Steiger Terra Cotta and Pottery Works, and the Baden Brick company in 1894; the paint manufacturer W.P. Fuller & Company, the Molath Brick Company, and the South San Francisco Lumber company in 1898 (*La Peninsula*, May 1971); and the Pacific Jupiter Steel Company in 1903.

South San Francisco Hillside Sign
San Mateo County, CA

In December 1907, construction was completed on the "Bayshore Railway Cutoff," and South San Francisco was finally on the main rail line to San Francisco, with tracks conveniently located at the western edge of the factory district. At the same time, the Guggenheim-owned Copper Trust's intended smelter on San Bruno Point was successfully opposed by San Mateo County but supported by the townspeople. This clash with the county led to the incorporation of South San Francisco in 1908. After incorporation, more industries moved to South San Francisco, including Pacific Coast Steel, and Morgan Oyster Company in 1909, Shaw Batcher Steel Company in 1913, American Marble and Mosaic Works and Enterprise Foundry in 1914, and Growers Rice in 1916. (Kauffman 1976: 27.)

Growth continued through the 1920s. A new City Hall, designed by Werner & Coffey and built at a cost of $125,000, opened on November 11, 1920. The following newspaper editorial from the *Enterprise* describes the city's industrial scene just prior to construction of the Hillside Sign in the mid 1920s:

> South San Francisco is advancing impressively in industry. The Pacific Coast Steel company is well started on a million dollar program of improvements and enlargements. The Marchetti Motor Patents Inc. has purchased 100 acres of land for a factory here. The Cook Oil company has started actual construction of the plant on Linden avenue. The Metal and Thermit corporation has announced plans for a new $100,000 addition; the brass foundry of the Enterprise Foundry company will be in operation here next week; the Western Pipe and Steel company is spending $40,000 on a new tube mill; and the Pacific Gas and Electric company has approved plans and appropriated the money for an $8,000 office building. These developments, coming together, are making this period one of the greatest in South San Francisco's industrial history. Now let us advertise the fact to the world that we are an industrial city. (*The Enterprise*, September 7, 1928)

1923: The First Sign

The idea for the hillside sign as an advertisement for the city of South San Francisco originated with the local Chamber of Commerce, which built the first, whitewashed sign in 1923 at a cost of $300. Because of the steep, varying slope and the rough terrain, the mapping out of each letter required a surveyor's skill. City Engineer George A. Kneese placed each letter so that the size and spacing were consistent when viewed from a distance (*The Enterprise*, Nov. 1, 1923). Each letter was carved out of the hillside and a mixture of lime, white cement and water was applied. When the large letter "U" was laid out on the hillside, it gave rise to much speculation around South San Francisco (*The Enterprise*, Oct 18, 1923); it was of course the central letter of the word "SOUTH." The whitewashed letters were complete by November 22, 1923, (*The Enterprise*, Nov. 22, 1923), in time for the opening of the nearby Tanforan Race Track season. The sign spelled out the same message that the concrete letters do today:

South San Francisco Hillside Sign
San Mateo County, CA

SOUTH
SAN FRANCISCO
THE INDUSTRIAL CITY

This first sign received national attention when it was published in Popular Mechanics magazine. Valued locally, the first sign was well maintained, with local high school boys hired at 40 cents per hour to remove grass overgrowth and apply fresh whitewash.

1929: The Second Sign

Five years after installing the whitewashed sign, the South San Francisco Chamber of Commerce began to promote a more permanent, concrete sign. The original sign needed ongoing whitewashing, which eventually resulted in irregular letters; a new concrete sign would straighten the letters and reduce maintenance. Between coatings of whitewash, the original sign was hard to read and was characterized by the Chamber of Commerce as "intermittent advertising"; a permanent concrete sign would advertise the city "day and night from now on" (*The Enterprise*, March 23, 1928). As with the whitewashed sign, the goal of the concrete sign was to attract more industries and more potential homeowners to "The Industrial City."

To maximize its advertising potential, the new sign was planned for the same site as the whitewashed sign. The location and orientation of the hillside meant that the sign could be viewed by increased traffic on El Camino Real, Skyline Boulevard (now Pacific Scenic Parkway), and the new Bayshore highway (now Highway 101), as well as by train passengers and aviators from nearby Mills Field (now San Francisco International Airport). The privileged perspective point, however, was the popular Tanforan Race Track on El Camino Real.

A Chamber of Commerce committee, composed of E.C. Peck, chairman, W. H. Dinning, H. L. Haaker and B. H. Truax, formed to plan the financing of the new sign. When the cost of installing the concrete sign was estimated at $5,000, this was deemed too great a burden on the membership of the organization. On Jan. 28, 1928, the Board of Directors requested City Council to place a proposition on the April ballot to publicly fund a new permanent sign. They succeeded, and Proposition 1 read as follows: "the proposition to levy a special tax of seven (7) cents on each one hundred dollars ($100.00) of the property assessed ... within the City of South San Francisco for the purpose of raising the sum of Five Thousand Dollars ($5,000.00) to be expended for constructing in said City a concrete hillside sign in said City to advertise South San Francisco the Industrial City."

Many prominent citizens and citizens' groups supported the proposition, including the Women's Club of South San Francisco and the Exchange Club. The Rev. W.S. Kelly, pastor of St. Paul's, signed his weekly column in the Enterprise newspaper "Sincerely yours for the Big Sign on the Mountain Side." The Chamber of Commerce held a rally at City Hall on April 4, 1928, where Chamber president E. P. Kauffman, vice

president I.H. Potter, directors B.H. Truax and J.G. Walker, Mayor A.J. Eschelbach, Supervisor T.L. Hickey, County Tax Collector Ambrose McSweeney, and Councilman Andrew Hynding proclaimed the merits of the permanent sign and encouraged support of the proposition (*The Enterprise*, April 7, 1928). Despite this support, the proposition failed to acquire the requisite two-thirds majority by a narrow margin.

The supporters of the concrete hillside sign felt that "if submitted to the people on a ballot by itself it would carry" (*The Enterprise*, May 4, 1928). Editorials in the July 13 and 27, 1928, issues of *The Enterprise* support the Hillside sign and the calling of a special election. The July 27 editorial states "South San Francisco will yet have its Hillside Sign, advertising this city to the motorists of three arterial highways leading to San Francisco...It will be a land mark to the Mills Field aviators, and when it is built, South San Francisco will be on the map in large letters." (*The Enterprise*, July 27, 1928)

The special election was set for September 11, 1928, and it passed with over two-thirds majority. Work commenced immediately and on October 1, 1928, plans and specifications for the work were presented to City Council by Robert Klassen, the assistant city engineer. The plans called for letters 48 feet high, giving a 23 foot height in perspective. The overall size of the three horizontal lines was to be 186, 480 and 628 feet respectively, about one-third longer than the whitewashed sign. The new sign was to be made using Gunite, a new process in 1928, by which cement is applied through a pressure gun to a reinforcing of steel wire. A brush coat of Portland cement was also specified.

The outlines of the letters were laid out by a field party stationed at Tanforan Race Track, now the site of the Tanforan Shopping Center, creating perspective-corrected letters on the steep hillside. In the late fall of 1928, the South San Francisco Land and Improvement Company transferred land title to the city for the construction and maintenance of the sign and to create a surrounding public park.

Bids were opened by the City Council on Jan. 7, 1929, and were rejected as too high (*The Enterprise*, Jan 11, 1929). But by April 15, 1929, the *Enterprise* newspaper could happily announce that "After two elections, an unsatisfactory call for bids and several other long delays the contract to build South San Francisco's hillside sign was let Monday night to the Cement Gun Construction company of San Francisco at a figure of $4,845." The concrete sign was completed May 15, 1929.

1932: The Electric Sign

A 388-foot long electric advertising sign was constructed by G. H. Thompson atop San Bruno Mountain in 1932, slightly higher and further west than the South San Francisco concrete sign. At the time of its construction it was claimed as the largest electrical sign in the world: 388 feet long, containing 6,000 light bulbs and 25,000 reflector lenses. Mounted on a large skeleton framework set on piers on top of the hill, it was lit only after dark. There were 14 separate and distinct flashes in different patterns and colors, alternating between South San Francisco and 14 other sponsors. The message changed every 15 seconds, advertising

South San Francisco Hillside Sign
San Mateo County, CA

"South San Francisco The Industrial City," and such slogans as "Drink Acme Beer," "Buy Bakery Goods," "White King Washes Everything," and "Maxwell House Coffee - Good to the Last Drop." On a clear night, it was visible for miles. It was turned off in 1939 when the threat of war created the possibility of its becoming a beacon for attack on the airport. Only the concrete foundations remain today.

Signage as a City Boosting Vehicle

The South San Francisco Sign was seen as both a means of advertising, and as a symbol of the city's identity. It has served in this latter capacity to the present day. Speaking at a public rally in 1928 in support of the ballot measure to finance the sign, I. H. Potter, member of the Chamber of Commerce, made the following remarks:

> We are continually confused with 'butchertown' in San Francisco, and the one way to separate our city from southern San Francisco is to give ourselves a name plate such as the Hillside Sign. It is a means of identifying ourselves. Air travelers who embark from Mills Field will know where South San Francisco is and that it is proud enough to advertise itself...This is a day of advertising, and the Hillside Sign is one means of getting our name before the world at a nominal cost. (The *Enterprise*, April 6, 1928)

The choice of a grandiose sign as a city boosting vehicle dates almost to the turn of the century. It has its antecedents in both the large, electric slogan signs which crowned many Main Streets (Modesto, Burlingame, and Redwood City, among other California communities, had these), and in the single, gigantic hillside letters, typically constructed of whitewashed stones or of concrete, which adorn hillsides near many cities and towns in the American West. These letters, which flourished between the years 1905 and 1915, were most often constructed and maintained by university students. The first such letter - and one certainly familiar to the citizens of South San Francisco because of its proximity, was the seventy-foot high "C" in the Berkeley Hills. University of California freshman and sophomore students constructed this symbol from a six-inch thick slab of concrete (Parsons 1988:16).

Perhaps the most similar sign in California is the more famous but less intact "Hollywood" sign. In 1923, the year the first South San Francisco sign was carefully whitewashed on the hillside, a sign reading "Hollywoodland" was built to promote a subdivision of the same name along Beachwood Canyon. The sign consisted of 50 foot high metal letters, each supported on a wood and metal framework. Each letter was originally studded with 20-watt lightbulbs. In 1949, the "land" letters were removed and the Hollywood Chamber of Commerce took over maintenance. Declared a city landmark in 1973, it was completely reconstructed in 1978 (*Chronicle*, April 17, 1995).

The Chamber of Commerce

The local Chamber of Commerce, the organization originating the Hillside Sign concept, was an agency

developed specifically to promote commerce and industry within the community. Created in 1913, the organization engaged in a wide variety of promotional activities. Its campaigns in the 'teens and '20s included developing a system to license peddlers and solicitors in 1913; convincing the city Board of Trustees to install sidewalks in 1918; endorsing displaying "South San Francisco" on road signs in 1921; and petitioning Pacific Gas and Electric Co. to construct a building in South San Francisco (Feuerstein 1989). Other organizations devoted to promoting South San Francisco at the time include The Manufacturer's Association, the Women's Club, the Land and Improvement Company and the Exchange Club.

The South San Francisco Chamber of Commerce also prepared "City Boosterism" publications during the 1920s. One such publication, *South San Francisco The Industrial City*, which came out simultaneously with the construction of the second sign, extolls the virtues of South San Francisco. In addition to describing each of the major industries operating in South San Francisco at the time of publication, the pamphlet includes descriptions of the transportation system, labor force, residential real estate opportunities, and photos of the City Hall, Schools, Churches, the Public Library, and the Southern Pacific Station. The publication was evidently directed at potential new industries, as this forward by then Mayor Eshelbach relates:

> The basis of South San Francisco's growth and prosperity is its industries and the policy of the administration is to foster and encourage development. This policy has and is producing results.
>
> The Board of Trustees of South San Francisco, by its co-operative action, invites and welcomes new industries, and stands ready to serve you in the establishment of your plant at South San Francisco. (SSF Chamber of Commerce c.1928)

The Sign's Impact and South San Francisco's Recent Past

The signs, and related "City Boosting" activities were evidently successful. South San Francisco was able to maintain 35 industrial operations through the depression of the 1930s - only one fewer than in 1928. Of these, four were meat-packing businesses, six were iron or steel plants and four were manufacturers of mechanical equipment. Other industries included two large paint factories, three other chemical works, three food packing establishments, two makers of airplane parts, a smelter for precious metals, and a manufacturer of radio equipment, in addition to industries producing lime, pottery, and printers' ink . (*La Peninsula*, May 1971)

During the Second World War, the factories of South San Francisco participated in the biggest boom in shipbuilding in the nation's history. The Western Pipe and Steel shipyard grew from 3,000 employees in 1941 to 15,594 in 1944. Bethlehem Steel turned out steel plate for Western Pipe and other shipyards. Barrett & Hilp began construction of concrete barges at the Belair shipyard in South San Francisco. Other industries, such as Swift and Armour, South San Francisco meat packers, also shifted to wartime production.

South San Francisco Hillside Sign
San Mateo County, CA

The postwar years witnessed the abandonment of smokestack industries and unparalleled growth in light industry, warehousing, and residential development (Kauffman 1976:27). At the end of the Second World War the nation's economy was moving away from manufacturing to service industries; in South San Francisco, this led to the closing of its major manufacturers, including steel and meat packing. With the blessing of city government, a developer blasted away an 80-acre, solid rock hill and filled the adjacent marshlands. No smokestack industries, such as slaughterhouses, were planned for the new industrial park, but rather research and development, light industry, transportation, and wholesale trade. Later developments followed, including highrise structures, yacht harbors, hotels, and the establishment of the biotechnology giant, Genentech.

In 1986, South San Francisco's Historic Preservation Commission designated Sign Hill a historic resource. The ruling led to heated debate over whether the Sign was still relevant. Television and newspaper coverage was extensive, as the longtime residents battled newcomers who regarded the "Industrial" label as demeaning and not befitting their sparkling new edifices. 1300 citizens signed petitions asking the City Council to uphold the Commission. Preservationists who wanted the sign maintained rallied and packed the council's meeting room with more than 200 persons, only one of whom spoke against the sign. The Historic Preservation Commission's decision was upheld unanimously by the City Council.

The South San Francisco Hillside Sign, with its motto "The Industrial City," was built to celebrate the city's industrial beginnings and to promote its future. The sign announced to all the city's pride in its industrial base, and acted as a beacon to welcome new industries to the community.

Authors' note: Uncited material in the above document originated with an earlier draft prepared by Mrs. Edna Harks. Only material that was added to this original draft, or verified by Nancy Goldenberg and Joni Carroll, is cited.

South San Francisco Hillside Sign
San Mateo County, CA

Bibliography

"And it was called *The Industrial City.*" Invitation to opening of exhibit by San Mateo County Historical Association and South San Francisco Historical Society.

Blum, Joseph A. "South San Francisco–The Making of an Industrial City." *California History, Magazing of Califronia Historical Society* (Spring 1984) Vol. 113: 116-134.

Blum, Joseph A. "South City–The City That Could." *San Francisco Sunday Examiner-Chronicle* (Sept. 4, 1983): 3-6.

Emch, Tom. "Life in South San Francisco." *San Francisco Sunday Examiner-Chronicle, Califronia Living* (Jan. 16, 1972): 14.

Feuerstein, Carol. "75th Anniversary." *SSF Business in Brief: A Publication of the South San Francisco Chamber of Commerce.* March/April, 1989.

Genentech, Inc. Advertisement identifying biotechnology as Industry in the South San Francisco Chamber Directory at South San Francisco, 1994.

Groth, Paul, Ph.D. Letter to Department of Architecture and Landscape, March 14, 1988, at the University of California, Berkeley, CA.

Harks, Edna, Historic Preservation Commissioner; and Lou Dell' Angela, Citizen. "Letter for and against Sign Preservation," Circulated to City Council, 1986, at South San Francisco.

Hynding, Alan. *From Fronitier to Suburb–The story of the San Mateo Peninsula.* Belmont: Star Publishing, 1982: 102-109.

Kaufman, Linda. "It was not by chance." *La Peninsula, Journal of the San Mateo Historical Association* (May 1971) Vol. 16: 2.

Kaufman, Linda. *South San Francisco, A History.* South San Francisco: San Francisco Bicentennial Committee, 1976: 27.

Lakey, Carl. "South City old-timers save sign." *Palo Alto Times Tribunal* (Sept. 12, 1986): C1.

Lakey Carl. "This city's sign of the time refuses to change with them." *Palo Alto Times Tribunal* (Sept. 23, 1986): C1.

Lakey, Carl. "Sign with nine lives." *Palo Alto Times Tribunal* (Sept. 15, 1986): Editorial.

Parsons, James J. "Hillside Letters in the Western Landscape." *Landscape* Vol. 30, Number 1, 1988.

Robertson, Patrick. *Guinness Film Facts and Feats*, 2nd ed. C 1985

Shoecraft, Don. "City's history now a Video." *San Francisco Progress* (Aug. 12, 1987).

South San Francisco Hillside Sign
San Mateo County, CA

Siegman, Ken. "South San Francisco plans to grow." *Palo Alto Times Tribunal* (Apr. 20, 1985): C1.

Sign of the Times (Video). Sound Start Productions, Berkeley, CA. (1987).

South San Francisco Chamber of Commerce. *South San Francisco, The Industrial City.* Designed and Printed by Bruce Brough, San Francisco. c. 1928.

South San Francisco Enterprise Journal. Vol. 30, Sept. 20, Oct. 18, Nov. 23(1923): 1; Vol. 38, Jan. 13, Apr. 12, Apr. 17, May 10, May 17, Sept. 7, Sept. 14, Sept. 17, Sept. 28, Oct. 5, Nov. 28, Dec. 7 (1928): 1; Vol. 37, Jan. 11, Feb. 1, Apr. 17, July 9, July 17(1929):1.

South San Francisco Enterprise Journal. Dec 22, (1984); Sept. 13, (1986); Oct. 15, (1986).

"South San Francisco Video Documentary Available." *South San Francisco Chamber of Commerce* (1987) Vol. 49: No.10.

Stranger, Frank M. "The Beginings of South San Francisco." Ibid.

Treadwell, Edward F. "The Cattle King." Santa Cruz: Western Tanager Press (1981): 32-45, 148-179.

Yee, Robert S., Mayor of South San Francisco. "Letter for endorsement of Application," circulated March, 28, 1995.

South San Francisco Hillside Sign
San Mateo County, CA

Boundary Description

Parcel N° 012-351-110, San Mateo County

Boundary Justification

The boundary describes Sign Hill Park, a 41-acre municipal park deeded to the city for the South San Francisco Hillside Sign. The boundary and area of Sign Hill Park remain unchanged.

South San Francisco Hillside Sign
San Mateo County, CA

This form is based on research by

Mrs. Edna S. Harks
Historical Society of South San Francisco and Historic Preservation Commission
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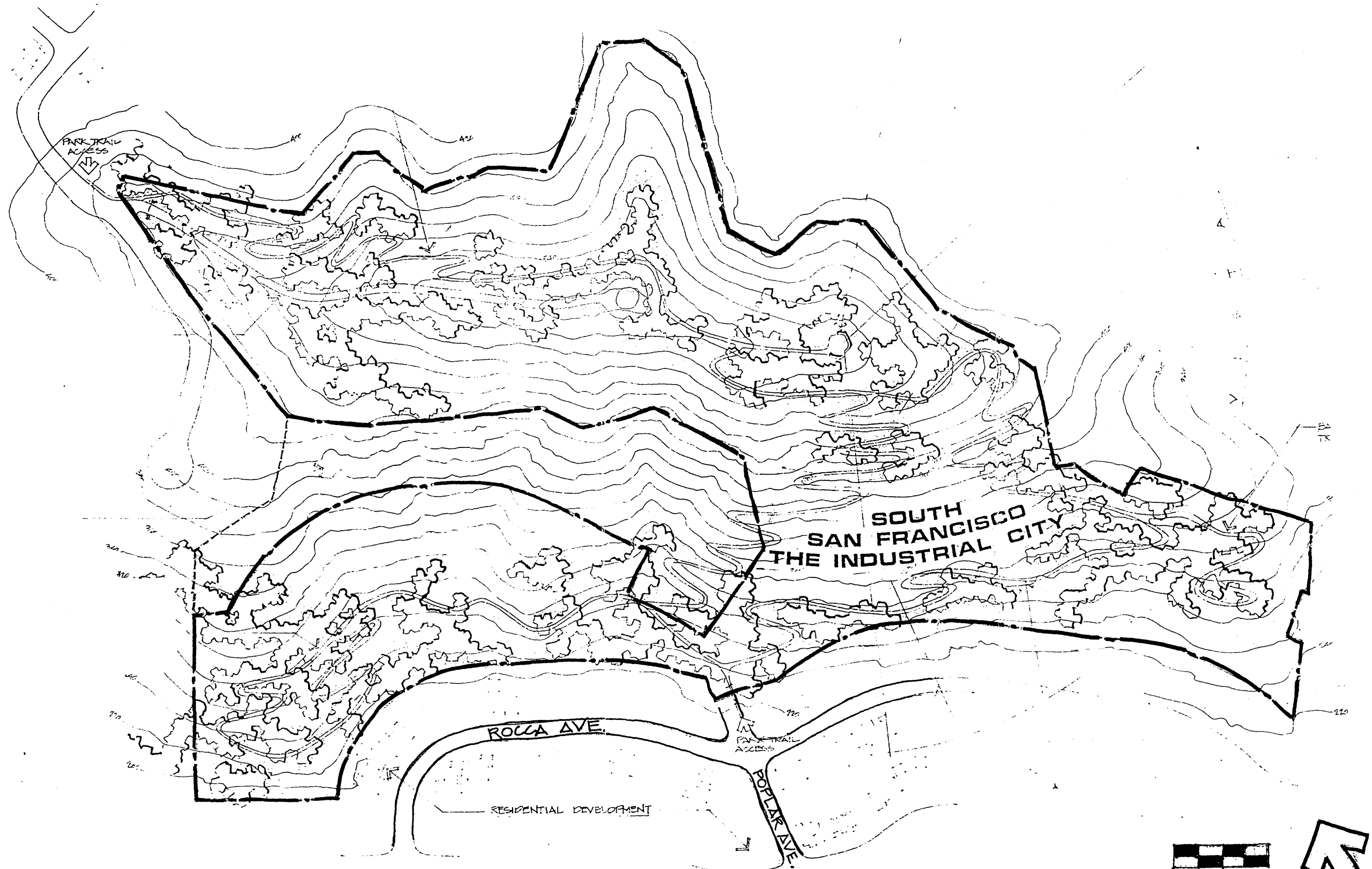

SIGN HILL PARK

APPENDIX C. TRAILS AND VISITATION ASSESSMENT

1.0 TRAILS AND VISITATION

1.1 Setting

1.1.1 Facilities

Sign Hill is publicly accessed via three main trailheads. The primary trailhead is located at the end of Ridgeview Court and includes a parking lot of seven spaces. The second trailhead is located at the end of Poplar Avenue with street parking only. The third trailhead is located on Spruce Avenue between Park Way and Beech Avenue with limited street parking. These trailheads are not named on City maps and referred to by City staff using the street names mentioned. There is a fourth entrance to Sign Hill located on Diamond Avenue, but this is largely known only to local residents of the area and is primarily a maintenance road access.

Sign Hill has approximately two miles of hiking trails in total. The Ridge Trail is 0.77 miles (mi) long following the spine of the hill from the Ridgeview Court trailhead to the Spruce Avenue trailhead. Three trails begin at the Poplar Avenue trailhead and travel to the ridgeline connecting with the Ridge Trail: Iris Trail (0.27 mi) which travels directly to the summit of the hill; the Letters Trail (0.2 mi) which traverses the hill below the letters; and the Seubert Trail (0.36 mi) which climbs west of the summit of the hill. The Eucalyptus Loop Trail (0.27 mi) is shown to traverse the southwestern corner of Sign Hill, creating a loop off the Seubert Trail.

All the main trailheads contain a bulletin kiosk and most trail junctions are identified with wayfinding signage. Additionally, there are two benches near the summit and one bench located at the Ridge Trail – Seubert Trail junction.

1.1.2 Erosion

The main soil type at Sign Hill is the Candlestick-Kron-Buriburi Complex, and the hill slopes range from 30 to 75 percent (**Attachment 1 - Figure 3**) (National Resources Conservation Service, 2023). The Candlestick-Kron-Buriburi Complex, 30 to 75 percent slopes map unit is rated as Highly Susceptible, meaning that the soils of this map unit are highly susceptible to degradation following site disturbance, and the soils have a low capacity to resist erosion due to water and/or wind, salinization, sodification, depletion of organic matter and/or other nutrients, and reduction of soil depth to the point that the soil loses its capacity to support the desired plant community. In addition, these soils have a moderate susceptibility to sheet and rill erosion (erosion factor KWhole soil of 0.24).

During severe storms in December 2022 and January 2023, large amounts of precipitation fell on Sign Hill causing the soil to erode quickly and dramatically, creating multiple gullies. City staff installed emergency check dams on one gully which had washed out sections of the Seubert and Eucalyptus Loop Trails, and on one gully that threatened to wash out two of the letters.

Emergency check dams to control storm erosion between letters.

1.2 Methods

1.2.1 Trail Condition Assessment

During the Spring of 2023, WRA staff assessed the condition of existing trails on Sign Hill using a qualitative measure of erosion; evidence of on-trail erosion was classified into Low, Medium, or High categories using the descriptions and examples in **Table 4**. Instances of trail erosion were marked using GPS and classified by staff on-site. Visitor-created trails were also identified and mapped. These trails deviate from the designated trails and are identified using visual indicators of vegetation trampling and soil compaction/loss. These trails deviate from the City designated and named trails and are identified using visual indicators of vegetation trampling and soil compaction/loss. Because nearly all of the Eucalyptus Loop Trail has been obscured by debris from the tree removals, it was not visible to be assessed in the field -the original alignment from City records is shown on **Figure 4** instead (**Attachment 1**). Similarly, part of the Seubert Trail was washed out during severe storms in 2022-2023 leaving a gap seen in the trail map.

Table 4. Definitions of Trail Erosion Categories

EXAMPLE	CATEGORY DEFINITION
 *Letters Trail*	**HIGH** There are more than two deep ruts located along the length of the trail, and there are several observations that it significantly interferes with pedestrian activities where it causes trail users to create additional pathways to avoid this erosion feature. For this category, evidence of trail user impacts resulting from the erosion feature includes more than one of the following: trail widening, braided trails, unsanctioned trails, soil compaction, and vegetation trampling
 *Ridge Trail*	**MEDIUM** There are one or two noticeable ruts forming along the length of the trail, and there are some observations that it significantly interferes with pedestrian and cycling activities. For this category, evidence of trail user impacts resulting from the erosion feature includes one of the following: trail widening, braided trails, unsanctioned trails, soil compaction, and vegetation trampling.
 *Letters Trail*	**LOW** There is a shallow rill forming along the length of the trail, but there are no observations that it significantly interferes with pedestrian activities. There is no evidence of trail users negatively impacting adjacent vegetation to avoid this erosion feature.

1.2.2 Visitation Level Assessment

Visitation to Sign Hill was estimated using a combination of manual data collection and automated counters across the three main trailheads of Ridgeview Ct, Poplar Ave and Spruce Ave during the spring of 2023. Note that visitors accessing the site from both Diamond Ave and Ash Ave are included in the estimate for the trailhead at Spruce Ave. The entrance at Diamond Ave consists of a gated access road while the entrance at Ash Ave consists of a visitor created trail. Because the access points converged at the same point on the Ridge Trail, it was clear to WRA technicians that visitors from different areas of the surrounding neighborhood were using the closest possible entrance. Counts were conducted at the convergence point on the Ridge Trail to capture this use.

Data from both weekdays and weekend days were used to develop a general estimate for average daily visitation. Manual counts were used to collect observational data of activity types of visitors.

Data supporting the visitation estimate for Spruce Ave

TOTAL VISITORS	
Diamond	32 (74%)
Spruce	11 (26%)

TOTAL ENTRIES AND EXITS	
Entry	27
Exit	18

1.3 Results

1.3.1 Trail Condition

Though relatively few instances of high levels of erosion were found (**Figure 4**), observed eroded areas cover relatively long sections of trail, such as on the Letters Trail. In the case of the Ridge Trail, the long duration of medium erosion covers an extremely steep section and has resulted in a proliferation of visitor created trails as people try to avoid eroded sections and take a less steep route. For the Iris Trail, the area of high erosion occurs in and around steep steps. An analysis of trail segments found slopes for the Ridge, Iris, and Seubert Trails to be steeper than 16 percent—the generally acceptable maximum for non-accessible hiking trails shown in **Table 5** (California State Parks, 2019). Additional visitor created trails provide access to destinations such as the Hillside Sign themselves and an old, rusty car along a secondary ridgeline with views to the east.

Table 5. Trail Slopes

TRAIL SEGMENTS	AVERAGE % SLOPE
EXISTING TRAILS	
Letters Trail	14%
Eucalyptus Trail	9%
Letters Trail	14%
Ridge Trail	28%
Iris Trail	27%
Seubert Trail	24%

While no visitor created trails currently exist at the summit of the hill, vegetation trampling is a concern along the Ridge Trail because of populations of golden violets and other host plants and nectar flowers for the endangered butterfly species. On the eastern slopes of Sign Hill, as well as the Ridge Trail, there are on-going restoration areas where SSF have been planting native species. SSF has installed fencing to protect these plants from trampling by visitors.

1.3.2 Visitation

The trails on Sign Hill are open to use by pedestrians, and dogs are allowed while on-leash. Biking is not allowed on trails. Parking is limited at Sign Hill; however, SSF city staff have observed that many visitors live nearby and access Sign Hill by walking, often visiting multiple times per week.

Based on data collected during spring 2023, visitation to Sign Hill is estimated at 100 visits on average per day for weekdays, and 170 visits on average per day for weekend days. Visitation was estimated for each main trailhead: Ridgeview Court, Poplar Avenue, and Spruce Avenue. Note that visitation via the Spruce Avenue trailhead included counts from an adjacent access road on Diamond Avenue and a visitor created trail on Ash Avenue, as they converge at the same location on the Ridge Trail. The Ridgeview Court trailhead had the highest visitation, followed by Poplar Avenue, and Spruce Avenue had the fewest number of visits.

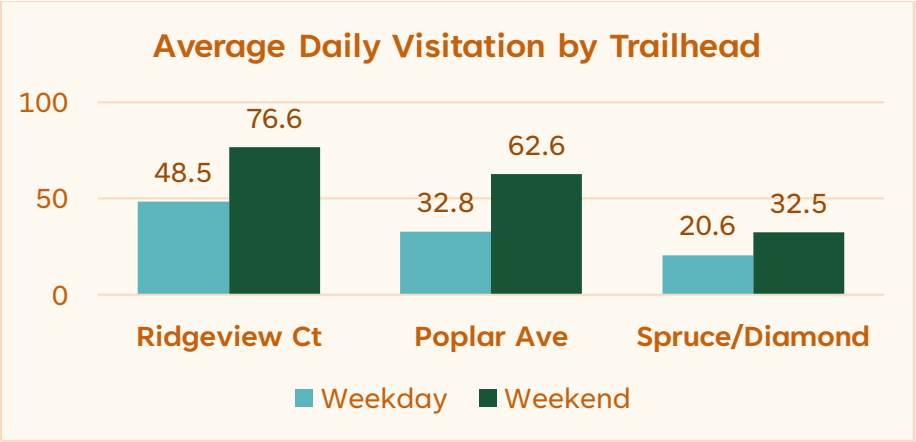

Chart 1. Average daily visitation by trailhead

On-site observational data collected during spring 2023 shows that approximately 1/3 of visitors participated in dog walking while at Sign Hill. These data also show that nearly 2/3 of visitors were hiking or walking, and a small proportion of visitors were using the trails for running. Though illegal biking use was not observed during the data collection period, SSF City staff have occasionally observed cyclists using Sign Hill's trails.

Chart 2. Percentage of use by activity type

2.0 REFERENCES

California State Parks. (2019). *Trails Handbook*. Sacramento: Department of Parks and Recreation.

National Resources Conservation Service. (2023). *Web Soil Survey, Soil Survey Area: San Mateo County, Eastern Part, and San Francisco County, California*. United States Department of Agriculture.

Attachment 1. Figures

Figure 3. Soil Types

Sign Hill Open Space Management Plan
San Mateo County, California

0 200 400 US Feet

N

wra Environmental Consultants

Figure 4. Trail Condition Assessment

Sign Hill Open Space Management Plan
San Mateo County, California

wra Environmental Consultants

APPENDIX D. COMMUNITY OUTREACH MATERIALS

1.0 ROUND 1 SURVEY QUESTIONNAIRE

1.1 English Language Version

Introduction

The City of South San Francisco is seeking community input to create the Sign Hill Master Plan. Sign Hill Open Space is located off Hillside Boulevard on Ridgeview Court in South San Francisco.

In addition to serving as a monument in North San Mateo County, Sign Hill provides 65 acres of open space, including almost two miles of hiking trails and unparalleled views of the San Francisco Bay. Sign Hill is a valuable and historic local resource for the community and a critical habitat for endemic plants and wildlife on the Peninsula.

The Sign Hill Open Space Master Plan will guide future development of the trail system to enhance public access and visitor experiences while protecting the biological and cultural resources.

Your participation in this survey will help us better engage the public as patrons and stewards of Sign Hill and create a master plan that meets the needs of the site and the community for years to come.

Questions

1. ***Have you ever visited Sign Hill?***
    - *Yes*
    - *No*
2. ***How did you hear about Sign Hill? Select all that apply.***
    - I live in the neighborhood.
    - From a friend or family member
    - City of South San Francisco resources (e.g., website, community facilities, programs)
    - Local media (e.g., newspaper, magazine, social media)
    - Other (please specify)
3. ***How often do you visit Sign Hill?***
    - Daily
    - Weekly
    - Monthly
    - Every few months
    - Rarely
    - Other (please specify)
4. ***With whom do you visit Sign Hill? Select all that apply.***
    - By myself
    - Family
    - Friends
    - Pet(s)
    - Community group
    - Other (please specify)

5. ***How do you get to Sign Hill? Select all that apply.***
    - Walk
    - Bike
    - Car
    - Public transportation
    - Other (please specify)
6. ***How do you most often access Sign Hill?***
    - Poplar Avenue
    - Ridgeview Court
    - Spruce Avenue
    - Other (please specify)
7. ***Why do you visit Sign Hill? Select all that apply.***
    - Connect with nature
    - Observe plant and animal habitats
    - Individual exercise
    - Outdoor activity with family or friends
    - Passive relaxation
    - Enjoy the views
    - Outing with pet(s)
    - Other (please specify)
8. ***What do you like best about Sign Hill? Select ONE (1).***
    - Walking trails
    - Native flora and fauna
    - Benches for seating
    - Views and scenery
    - Other (please specify)
9. ***What features do you feel would improve the visitor experience at Sign Hill? Select your top TWO (2) choices.***
    - Better way-finding signage leading to Sign Hill
    - An enhanced entry area
    - Trail enhancements
    - Signage to identify habitats and plant/animal species
    - More seating areas
    - More waste management resources (e.g., trash bins, dog waste stations)
    - Environmental education programs
    - Other (please specify)
10. ***If you have never heard of or visited Sign Hill, what factors would increase the likelihood of your visiting in the future?***
    - More awareness/information about the site
    - Better access and accessibility
    - Better way-finding signage leading to Sign Hill
    - More things to do
    - Improved trail network
    - Programs that match my interests
    - Volunteer opportunities
    - Seating aeras

- Waste management resources (e.g., trash bins, dog waste stations)
- Recreation options
- Transit options
- Nothing
- Other (please specify)

11. ***What characteristics are most important to you for the future of Sign Hill? Select your top TWO (2) choices.***
    - Accessibility/inclusiveness
    - Variety of experiences
    - Sustainability and conservation
    - Natural beauty
    - Pet-friendly
    - Opportunities for exercise
    - Educational opportunities
    - Other (please specify)

12. What is your age group?
- Youth: Under 18
- Young Adult: 19 to 34
- Adult: 35 to 64
- Senior: Over 65

13. What race do you identify with?
- Caucasian or White
- African American or Black
- Hispanic/Latino(a)
- Asian
- Native Hawaiian or other Pacific Islander
- Native American or Alaska Native
- Two or more races
- Prefer not to say

14. Where do you live?
- In the neighborhood immediately surrounding Sign Hill
- In another area of South San Francisco
- In another city in the San Francisco Bay Area
- Other (please specify)

1.2 Spanish Language Version

Introducción

La Ciudad de South San Francisco está buscando la opinión de la comunidad para crear el Plan Maestro de Sign Hill. Sign Hill Open Space está ubicado en Hillside Boulevard en Ridgeview Court en South San Francisco.

Además de servir como monumento en el condado norte de San Mateo, Sign Hill ofrece 65 acres de espacio abierto, incluyendo casi dos millas de senderos para caminatas y vistas incomparables de la Bahía de San Francisco. Sign Hill es un recurso local valioso e histórico para la comunidad y un hábitat crítico para las plantas endémicas y la vida silvestre en la Península.

El Plan Maestro de Sign Hill Open Space guiará el desarrollo futuro del sistema de senderos para mejorar el acceso público y las experiencias de los visitantes, al mismo tiempo protege los recursos biológicos y culturales.

Su participación en esta encuesta nos ayudará a involucrar mejor al público como patrocinadores y administradores de Sign Hill y crear un plan maestro que satisfaga las necesidades del sitio y la comunidad en los próximos años.

Preguntas

1. ***¿Alguna vez has visitado Sign Hill?***
    - *Sí*
    - *No*

2. ***¿Cómo te enteraste de Sign Hill? Seleccione todas las opciones que corresponden.***
    - Vivo en el barrio.
    - De un amigo o familiar
    - Recursos de la Ciudad de South San Francisco (por ejemplo, sitio web, instalaciones comunitarias, programas)
    - Medios locales (por ejemplo, periódico, revista, redes sociales)
    - Otro (especifíquese)

3. ***¿Con qué frecuencia visitas Sign Hill?***
    - Diario
    - Semanal
    - Mensual
    - Cada pocos meses
    - Raramente
    - Otro (especifíquese)

4. ***¿Con quién visitas Sign Hill? Seleccione todas las opciones que corresponden.***
    - Por mí mismo
    - Familia
    - Amigos
    - Mascota(s)
    - Grupo comunitario
    - Otro (especifíquese)

5. ***¿Cómo llegas a Sign Hill? Seleccione todas las opciones que corresponden.***

- Caminar
- Bicicleta
- Coche
- Transporte público
- Otro (especifíquese)

6. ***¿Cómo accedes con mayor frecuencia a Sign Hill?***
    - Avenida del Álamo
    - Corte de Ridgeview
    - Avenida Spruce
    - Otro (especifíquese)

7. ***¿Por qué visitas Sign Hill? Seleccione todas las opciones que corresponden.***
    - Conéctate con la naturaleza
    - Observar hábitats de plantas y animales
    - Ejercicio individual
    - Actividad al aire libre en familia o con amigos
    - Relajación pasiva
    - Disfruta de las vistas
    - Excursión con mascota(s)
    - Otro (especifíquese)

8. ***¿Qué es lo que más te gusta de Sign Hill? Seleccione UNO (1).***
    - Senderos
    - Flora y fauna autóctonas
    - Bancos para asientos
    - Vistas y paisajes
    - Otro (especifíquese)

9. ***¿Qué características crees que mejorarían la experiencia del visitante en Sign Hill? Seleccione los DOS (2) mejores opciones.***
    - Mejor señalización que conduce a Sign Hill
    - Un área de entrada mejorada
    - Mejoras en los senderos
    - Señalización para identificar hábitats y especies vegetales/animales
    - Más zonas de descanso
    - Más recursos de gestión de residuos (por ejemplo, contenedores de basura, estaciones de desechos para perros)
    - Programas de educación ambiental
    - Otro (especifíquese)

10. ***Si nunca has oído hablar o visitado a Sign Hill, ¿qué factores aumentarían la probabilidad de su visita en el futuro?***
    - Más conocimiento/información sobre el sitio

- Mejor acceso y accesibilidad
- Mejor señalización que conduce a Sign Hill
- Más cosas que hacer
- Mejoradas redes de senderos
- Programas que coinciden con mis intereses
- Oportunidades de voluntariado
- Aeras de asientos
- Recursos de gestión de residuos (por ejemplo, contenedores de basura, estaciones de desechos para perros)
- Opciones de recreación
- Opciones de tránsito
- Nada
- Otro (especifíquese)

11. ***¿Qué características son las más importantes para ti para el futuro de Sign Hill? Seleccione los DOS (2) mejores opciones.***
    - Accesibilidad/inclusión
    - Variedad de experiencias
    - Sostenibilidad y conservación
    - Belleza natural
    - Se admiten mascotas
    - Oportunidades para hacer ejercicio
    - Oportunidades educativas
    - Otro (especifíquese)

12. ¿Cuál es su grupo de edad?
- Juvenil: Menor de 18 años
- Adulto joven: 19 a 34
- Adulto: 35 a 64
- Senior: Mayores de 65 años

13. ¿Con qué raza te identificas?
- Caucásico o blanco
- Afroamericano o negro
- Hispano/Latino(a)
- Asiático
- Nativo de Hawái u otro Isleño del Pacífico
- Nativo Americano o Nativo de Alaska
- Dos o más razas
- Prefiero no decir

14. ¿En dónde vives?
- En el vecindario que rodea Sign Hill
- En otra zona de South San Francisco
- En otra ciudad del área de la Bahía de San Francisco
- Otro (especifíquese)

2.0 ROUND 2 OUTREACH MATERIALS

At the town hall outreach event, English and Spanish text were presented simultaneously as is represented here.

2.1 Survey and Town Hall Materials

After hearing from the community about preferences for Sign Hill, the City of South San Francisco is seeking input on proposed trail concepts and other site details to create the Sign Hill Master Plan. Sign Hill Open Space is located off Hillside Boulevard on Ridgeview Court in South San Francisco.

In addition to serving as a monument in North San Mateo County, Sign Hill provides 65 acres of open space, including almost two miles of hiking trails, and unparalleled views of the San Francisco Bay. Sign Hill is a valuable and historic local resource for the community and a critical habitat for wildlife on the Peninsula.

The Sign Hill Open Space Master Plan will guide future development of the trail system to enhance public access and visitor experiences while protecting the biological and cultural resources.

Your participation in this survey will help us better engage the public as patrons and stewards of Sign Hill and create a master plan that meets the needs of the site and the community for years to come.

Después de escuchar a la comunidad sobre las preferencias de Sign Hill, la ciudad de South San Francisco está buscando información sobre los conceptos de senderos propuestos y otros detalles del sitio para crear el Plan Maestro de Sign Hill. Sign Hill Open Space está ubicado en Hillside Boulevard en Ridgeview Court en el South San Francisco.

Además de servir como monumento en el Condado Norte de San Mateo, Sign Hill ofrece 65 acres de espacio abierto, que incluyen casi dos millas de senderos para caminatas y vistas incomparables de la Bahía de San Francisco. Sign Hill es un recurso local valioso e histórico para la comunidad y un hábitat crítico para la vida silvestre en la península.

El Plan Maestro de Espacios Abiertos de Sign Hill guiará el desarrollo futuro del sistema de senderos para mejorar el acceso público y las experiencias de los visitantes mientras se protegen los recursos biológicos y culturales.

Su participación en esta encuesta nos ayudará a involucrar mejor al público como patrocinadores y administradores de Sign Hill y crear un plan maestro que satisfaga las necesidades del sitio y la comunidad en los próximos años.

TRAIL OPTIONS

OPCIONES DE SENDEROS

According to the community surveyed during initial outreach, trail enhancements were top on the list for desired improvements at Sign Hill. Along with restoring habitats and reducing fire fuels, providing a safer, more engaging visitor experience is a primary focus of the Master Plan. With these priorities in mind, we have prepared three different trail options that will help determine the best future for Sign Hill.

De acuerdo con la comunidad encuestada durante el alcance inicial, las mejoras en los senderos ocuparon los primeros lugares en la lista de mejoras deseadas en Sign Hill. Junto con la restauración de hábitats y la reducción de los combustibles para incendios, brindar una experiencia de visitante más segura y atractiva es un enfoque principal del Plan Maestro. Con estas prioridades en mente, hemos preparado tres opciones de senderos diferentes que ayudarán a determinar el mejor futuro para Sign Hill.

All three of the options presented below include the following core trail improvements:
Las tres opciones que se presentan a continuación incluyen las siguientes mejoras principales en los senderos:

- Protect native plant species and restoration areas
- Proteger especies de plantas nativas y áreas de restauración.

- Maintain existing Letters Trail and most of Ridge Trail with erosion control treatments
- Mantener Letters Trail existente y la mayor parte de Ridge Trail con tratamientos de control de erosión

- Decommission visitor-created trails
- Retirar senderos creados por visitantes

Trail Option 1
Sendero Opción 1

The focus of this option is to reroute trails to reduce grades. Key features:
El objetivo de esta opción es cambiar la ruta de los senderos para reducir las pendientes. Características clave:

What do you like best/least about Trail Option 1?
¿Qué es lo que más/menos le gusta del Sendero Opción 1?

Trail Option 2
Sendero Opción 2

The focus of this option is to add safe and sustainable stairs for a more engaging experience on Ridge Trail. This option includes all key features of Trail Option 1, plus stairs added on Ridge Trail. Key features:

What do you like best/least about Trail Option 2?

El enfoque de esta opción es agregar escaleras seguras y sostenibles para una experiencia más atractiva en Ridge Trail. Esta opción incluye todas las características clave del Sendero Opción 1, además de las escaleras añadidas en el Ridge Trail. Características clave:
¿Qué es lo que más/menos te gusta del Sendero Opción 2?

Trail Option 3
Sendero Opción 3

The focus of this option is to add new trails to offer a wider variety of views and experiences. This option includes all key features of Trail Options 1 and 2, plus three new trails or trail extensions. Key features:

El enfoque de esta opción es agregar nuevos senderos para ofrecer una variedad más amplia de vistas y experiencias. Esta opción incluye todas las funciones clave de los Opciones 1 y 2, además de tres nuevos senderos o extensiones de senderos. Características clave:

- What do you like best/least about Trail Option 3?
- ¿Qué es lo que más/menos le gusta del Sendero Opción 3?

- Which Trail Option do you prefer overall? Select ONE (1).
- ¿Qué Sendero Opción prefiere en general? Selecciona UNO (1).

- Why did you choose that option?
- ¿Por qué elegió esa opción?

AMENITIES

COMODIDADES

- Would you prefer traditional or modern style signs? Select ONE (1).
- ¿Prefiere letreros de estilo tradicional o moderno? Selecciona UNO (1).

- Would you prefer wood or metal material signs? Select ONE (1).
- ¿Prefiere letreros de madera o de metal? Selecciona UNO (1).

What style of seating would you prefer to see at Sign Hill? Select your top TWO (2) choices.

- Concrete Benches
- Composite Benches
- Metal Benches
- Reclaimed Log Seating
- Wood Benches
- Picnic Tables

What information/topics would you like to see on interpretive signs? Select your top TWO (2) choices.

- Native Plants
- Native Animals
- History and/or Cultural Heritage of the Region
- Geology / Natural History
- Views from the Site (Areas, Landmarks, Historic Sites, etc.)

What volunteer engagement opportunities would you prefer? Select your top THREE (3) choices.

- Native Habitat Restoration
- Fire Fuels Mitigation
- Community Science / Nature Monitoring
- Community Ambassador/Docent
- Site Clean Up
- Educational Site Walks for School/Youth Groups
- Trail Maintenance

APPENDIX E. RESTORATION WORK SCHEDULE OF ACTIVITIES

Existing Vegetation Restoration Activities and Sensitive Species Monitoring and Timing on Sign Hill

WORK TASK CATEGORY	FREQUENCY	WORK TASK	SPECIES TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Invasive Plant Management	Annual	Bermuda Buttercup	**Invasive Grasses and Forbs (F=Flowering)**	F	F	F	F	F	F						F
Invasive Plant Management	Annual	English Ivy									F	F	F	F	
Invasive Plant Management	Annual	Fennel						F	F	F	F	F			
Invasive Plant Management	Annual	French Broom				F	F	F	F						
Invasive Plant Management	Annual	Ice Plant		F	F	F	F	F	F	F	F	F	F	F	F
Invasive Plant Management	Annual	Italian Thistle			F	F	F	F	F	F					
Invasive Plant Management	Annual	Non-native grasses			F	F	F	F	F	F					
Invasive Plant Management	Annual	Pampas Grass		F	F							F	F	F	F
Invasive Plant Management	Annual	Shortpod Mustard					F	F	F	F	F	F	F		
Invasive Plant Management	Annual	Wild Radish			F	F	F	F	F	F					
Scrub Encroachment/ Fuels Management	Annual	Black Acacia	**Invasive Trees and Shrubs (F=Flowering)**		F	F									
Scrub Encroachment/ Fuels Management	Annual	Cotoneaster						F	F	F					
Scrub Encroachment/ Fuels Management	Annual	Eucalyptus		F	F	F							F	F	F

WORK TASK CATEGORY	FREQUENCY	WORK TASK	SPECIES TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Scrub Encroachment/ Fuels Management	Annual	Dry Coyote Bush Removal	**Native Scrub (F=Flowering)**	F								F	F	F	F
Scrub Encroachment/ Fuels Management	Annual	Pulling Young Coyote Bush		F								F	F	F	F
Biological Monitoring	Annual	Mission Blue Butterfly	**Special-Status Butterflies (Active)**			Late	**Peak**		Mid						
Biological Monitoring	Reconnaissance	Callippe Silverspot Butterfly						**Peak**	**Peak**	**Peak**					
Biological Monitoring	Reconnaissance	San Bruno Elfin				**Peak**									
Biological Monitoring	3-5 yrs	Silver Bush Lupine (Mission)	**Host Plants (Flowering)**		Late	**Peak**	**Peak**								
Biological Monitoring	3-5 yrs	Summer Lupine (Mission)				Late									
Biological Monitoring	3-5 yrs	Varied Lupine (Mission)					**Peak**								
Biological Monitoring	3-5 yrs	Golden Violet (Callippe)				**Peak**	**Peak**								
Biological Monitoring	Reconnaissance	Pacific Stonecrop (Elfin)													
Biological Monitoring	3-5 yrs	Coast Iris	**Special-Status Plants (Flowering)**			**Peak**	**Peak**								
Biological Monitoring	3-5 yrs	Coast Rockcress				**Peak**	**Peak**								
Biological Monitoring	3-5 yrs	Scouler's Catchfly							**Peak**	**Peak**					
Biological Monitoring	Annual	Trail Camera Trapping													

WORK TASK CATEGORY	FREQUENCY	WORK TASK	SPECIES TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Sign Hill Monument Maintenance	Annual	String-Trimming Letters													
Sign Hill Monument Maintenance	Annual	View-obstructing Scrub Removal													
Park Maintenance	Seasonal / As Needed	Erosion Control													
Park Maintenance	Annual	Trail Maintenance/Improvement													
Habitat Restoration	Annual	Seed Collection													
Habitat Restoration	Annual	Planting Restoration Plots													
Habitat Restoration	Annual	Monitoring Restoration Plots													
Habitat Restoration	Seasonal / As Needed	Irrigation of Planting Plots													
Habitat Restoration	Seasonal / As Needed	Fencing or Signage Installation													
Environmental Education/Community Engagement	Annual	Sign Hill Stewards													
Environmental Education/Community Engagement	Annual	Interpretive Hikes													
Administrative	Annual	Records Keeping/Grants/Reports/Research/Etc.													