Initial Study/Mitigated Negative Declaration

The Off-Leash Dog Recreation Pilot Program at Pillar Point Bluff and Quarry Park

Lead Agency

San Mateo County Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063
Contact: Nicholas Calderon
ncalderon@smcgov.org

Public Review Draft | July 2021

Initial Study/Mitigated Negative Declaration

The Off-Leash Dog Recreation Pilot Program at Pillar Point Bluff and Quarry Park

Lead Agency

San Mateo County Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063
Contact: Nicholas Calderon
ncalderon@smcgov.org

CEQA Consultant

WRA, Inc.
2169-G East Francisco Blvd
San Rafael, CA 94901
Contact: John Baas
baas@wra-ca.com

Public Review Draft | July 2021

TABLE OF CONTENTS

Section Name and Number **Page**

LIST OF FIGURES

Figure Name and Number **Page**

LIST OF TABLES

LIST OF TECHNICAL APPENDICES

Appendix	Document Title
Appendix A.	Visitor Use Estimates Whitepaper, WRA 2021
Appendix B.	Biological Resources Technical Memorandum, WRA 2020
Appendix C.	Dogs Environmental Impacts Whitepaper, WRA 2021
Appendix D.	Cultural Resources Records Search, WRA 2020

ACRONYMS, ABBREVIATIONS, AND UNITS OF MEASURE

AMP	Adaptive Management Plan
BAAQMD	Bay Area Air Quality Management District
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNEL	Community Noise Level Equivalent
CO	Carbon monoxide
CO_2	Carbon dioxide
Commission	San Mateo County Parks and Recreation Commission
Committee	Dog Management Committee
CRLF	California red-legged frog
DR	Design Review
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESHA	Environmentally Sensitive Habitat Area
GGNRA	Golden Gate National Recreation Area
GHG	Greenhouse gas
LCP	San Mateo County Local Coastal Plan
MMPA	Marine Mammal Protection Act
NO	Nitrous oxide
PAD/CD	Planned Ag District/Coastal Development
PAD/DR/CD	Planned Agriculture District/Design Review District/Coastal Development District
Parks	San Mateo County Parks Department
PM-10	Particulate matter less than 10 microns
PM-2.5	Particulate matter less than 2.5 microns
RM/RMCZ	Resource Management/Coastal Zone
ROG	Reactive organic gas

SFGS	San Francisco garter snake
TMDL	Total Maximum Daily Load
tpr	Tons per year
VMT	Vehicle miles traveled
Work Group	San Mateo Parks Dog Work Group

1.0 INTRODUCTION AND PURPOSE

The San Mateo County Parks Department (Parks), as Lead Agency under the California Environmental Quality Act ("CEQA"), has prepared this Initial Study/Mitigated Negative Declaration to evaluate the potential environmental impacts of implementing the proposed Project. The purpose of the Project is to authorize off-leash dog recreation in two San Mateo County Parks: Pillar Point Bluff in Moss Beach and Quarry Park in El Granada, California.

This Initial Study/Mitigated Negative Declaration of potential environmental impacts conforms to the requirements of the CEQA, the CEQA Guidelines (California Code of Regulations 15000 et. seq.), and the regulations and policies of the County of San Mateo Parks Department.

2.0 PROJECT INFORMATION

1. **Project Title:**

   Off-Leash Dog Recreation Pilot Program at Pillar Point Bluff and Quarry Park

2. **County File Number:**

3. **Lead Agency Name and Address: San Mateo County Parks Department**

   455 County Center, 4th Floor
   Redwood City, CA 94063

4. **Contact Person and Phone Number:**

   Nicholas Calderon
   (650) 599-1386 - M-F 7:30am-5pm

5. **Project Location: Quarry Park and Pillar Point Bluff, San Mateo County, California**

   The proposed Project would take place in two public parks that are owned and operated by the San Mateo County Parks Department. Pillar Point Bluff is a 220-acre bluff top park (Figure 1) that has a 3.1-mile loop trail network that is part of the California Coastal Trail system. Pillar Point Bluff is bordered along the western edge by the Pacific Ocean and protected tidepools of the Fitzgerald Marine Reserve. The Half Moon Bay Airport and the Pillar Ridge Manufactured Home Community border the park along the eastern edge. The lands to the north and south of the park are mixed commercial and residential use areas.

   Quarry Park is a 577-acre community park that is located on a eucalyptus forested, coast facing hillside. The unincorporated community of El Granada comprises its southern and western border (Figure 1). Rancho Corral de Tierra, a large natural area within the Golden Gate National Recreation Area, completes the northern border. The park includes a network of approximately eight miles of trails, a playground, community gardens, and a picnic area.

6. **Assessor's Parcel Numbers and Size of Parcel:**

   Pillar Point Bluff – 037300010, 037300080, 037300060, 037300100, 047300120, 047300140, 047311070, 047311050, 047311999, 047312030, 047313080

   Total parcel size: 220 acres

   Quarry Park – 047340290, 047340020, 047340010, 047340040, 047330010, 047331010

   Total parcel size: 577 acres

7. **Project Sponsor's Name and Address:**

   Same as the Lead Agency

8. **General Plan Designation:**

Quarry Park – Open Space, Public Recreation, Agriculture, Institutional

Pillar Point Bluff Park – Agriculture, Public Space, Open Space, General Industrial, Commercial Recreation

9. Zoning:

Quarry Park – PAD/CD (Planned Agriculture District/Coastal Development), RM/RMCZ (Resource Management/Coastal Zone), DR (Design Review)

Pillar Point Bluff – PAD/DR/CD (Planned Agriculture District/Design Review District/Coastal Development District), RM-CZ (Resource Management-Coastal Zone)

10. Description of the Project:

Refer to Section 3.0 below.

11. Surrounding Land Uses and Setting:

Quarry Park and Pillar Point Bluff are located in the unincorporated San Mateo County Midcoast. Quarry Park is bordered on the south and west by the unincorporated community of El Granada and the City of Half Moon Bay, and is bordered on the north and east by Rancho Corral de Tierra of Golden Gate National Recreation Area (GGNRA). Pillar Point Bluff is bordered by residential areas of Moss Beach on the north, the Half Moon Bay Airport and Pillar Ridge Manufactured Home Community on the east, Pillar Point Harbor on the south, and the Pacific Ocean and Fitzgerald Marine Reserve on the west.

12. Other Public Agencies Whose Approval is Required:

None

13. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?: *(NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and Project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see Public Resources Code Section 21080.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality).*

The Native American Heritage Commission sent letters to two tribes including: the Amah Mutsun Tribal Band of Mission San Juan Bautista, and The Ohlone Indian Tribe regarding Sacred Land File query results for the Off-leash Dog Recreation Pilot Program.

Path: L:\Acad 2000 Files\29000\29010-2\GIS\ArcMap\Location.mxd

Sources: National Geographic, WRA | Prepared By: njander, 2/26/2020

Figure 1. Study Area Regional Location Map

Initial Study, Off-Leash Dog Use
San Mateo County Parks, California

0 0.5 1 Miles

N

wra ENVIRONMENTAL CONSULTANTS

3.0 PROJECT DESCRIPTION

3.1 BACKGROUND

The San Mateo County Parks system has expanded in recent decades by acquiring lands that previously allowed dog recreation throughout their expanse. When these lands were incorporated into the County Parks system, the County Ordinance Code prohibited all forms of dog recreation in county parks and recreation areas. Therefore, park visitors who subsequently brought their dogs to these parks were in violation of applicable county ordinances.

In spring of 2016, the San Mateo County Parks and Recreation Commission (Commission) formed the Dog Management Committee (Committee), which was tasked with advising the Commission on the development of new dog management policies for Parks. The Committee was comprised of representatives from the Commission, Midcoast Community Council, Pescadero Municipal Advisory Council, North Fair Oaks Community Council, and dog-owner, environmentalist, equestrian, and mountain biker communities. Parks also implemented an extensive communication and community engagement process to support the Committee's work and gather further public input.

After meeting over the course of approximately 15 months, the Committee developed an overarching policy: "It is the policy of the [San Mateo County] Parks Department, in managing dog access to County parks, to promote healthy, safe, and varied experiences for all park users and to protect natural resources." The Committee also developed secondary policies for Parks to use as guiding principles in assessing which locations are appropriate for dog recreation. The secondary policies focused on education; providing a variety of experiences; avoiding conflicts; protecting preexisting uses and natural resources; managing access to playgrounds and play areas; considering new areas for dogs; enforcement; and requirements concerning leash length and the number of dogs allowed per person.

Using these policies, Parks prepared an amendment to the County Ordinance Code that was adopted by the Board of Supervisors at their October 23, 2018, meeting. The amended ordinance allows on-leash dog access on designated and signed trails in San Mateo County Parks including in: Coyote Point Recreation Area, Devil's Slide Trail, Pillar Point Bluff, Quarry Park, Mirada Surf, Junipero Serra Park, and the Coastal Trail at Fitzgerald Marine Reserve.

At the same meeting, the Board of Supervisors directed Parks to develop a recommendation for an off-leash dog recreation Pilot Program. To assist in this process, Parks created the San Mateo County Parks Dog Work Group (Work Group) which included two members of the Parks Commission, three park rangers, members of the Midcoast Community Council and Pescadero Municipal Advisory Council, and representatives from the dog owner, environmentalist, equestrian, and mountain bike communities. The goals of the Work Group were to provide recommendations to Parks regarding off-leash dog recreation pilot locations and management policies.

The Work Group held public meetings for over a year and concluded that areas for off-leash dog recreation were indeed needed in San Mateo County Parks. They proposed a 12-month Pilot Program that would allow off-leash dog recreation on the majority of trails in both Quarry Park and Pillar Point Bluff. The Work Group preferred that off-leash areas be on park trails as opposed to an enclosed off-leash dog park. Establishing off-leash areas would allow for legal recreation of off-leash dog access in county parks. There is no beach access or access to Mirada Surf as proposed as part of the 12-month Pilot Program .

Using the Work Group's recommendation as a guide, Parks prepared its own Pilot Program recommendation for the San Mateo County Board of Supervisors. Parks' recommendation is detailed below in Section 3.5.1.

3.2 PURPOSE

The purpose of this Initial Study/Mitigated Negative Declaration is to evaluate the potential environmental impacts associated with the proposed amendments to the County's ordinance code regarding dog recreation (Chapter 3.68.180) and the proposed Pilot Program and Adaptive Management Plan (AMP).

Parks will use the proposed AMP to manage and monitor the off-leash dog recreation Pilot Program and to protect the environment while also accommodating the diverse and changing recreational needs of the public over time. This Initial Study/Mitigated Negative Declaration will provide CEQA coverage for off-leash dog recreation at Pillar Point Bluff and Quarry Park during and after the Pilot Program.

3.3 GEOGRAPHIC SCOPE OF PILOT PROGRAM

To balance the desires of varied recreation groups and users and the biological protection of Environmentally Sensitive Habitat Areas (ESHAs), not all trails will be accessible to off-leash dog recreation during the Pilot Program. The trails proposed by Parks for the Pilot Program (Figure 2 and Figure 3) are marked in green and have been chosen because they provide loop experiences for people walking dogs off-leash while avoiding children's play areas and sensitive habitats. These trails are also located away from ESHA's and other sensitive environmental resources and are typically wide enough to avoid conflicts between park users. The trails that are marked in orange will continue to allow dogs on-leash only.

Because of formal and informal access paths leading from Ross' Cove Trail on the Pillar Point Bluff to the beach and the high potential for an off-leash dog to access the beach and threaten marine life, Parks is not recommending that off-leash dogs be allowed on Ross' Cove Trail. Mirada Surf is not included in the Pilot Program either. With that said, this Initial Study/Mitigated Negative Declaration, evaluates all trails throughout both parks for potential consideration in the program.

The Pillar Point Bluff is a 220-acre bluff top park (Figure 2)that is owned and operated by Parks. There is a 3.1-mile trail network on the bluffs that is part of the California Coastal Trail network. ESHAs that occur within the park include seasonal wetlands, perennial ponds, beaches, and tidal open water. The Pillar Point Bluff is bordered along the western edge by the Pacific Ocean and protected tidepools of the Fitzgerald Marine Reserve. Half Moon Bay Airport borders the park along the eastern edge. The lands to the north and south of the park are mixed commercial and residential use areas. The tide pools at Fitzgerald Marine Reserve and the wetlands of Pillar Point Marsh are also considered by the California Coastal Commission (CCC) and the San Mateo County Local Coastal Plan (LCP) to be ESHAs.

Quarry Park is a 577-acre community park (Figure 3) that is located on a eucalyptus forested, coast facing hillside and contains hiking trails, playground areas, a picnic area, a community garden, and open grassy areas. ESHAs in the park include central coast arroyo willow riparian scrub, perennial ponds, ephemeral streams, intermittent streams, perennial streams, and potential seasonal wetlands. The unincorporated community of El Granada comprises the park's western and southern borders. Rancho Corral de Tierra, a 4,000-acre natural area is part of the Golden Gate National Recreation Area completes the northern border. The unincorporated communities of Miramar and El Granada and open lands associated with it are along the Park's southern borders.

3.4 ENVIRONMENTALLY SENSITIVE HABITAT AREAS

The CCC and San Mateo County LCP designate ESHAs to protect the natural resources of particularly vulnerable areas within the Coastal Zone of San Mateo County.

The 2013 County LCP identifies sensitive habitats including: riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species. Parks will take steps during the Pilot Program to protect areas that meet the definition of any ESHA defined by the CCC Guidelines and the County LCP.

3.5 PROJECT ACTIONS

3.5.1 Ordinance Governing Off-Leash Dogs in San Mateo County Parks

To ensure the safety of all park users as well as the continued conservation of the natural resources at Pillar Point Bluff and Quarry Park, Parks proposes that the San Mateo County Board of Supervisors adopt the following amendments to the County Ordinance Code (Chapter 3.68):

1. Off-leash dog(s) must be under voice and sight control:

    a) Voice and sight control requires that the owner/handler must be in control of dog(s) at all times and must be able to recall and leash dog(s) at any time.

    b) Owner/handler must have a leash for each dog under owner/handler control.

    c) Dog(s) must return immediately when called (maximum of 10-second return time).

2. Dog(s) must remain on designated and signed trails, within view and earshot, and no more than 25 feet away from owner/handler.

3. Dog(s) must be on-leash in developed areas (i.e., near traffic, parking lot, lawn or play field, deck, picnic areas, etc.).

4. No more than two off-leash dogs allowed per owner/handler.

5. Dogs are presumed to NOT be under control when they:

    a) Threaten, harass, chase, or otherwise display aggression towards any person, animal, or wildlife;

    b) Display threatening behavior;

    c) Physically harm people directly or indirectly by their actions;

    d) Touch or jump on other park users who have not invited or engaged in interaction with the dog; or

    e) Do not return when called (maximum of 10-second return time).

6. Owner/handler must have physical control of dog(s) when approaching or being approached by park users not also engaged in off-leash dog recreation.

The current County Ordinance Code (Chapter 3.68) does not authorize park rangers to remove persons from a park if the situation warrants it. Therefore, Parks is seeking an amendment to Chapter 3.68 of the County Ordinance Code to allow a park ranger to remove any person from a County Park or Recreation Area for violating an ordinance. While this action would be used as a last resort, it provides park rangers with the authority necessary to act when they deem a person to be a threat towards public safety, or the natural

resource. Please note, this authority would not be limited to incidents involving dogs, but rather, any incident in the parks.

3.5.2 Pilot Study and Adaptive Management Plan

Parks proposes to conduct the Pilot Program at both Pillar Point Bluff and Quarry Park for 12 months (1) to determine if the above-mentioned rules are being adhered to and (2) to make management adjustments as needed to avoid or minimize potential impacts to the environment. Environmental impacts (as defined in the 2019 CEQA Guidelines Appendix G checklist), visitor interactions, staff resources and any additional infrastructure needed (e.g., new signage), and any changes in park use will be evaluated during this pilot study.

To evaluate the impacts of the Pilot Program, an AMP has been prepared. The AMP will establish an environmental baseline and monitor impacts of the Pilot Program . The AMP is discussed further below.

Purpose

The purpose of the AMP is to ensure that any environmental impacts that may be created by off-leash dog recreation at Pillar Point Bluff and/or Quarry Park are minimized to the greatest extent possible, and that visitors with and without dogs are able to enjoy their experience at these San Mateo County parks. Overall, results of a whitepaper that reviewed and summarized literature on the environmental impacts of dog recreation in parks and open space (Appendix C) did not definitively conclude that dogs have a significantly greater impact on the flora and fauna found at the Pilot Program sites than human recreation. Moreover, based on the location of known and observed ESHAs and rare, threatened, and endangered plant and animal species, projected impacts of the Pilot Program are inconclusive. Thus, it will be important for Parks to monitor potential impacts with the AMP.

Key components of the AMP are the impact indicators/metrics and measurable standards that Parks staff will monitor on a recurring basis throughout the Pilot Program. The AMP would allow Parks to manage the Pilot Program in a transparent and effective manner.

The AMP's relationship to CEQA is that it is a part of the Project Description (i.e., the Pilot Program) and is intended to avoid and minimize impacts to biological resources. In this context, the Pilot Program should be thought of as a set of avoidance and minimization measures that make the Project Description as self-mitigating as possible.

Adaptive Management Plan Goals

> Goal 1: Implement a plan that will be evaluated under CEQA to minimize or avoid potentially significant environmental impacts that could result from the Pilot Program.
>
> Goal 2: Protect ESHAs; habitat for special status species; rare, threatened, and endangered plant and wildlife species; and water quality.
>
> Goal 3: Enhance and protect visitor safety and experiences.
>
> Goal 4: Contribute to the body of knowledge about potential environmental and social impacts associated with dogs off-leash programs.

Adaptive Management Plan Implementation

There are four steps that need to be completed before the AMP can be implemented. Each is summarized below:

1. Public Education Program: Parks will need to develop a public education program that involves, but is not limited to, (i) noticing the interested public that the Pilot Program is being put into effect, (ii) posting rules and regulations associated with the Pilot Program and their rationale, (iii) promoting the monitoring program and corrective actions associated (refer to item 2.4 below) with the AMP.

2. Park Infrastructure (e.g., signs, waste cans, physical barriers to sensitive areas): Parks will need to identify areas where signage, waste cans, and waste bags will be located. They will also need to identify areas where physical barriers (split rail fencing) are needed to prevent dogs from entering sensitive areas.

3. Pretesting Monitoring Program: Parks will need to collect baseline information on eight proposed indicators. Some behaviors that occur over a wide-ranging area may not be suitable for monitoring via camera, so one purpose of the pretesting program will be to verify which indicators' data may be collected via camera or in-person. Another purpose is to verify standards that are measurable.

4. Compliance and Corrective Actions: Compliance with the AMP will be achieved by monitoring eight indicators of potential environmental impacts, comparing those indicators to standards, and taking an increasingly strict set of corrective actions if standards are not met. The actions to be taken will be determined by Parks based on the severity and impact of non-compliance. The flow chart below (Figure 4) depicts the relationship between monitoring, compliance, and corrective actions.

Indicators reflect program evaluation criteria that were established by Parks and the Dog Work Group. Standards are quantifiable measures of each indicator that trigger some type of corrective action if the subject standard is not satisfied. Standards are developed with the purpose of avoiding potentially significant impacts to biological resources and water quality. Ideally, Parks staff will observe a trend of increasing compliance relative to satisfying the standards over time. Baseline information will be needed for all indicators except visitor use; Parks already has recent visitor use data. The purpose of obtaining baseline information is to have early information on whether a standard is likely to be met or not be met. However, it should be noted the intent of baseline monitoring is not to "lower the bar" with regard to standards for each indicator. The eight indicators include the following:

1. Presence of dog waste

2. Fecal coliform levels

3. Harassment of wildlife

4. Dog entry into sensitive areas

5. Dogs traveling off trail

6. Leash compliance for on-leash trails

7. Interactions between other visitors and dogs

8. Changes in park visitation in response to visitors with off-leash dogs

It should be noted that indicator 8 does not have a standard associated with it. The intention of monitoring indicator 8 is to determine if the Pilot Program increases visitor use among people intending to allow their dogs to go off-leash in the two subject parks and reduces use among people without dogs. Table 1 summarizes the indicators, their associated standards, and the method and frequency of data collection for each.

Table 1. Monitoring Indicators and Standards for the Dogs Off-Leash Adaptive Management Plan[1]

	INDICATOR	STANDARD	PRIMARY[2] DATA COLLECTION METHOD	MONITORING FREQUENCY AND ACTIONS
1.	Presence of dog waste (Any dog waste not in a garbage can will be counted)	No more than 20 occurrences of dog waste in one month.	Observations and photographs by Parks staff or trained volunteers	Weekly; collect data on number of occurrences and locations with waste for all trails (on and off-leash)
2.	Fecal coliform levels at WQ sampling locations	Presence of E. coli shall not exceed 320 cfu/100mL at any monitoring location	In-person by RCD staff. Monitoring will occur at the sampling locations referenced in Figure 2.	Monthly; following protocol used by the RCD and/or RWQCB.
3.	Harassment[3] of wildlife[4]	Dogs observed chasing or harassing wildlife three times over a 90-day period	In-person observations by Parks staff or trained volunteers	Quarterly; Verifiable (e.g., rangers, trained volunteers, and other credible sources) reports of incidences.
4.	Dog entry to sensitive areas, including Fitzgerald Marine Reserve and the Marsh at Pillar Point Bluff, or the pond and reservoir at Quarry Park	No dogs observed entering Parks defined and signed sensitive areas (i.e., dogs must be on leash near these areas)	In-person observation by Parks staff or trained volunteers, set a two-week time period for each month	Quarterly; initial data collection to be made via Parks staff or trained volunteers to document sensitive areas that dogs are most likely to enter. Confirmed and creditable reports of violations.
5.	Dogs traveling off trail	Dogs observed traveling at 10 feet or more off trail; verify compliance rate after baseline data collection	Remote observation, set a two-week time period, Parks staff or trained volunteer observations when they are at the park	Quarterly; initial data collection to be made via Parks staff and trained volunteers to document locations where dogs most likely to go off trail. Data collected via verified reports.
6.	Leash compliance for on-leash trails	70% of parties with dogs will have their dogs on a leash on any given day.	In-person Parks staff or trained volunteer observations whenever they are at the park	Quarterly; observers will walk each on-leash trail to note the proportion of dogs off leash. Note: data for indicators 5&6 will be collected simultaneously
7.	Interactions with dogs and visitors	Any dog is observed exhibiting unwelcome behavior(s) to other dogs or visitors 10 times per month per park.	In-person observation by Park staff and trained volunteers	Quarterly; based on verifiable (e.g., rangers, trained volunteers, and other credible sources) reports

8.	Changes in park visitation in response to visitors with off-leash dogs	N/A[5]	Remote observation with cameras	Quarterly; initial visitors with dog counts will be made via observation. After a reliable number of counts (sample size at least 300 groups, with observations conducted over randomly selected weekend and weekdays) has been made to verify the proportion of visitors with dogs, visitor counts may be conducted via mechanical means (traffic counter or wildlife camera)

Notes:

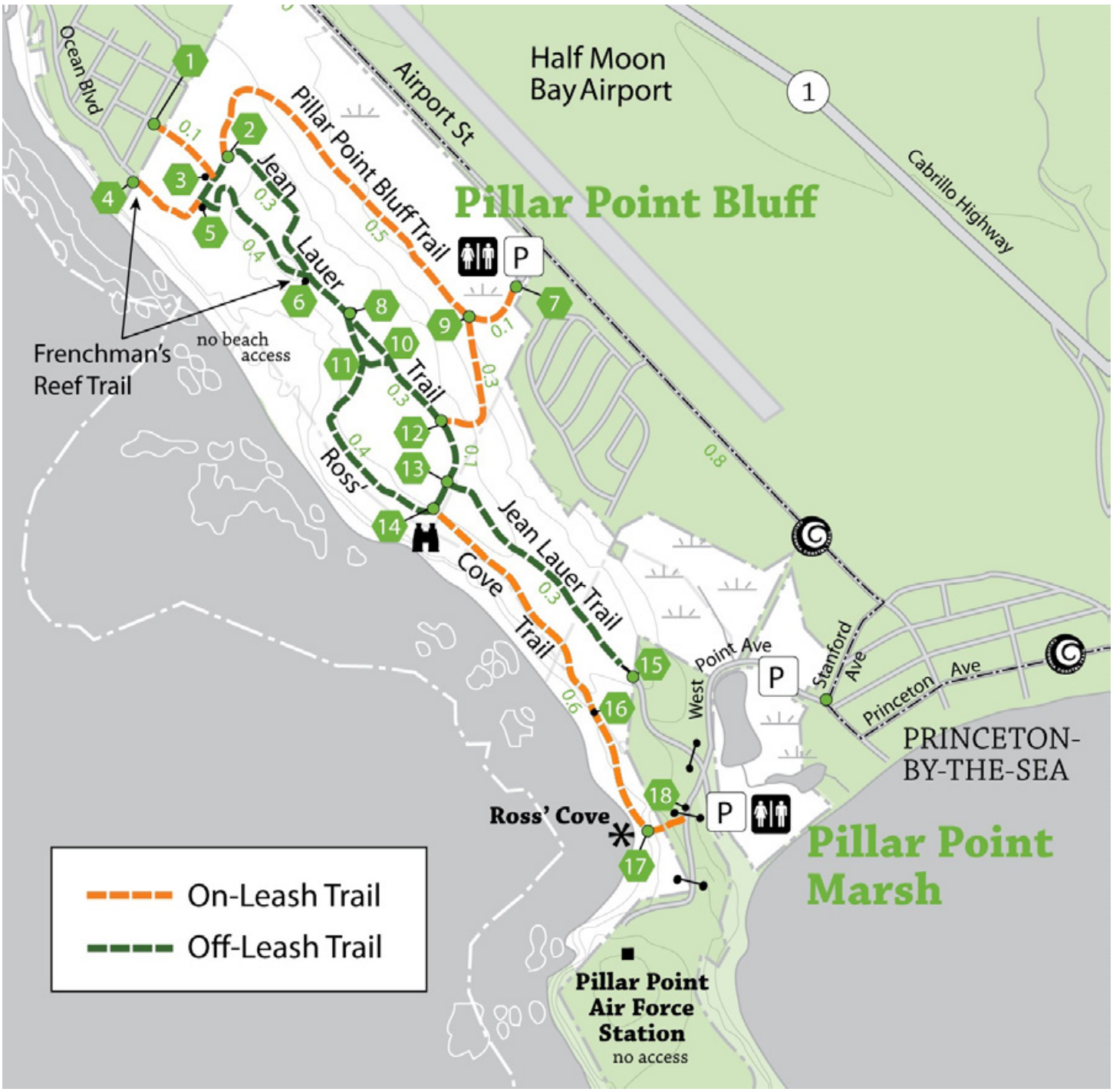
1 - Management actions are not defined by the AMP but rather selected by Parks based on the impact and severity of non-compliance.

2 – Primary data collection refers to recurring data collection by Parks staff and trained volunteers. However, it is recognized members of the public may self-report various behaviors (e.g., dog off trail) and Parks will document this information as it is made available.

3 – From Section 3(18) of the Federal Endangered Species Act: "The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

4 – Any documented killing of wildlife by a dog may result in immediate, temporary suspension of the Pilot Program.

5 – Monitoring of visitor use is not intended to be evaluated against a standard. Collection of visitor use information has been ongoing at both parks and will continue as the AMP is being implemented.



Source: San Mateo County Parks| Prepared By: eschlein, 2/25/2020

Figure 2. Pillar Point Bluff Park Plan

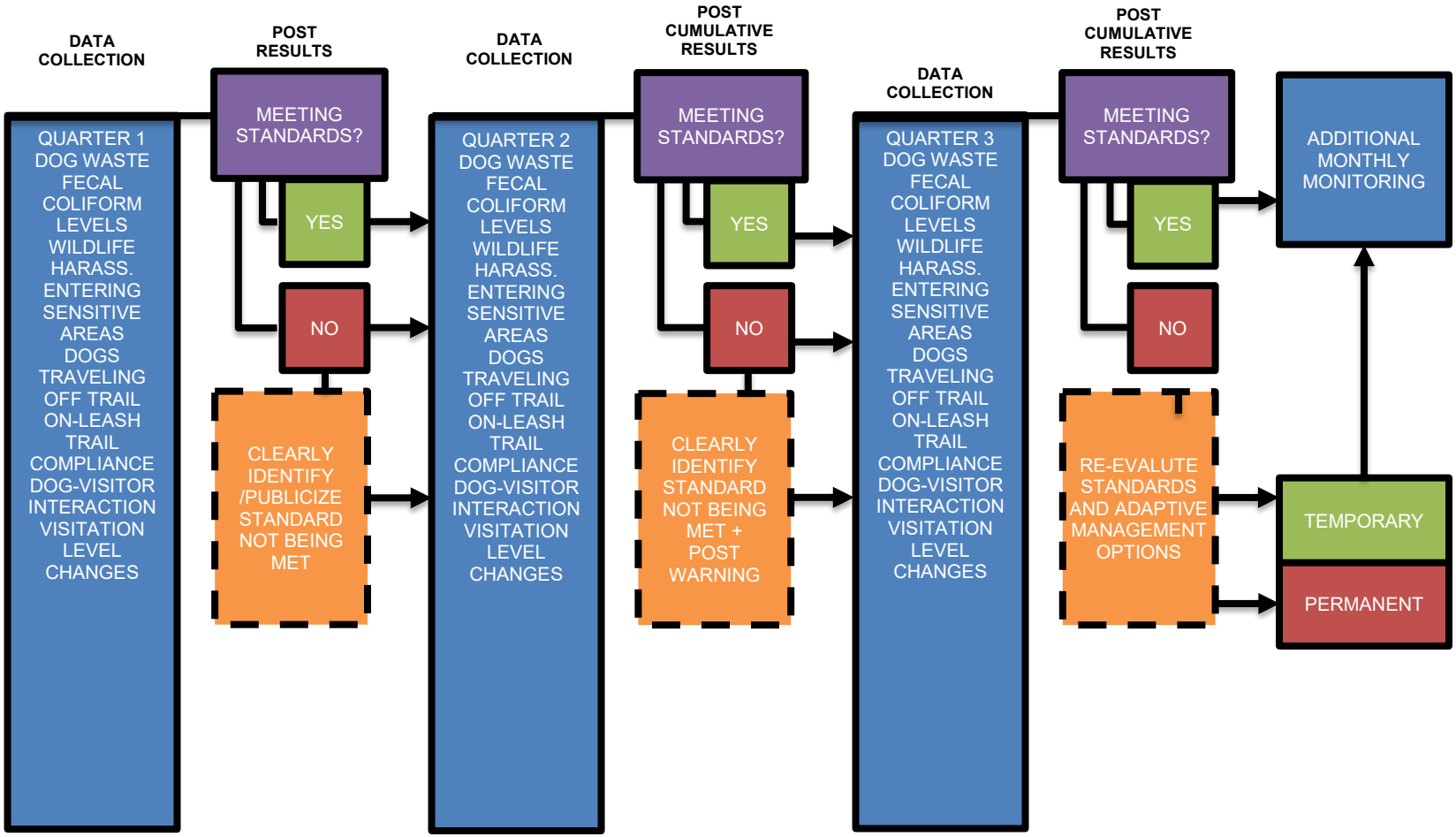
wra ENVIRONMENTAL CONSULTANTS

Source: San Mateo County Parks| Prepared By: eschlein, 2/25/2020

Figure 3. Quarry Park Plan

wra ENVIRONMENTAL CONSULTANTS

Figure 4. Adaptive Management Decision Flow Chart



3.5.3 Proposed Signs

Signs would inform visitors which trails are accessible to off-leash dogs and which trails require leashes. They will also inform users as to what the rules are, including, but not limited to, owners cleaning up after dogs, dogs must stay on trails at all times, and dogs must be under voice and sight control at all times. Initial sign locations for the Pilot Program are included in Figure 5, which depicts specific signs to be used as part of Pilot Program implementation. Trailhead signs will be posted at an elevated height for initial visibility and smaller signs along trails will be shorter and mounted at pedestrian scale similar to wayfinding signs.

Parks proposes to install new signage at trailheads and at trail junctions to inform the public which areas off-leash dogs are and are not allowed. Between both parks, there will be at least 18 “Dogs On-Leash” signs, two "No Dogs In Reservoir” signs, and six “No Dogs In Playground Area” signs.

3.5.4 Possible Outcomes of the Dogs Off-Leash Pilot Program

Parks will review the results of the Pilot Program after 12 months to determine if off-leash dog use in the parks should continue, and if so, under what conditions. If the Pilot Program is terminated no further CEQA documentation would be needed. If there are changes to the AMP or the trails designated for off-leash dog recreation, no further CEQA documentation would be required. If there are minor technical changes to the AMP (assuming the four conditions described in CEQA Guidelines Section 15162 are met), an Addendum would be required per CEQA Guidelines Section 15164 but would not require public review.

Source: San Mateo County Parks| Prepared By: eschlein, 2/25/2020

Figure 5. Sign Examples

Initial Study, Off-Leach Dog Use
San Mateo County Parks, California

wra
ENVIRONMENTAL CONSULTANTS

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below (☒) would be potentially affected by this proposed Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology/Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use/Planning	☒ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Energy	☒ Noise	☐ Wildfire
☐ Geology/Soils	☐ Population/Housing	☒ Mandatory Findings of Significance

5.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project would not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in 5. below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources. Sources used or individuals contacted should be cited in the discussion.

5.1 AESTHETICS

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1.a Have a significant adverse effect on a scenic vista, views from existing residential areas, public lands, water bodies, or roads?			X	
Discussion: In order to adequately demarcate where dogs are allowed to be off leash, where dogs have to be on leash, and what the rules and regulations are, Parks would install additional signage at trailheads and trail intersections. Signs would be installed on pre-existing fencing around playground areas at Quarry Park. Additional signs would be placed along the trails pointing out ESHAs . The signs would be designed to avoid visual impact to the naturally scenic area. The signs would not be visible from the nearby residential areas, roads, or water bodies. **Source: 3**				
1.b Substantially damage or destroy scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
Discussion: Pillar Point Bluff is visible from State Route 1, which is eligible for State Scenic Highway designation. The proposed Project does not include any structures, except minor signs, and would not affect any scenic resources that could be visible from State Highway 1. **Source: 1**				
1.c In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings, such as significant change in topography or ground surface relief features, and/or development on a ridgeline? (Public views are those that are experienced from publicly accessible vantage point.) If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?			X	
Discussion: The proposed Project is located in non-urbanized areas. Dog waste in public park areas can degrade the visual character of the immediate surrounding area, particularly around trailheads. There may be some areas that experience digging or trampling of vegetation from off-leash dogs. The proposed Project does not include any changes to the ground surface, topography, vegetation or include any ridgeline development so any potential impacts from visible dog waste would be less than significant. Also, dogs are currently allowed in both parks and the increase in waste or digging that may result from adopting new off-leash rules would also be less than significant. A requirement of the AMP is to monitor presence of dog waste and report results to Parks management. Moreover, the County ordinance (Chapter 3.68.180) requires that all dog waste be collected and properly disposed of. Finally,				

clearly displayed signage at trailheads would educate park goers of applicable regulations and help to encourage compliance regarding proper disposal of dog waste.

Source: 1, 3

1.d Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				X

Discussion: The proposed Project would not create a new source of significant light or glare that would adversely affect day or nighttime views in the area.

Source: 1

1.e Be adjacent to a designated Scenic Highway or within a State or County Scenic Corridor?			X	

Discussion: Both of the proposed Project sites are adjacent to State Route 1 which is eligible for designation as a State Scenic Highway. For the purposes of this study, highways identified as eligible are considered scenic, but since there would be no construction involved in this proposed Project, there would be no impact to the Scenic Highway or Scenic Corridor.

Source: Caltrans. 2020. Scenic Highways. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: January 22, 2020.

1.f If within a Design Review District, conflict with applicable General Plan or Zoning Ordinance provisions?				X

Discussion: The proposed Project sites are within the Coastside Design Review District. With the exception of installing signs about the new off-leash dog regulations, there is no construction involved for the proposed Project and the overall land use would not change. There would be no conflict with applicable General Plan or Zoning Ordinance provisions. Therefore less than significant impacts would occur.

Source: County of San Mateo – Planning and Building. 2020. Coastside Design Review Committee. https://planning.smcgov.org/coastside-design-review-committee. Accessed January 22, 2020.

1.g Visually intrude into an area having natural scenic qualities?			X	

Discussion: Both park areas have natural scenic qualities, such as shoreline views and views over the coastal plain. The proposed Project does not include construction, vegetation removal, or any other alterations of existing visual resources. There would be no potential to visually intrude into areas having natural scenic qualities and therefore there is no impact.

Source: 1

5.2 AGRICULTURAL AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forestland, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
2.a. For lands outside the Coastal Zone, convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
Discussion: The proposed Project would occur within the Coastal Zone. **Source:** California Coastal Commission. 2019. Maps – Coastal Zone Boundary. https://www.coastal.ca.gov/maps/czb/. Accessed 24 January 2020.				
2.b. Conflict with existing zoning for agricultural use, an existing Open Space Easement, or a Williamson Act contract?				X
Discussion: The Project is proposed within two designated County Parks, neither of which have agricultural zones or parcels affected by the Williamson Act and there are no proposed zoning changes associated with the proposed Project. **Source: 2**				
2.c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?				X
Discussion: The proposed Project does not include any proposals which could result in conversion of any lands, including farmlands to non-agricultural use nor conversions of forest land to non-forest uses associated with this proposed Project. **Source: 1**				

2.d. For lands within the Coastal Zone, convert or divide lands identified as Class I or Class II Agriculture Soils and Class III Soils rated good or very good for artichokes or Brussels sprouts?				X
Discussion: No lands would be converted or divided as a result of the proposed Project. **Source: 1**				
2.e. Result in damage to soil capability or loss of agricultural land?				X
Discussion: There would be no conversion of agricultural lands associated with this proposed Project. **Source: 1**				
2.f. Conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				X
Discussion: No lands would be rezoned as a result of proposed Project activities. **Source: 1**				

5.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
3.a. Conflict with or obstruct implementation of the applicable air quality plan?			X	

Discussion: The proposed Project would not conflict with or obstruct implementation of any air quality plan because it would not involve the use of construction equipment or operational activity (e.g., routine off-leash dog use) that would emit substantial amounts of emissions. The draw of an off-leash natural dog area could cause an increase in vehicle emissions by increasing the number of dog owners who would travel in their vehicles to the subject parks. Estimates of future use based on 1) a survey of visitor counts conducted by Parks and 2) regional population growth and dog ownership data found in Appendix A. These estimates indicate the highest daily weekend day use for all current visitors to Pillar Point Bluff is approximately 561 visitors (or about 281 weekend daily vehicle trips), and 83 visitors (or about 42 weekend daily vehicle trips) at Quarry Park. Based on an analysis of future use of the two subject parks, park visitation could increase as much as 30 percent from pre-COVID pandemic visitation levels during the off-leash dog recreation Pilot Program. This increase would result in up to 108 new vehicle trips on weekend days. Because the Pilot Program will not provide beach access for off-leash dog recreation, and because there are ample opportunities to hike with a dog off-leash elsewhere in the Bay Area, it is not anticipated to create a significant increase in vehicle miles traveled (VMT). The Bay Area Air Quality Management District (BAAQMD) Clean Air Plan stipulates that the Bay Area reduce its greenhouse gas emissions to 40 percent below 1990 levels by 2030. As of 2007, daily vehicle miles traveled in San Mateo County was estimated to be 19.4 million miles. The small increase in VMT that could be expected as a result of an additional 84 vehicle trips per day on weekend days at Pillar Point Bluff, and 24 additional vehicle trips at Quarry Park would be approximately 1,080 VMT. This estimate is based on an assumption that mostly local residents use the two parks and travel an average round trip of 10 miles. This amount would be negligible in comparison to countywide VMT. The increase in other criteria air pollutants as a result of the increase in VMT can also be considered negligible in comparison to the BAAQMD significance thresholds and would not obstruct implementation of the Clean Air Plan. Based on emission factors from the CalEEmod emissions model, the proposed Project would produce the following amounts of daily emissions:

Criteria Pollutant	Daily emissions (pounds/day)	BAAQMD standard (pounds/day)
Reactive Organic Gases (ROGs)	2	54
Nitrous Oxides (NO)	3	54
Carbon Monoxide (CO)	35	None
Particulate Matter less than 10 microns (PM-10)	9.5	82
Particulate Matter less than 2.5 microns (PM-2.5)	2.5	54

Source: Bay Area Air Quality Management District. April 19, 2017. Final 2017 Clean Air Plan. Mangat, T.S. 2010. Source Inventory of Bay Area Greenhouse Gas Emissions – Base Year 2007. Bay Area Air Quality Management District.

3.b. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non- attainment under an applicable Federal or State ambient air quality standard?			X	

Discussion: The proposed Project would not create any considerable net increase in air pollution. The Bay Area is currently under nonattainment status with regards to ozone and particulate matter pollutants. As stated above, there could be an increase in vehicle emissions as a result of increased travel to the parks, resulting in an average of 84 additional vehicle trips per day on weekend days at Pillar Point Bluff, and 24 additional vehicle trips at Quarry Park. Automobiles produce particulate matter emissions in the form of exhaust. In order to exceed the significance threshold for operational-related emissions, the proposed Project would have to create an additional 15 tons per year (tpr) of PM_{10} or 10 tpr of $PM_{2.5}$. The increase in emissions from increased VMT would not reach this threshold.

Source: 1

3.c. Expose sensitive receptors to substantial pollutant concentrations, as defined by the Bay Area Air Quality Management District?				X

Discussion: The proposed Project would not expose sensitive receptors to significant pollutant concentrations.

Source: 1

3.d. Result in other emissions (such as those leading to odors) affecting a significant number of people?			X	

Discussion: Park visitors could be exposed to the objectionable odors of dog waste if dog owners do not collect and dispose of the waste properly. Waste receptacles and potentially the areas around the receptacles could also become centers of objectionable odors if Parks is unable to empty those waste receptacles on a regular basis. The proposed Project calls for strategic placement of waste receptacles and for timely removal of dog waste, and the AMP would involve monitoring for dog waste to ensure it is removed on a regular basis.

Source: Adaptive Management Plan (SMC Parks Department 2021)

5.4 BIOLOGICAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
4.a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?			X	

Discussion: Database searches of Pillar Point Bluff, Quarry Park, and the surrounding areas, in combination with a 2018 Biological Resources Assessment for Quarry Park (WRA 2018), were used to determine that the following special-status wildlife species have the potential to occur during various portions of their life history within the parks' boundaries: Burrowing owl (*Athene cunicularia*, CDFW Species of Special Concern), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*, CDFW Species of Special Concern), San Francisco garter snake (*Thamnophis sirtalis tetrataenia* [SFGS], Federal Endangered, State Endangered, CDFW Fully Protected Species), California red-legged frog (*Rana draytonii* [CRLF], State threatened, CDFW Species of Special Concern), San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*, CDFW Species of Special Concern), Pacific harbor seal (*Phoca vitulina richardsi*, MMPA), and California sea lion (*Zalophus californianus*, MMPA).

Quarry Park

Although not documented within Quarry Park's boundaries, CRLF is documented nearby in water bodies within typical dispersal distance of the park. Thus, CRLF may traverse the park or enter its wetlands during upland movements in the rainy season. Some wetlands within the park could potentially be used as aquatic breeding or non-breeding habitat. SFGS additionally has potential to occur in wetland areas, given its potential to co-occur with CRLF, one of its chief prey species. While off-leash dogs may use trails that pass near potential habitat for both of these species, stipulations of the Pilot Program and AMP (i.e., the installation of fencing and signage) would prevent dogs from entering sensitive habitat areas and disrupting the life cycles of CRLF or SFGS.

While burrowing owl is periodically documented along the San Mateo County Coast, most observations appear to be during the non-breeding season; El Granada is not generally considered to be part of this species' breeding range. Therefore, burrowing owl would likely only use habitats within Quarry Park during brief wintering stopovers when site fidelity is lower as compared to the breeding season. Suitable habitats for this species are limited within Quarry Park, as this species requires open habitats (most of Quarry Park is forested) with California ground squirrel (*Otospermophilus beecheyi*) burrows or surrogates.

Pillar Point Bluff

CRLF has been documented within Pillar Point Marsh and may traverse upland areas during dispersal movements. SFGS additionally has the potential to occur within ESHAs at Pillar Point Bluff, given that it often co-occurs with CRLF as a prey source. Potential habitat for SFGS and CRLF within Pillar Point Bluff is located in ESHAs near the parking lot and is thus not located in areas that would be impacted by proposed off-leash trails. The one possible exception to this is the seasonal wetland to the east of the Jean Lauer trail, which may provide habitat for CRLF during certain portions of the year and is in close proximity to a proposed off-leash trail. While off-leash dogs may use trails that pass near potential habitat for both of these species, stipulations of the Pilot Program (i.e., the installation of fencing and signage) would prevent dogs from entering sensitive habitat areas and disrupting the life cycles of CRLF or SFGS.

Neither the Pacific harbor seal or sea lion occur in areas of the park proposed for off-leash dog use, but because the potential exists for an off-leash dog to enter Ross' Cove, located west of Pillar Point Bluff, possible impacts could occur. Due to the proximity of marine life at Ross' Cove to trails proposed to be included in the Pilot Program, signage is necessary to inform users with dogs of the risk.

Resources applicable to both Pillar Point Bluff and Quarry Park

San Francisco dusky-footed woodrat would typically only occur in off-trail areas, specifically in areas of dense underbrush with plentiful sticks for nest building. Even if off-leash dogs were to traverse off-trail areas, impacts to nests or individuals of this species would be unlikely given the difficulty of accessing nest sites in many cases.

Impacts to special-status nesting birds would be less than significant as a result of this project, due to the fact that nesting habitats for the species in question (i.e., salt-marsh areas, larger trees) are generally not present in areas proposed for off-leash use or are inaccessible by off-leash dogs.

While the Pilot Program and Adaptive Management Plan include strategies to protect ESHAs and avoid impacts, there remains the chance that adverse impacts could occur. However, any possible impacts would be at less than significant levels. By adhering to the conditions described in the AMP, including sufficient signage and fencing, the proposed Project would not have substantial adverse effects on special status species. The AMP outlines a monitoring program of these and other indicators, and includes corrective actions if standards associated with these indicators are not met after several periods of monitoring (Figure 4).

Source: Appendix B

4.b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service or National Marine Fisheries Service?			X	

Discussion: The sensitive natural communities that occur within the two parks are listed and described in the attached Biological Resources Technical Memorandum (WRA 2020). All the sensitive habitat areas would be clearly marked with newly installed signs and dogs would not be allowed off-leash in these areas. Implementation of the AMP (which includes the installation of signage and exclusion

fencing to protect sensitive areas) would determine if further action needs to be taken to help protect the areas from trampling and other disturbances caused by off-leash dogs. **Source:** WRA, Inc. February 2020. Biological Resources Technical Memorandum.				
4.c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			X	
Discussion: Proposed Project activities would not result in the removal, filling, or hydrological interruption of federally protected wetlands. The proposed Project would make use of the existing trail network, so no new construction, aside from installing fencing and signage, would take place and there would be less than significant impacts to protected wetlands. **Source:** Appendix B				
4.d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
Discussion: Dogs currently use the subject trails and have for several decades. Based on the findings of the whitepaper, (Appendix C) it is likely that any changes to wildlife movement that may result from the Pilot Program have already occurred due to years of previous unrestricted dog use. Additionally, minor increases in use by visitors with dogs that may occur as a result of the off-leash Pilot Program would likely not be enough to result in substantial new interference with wildlife movements. Should park visitors comply with the rules and regulations pertaining to off-leash dog recreation, there would be little difference, if any, from the current presence of dogs in the subject parks. The presence of dogs in general is what much of the literature reviewed for the whitepaper (Appendix C)found to deter wildlife and interrupt movements, and the difference between impacts created by dogs on leash versus off-leash are unsubstantiated. As there are already dogs present, no additional impacts are anticipated. The proposed Project's would not interfere with the movement of any fish or wildlife species or impede the use of native wildlife nursery sites. The proposed Project would make use of the existing trail network and would not construct anything that would impede the movement of species throughout the area. The proposed Project would also add fencing and signage to prevent dogs from interfering with wildlife movements. As such, there would be less than significant impacts on short-distance movements of local or transient migratory species. **Source:** Appendix C				
4.e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?			X	

Discussion: Sections 7.1-7.19 of the San Mateo County Local Coastal Program dictate the necessary environmental precautions that must be taken to minimize adverse impacts to sensitive environmental resources, including wetlands and other sensitive habitats. It states that as part of the development review process for permanent land uses, the applicant shall be required to demonstrate that there will be no significant impact on sensitive habitats. When it is determined that significant impacts may occur, the applicant must provide a report prepared by a qualified professional which provides: (1) mitigation measures which protect resources and comply with the policies of the Shoreline Access, Recreation/Visitor-Serving Facilities and Sensitive Habitats Components, and (2) a program for monitoring and evaluating the effectiveness of mitigation measures.

All ESHAs located within Quarry Park and Pillar Point Bluff would be protected in accordance with the policies set forth in Sections 7.1-7.19 of the LCP. All protected areas and plant species listed in the LCP would be addressed and protected. The proposed Project involves evaluation of a Pilot Program and would not conflict with the LCP; therefore, there would be a less than significant impact.

Source: County of San Mateo Local Coastal Program Policies. – June 18, 2013. https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/SMC_Midcoast_LCP_2013.pdf. Accessed February 6, 2020.

4.f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, other approved local, regional, or State habitat conservation plan?				X

Discussion: There is a State Marine Reserve and a State Marine Conservation Area offshore of Pillar Point Bluff. In these areas no recreational or commercial uses are allowed, and thus they are managed to avoid any potential human use impacts on wildlife species. There are no applicable Habitat Conservation or Natural Conservation Community plans for the two parks; therefore, there would be no impact.

Source: 1

4.g. Be located inside or within 200 feet of a marine or wildlife reserve?			X	

Discussion: Sections of Pillar Point Bluff are located within the Fitzgerald Marine Reserve. Off-leash dogs would not be allowed on the beach or near the ESHA beach and tidepool areas; therefore, the impact would be less than significant.

Source: 3

4.h. Result in loss of oak woodlands or other non-timber woodlands?				X

Discussion: There would be no loss of any woodlands as a result of this Project; therefore, there would be no impact to oak woodlands or other non-timber woodlands.

Source: 3

5.5 CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
5.a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Section 15064.5?		X		

Discussion: Results of the California Historical Resources Information System search conducted in March 2020 indicated that there are known, documented historical, archaeological, or cultural resources in or near both parks. There are six documented resources in or near Pillar Point Bluff, and one documented resource near or in Quarry Park (Appendix D). Although the proposed Project does not involve construction activity, there remains the possibility that it could unearth, expose, or disturb known or previously unknown archaeological resources and human remains. If such archaeological deposits are present in either of the two parks and are found to qualify as archaeological resources pursuant to CEQA Guidelines Section 15064, impacts of the proposed project on archaeological resources could be potentially significant. If such previously unknown human remains are present in the proposed project site, any impacts on the human remains resulting from the proposed Project would be potentially significant if those remains were disturbed or damaged.

Such potentially significant impacts would be reduced to less-than-significant levels with implementation of Mitigation Measures CUL-1 and CUL-2, outlined below.

Mitigation Measure CUL-1: Accidental Discovery of Archaeological Resources

If indigenous or historic-era archaeological resources are encountered during proposed project development or operation, all activity within 100 feet of the find shall cease and the find shall be flagged for avoidance. Parks and a qualified archaeologist, defined as one meeting the U.S. Secretary of the Interior's Professional Qualifications Standards for Archeology, shall be immediately informed of the discovery. The qualified archaeologist shall inspect the find within 24 hours of discovery and notify Parks of their initial assessment.

If Parks determines, based on recommendations from the qualified archaeologist, that the resource may qualify as a historical resource or unique archaeological resource (as defined in CEQA Guidelines Section 15064.5), or a tribal cultural resource (as defined in PRC Section 21074), the resource shall be avoided if feasible. Avoidance means that no activities associated with the proposed project that may affect cultural resources shall occur within the boundaries of the resource or any defined buffer zones. If avoidance is not feasible, Parks shall consult with appropriate Native American tribes (if the resource is indigenous), and other appropriate interested parties to determine treatment measures to avoid, minimize, or mitigate any potential impacts to the resource pursuant to PRC Section 21083.2, CEQA Guidelines Section 15126.4. This shall include documentation of the resource and may include data recovery or other measures. Treatment for most resources would consist of, but would not be limited to sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource. The resource and treatment method shall be documented in a professional-level technical report to be filed with the California Historical Resources Information System. Work in the area may commence upon completion of approved treatment and under the direction of the qualified archaeologist.

Mitigation Measure CUL-2: Accidental Discovery of Human Remains

If human remains are uncovered, all visitor use shall immediately halt within 100 feet of the find and the San Mateo County Coroner shall be contacted to evaluate the remains and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the county coroner determines that the remains are Native American, the County shall contact the California Native American Heritage Commission, in accordance with California Health and Safety Code Section 7050.5(c) and PRC Section 5097.98. As required by PRC Section 5097.98, Parks shall ensure that further development activity avoids damage or disturbance in the immediate vicinity of the Native American human remains, according to generally accepted cultural or archaeological standards or practices, until Parks has conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Source: Resource Assessment for Pillar Point Bluff, Go Native Nursery LLC. August 2003, CHRIS search for Pillar Point Bluff and Quarry Park, 2020.

5.b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Section 15064.5?		X		

Discussion: The proposed Project would not impact the significance of any archaeological resources since it would not involve substantial ground disturbing activities. However, in the unlikely event that archaeological resources are found, **MM CUL-1**, described above, shall be implemented.

Source: Appendix D

5.c. Disturb any human remains, including those interred outside of formal cemeteries?		X		

Discussion: The proposed Project would not disturb any human remains since it does not involve substantial ground disturbing activities. However, in the unlikely event that remains are exposed, **MM CUL-2**, described above, shall be implemented.

Source: 1

5.6 ENERGY

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
6.a Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?			X	
Discussion: The proposed Project would not require the use of diesel and other fuels for trucks and equipment since there would not be any construction. In 2011, gasoline and diesel consumption for San Mateo County totaled to roughly 311 million gallons. Annual fuel consumption associated with the proposed project would be from increased vehicle trips discussed in the air quality section. The total approximate fuel consumption from these increased trips would be approximately 10,660 gallons, which is equivalent to roughly 0.000035% of the total gasoline and diesel consumption for San Mateo County in 2011. **Source: 1** https://www.epa.gov/automotive-trends/highlights-automotive-trends-report; accessed 3/27/21				
6.b Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.			X	
Discussion: There would be no construction related energy usage for the proposed Project. There would be negligible increase in energy consumption compared to the total amount of fuel consumed in San Mateo County in 2011. **Source:** 1				

5.7 GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
7.a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the following, or create a situation that results in:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other significant evidence of a known fault?				X
Discussion: There are several known fault lines in San Mateo County as delineated by the California Geologic Survey (California Department of Conservation) with the San Andreas Fault being the only fault identified by the Alquist-Priolo Earthquake Fault Zoning Act (CDC 2015). The Seal Cove Fault is delineated through Pillar Point Bluff, but there has not been recorded displacement along this fault in at least the past 11,700 years. Both parks are currently used for outdoor recreation and the proposed Project is consistent with this use. Both sites are lightly developed with park amenities including, restroom facilities, fencing, picnic sites, playground equipment, and designated trails. No new buildings, structures, or roads would be constructed as a result of proposed Project. As such, the proposed Project would not expose people or structures to any additional risk associated with seismic activity beyond those risks that currently exist in the Project area. **Source: 1**				
ii. Strong seismic ground shaking?				X
Discussion Ground shaking is a key geologic hazard associated with seismic activity and is influenced by soil type. The proposed Project is consistent with existing park uses and would not involve construction of new facilities that would be occupied by park visitors. Thus, the proposed Project would not place people or structures at greater risk to unstable soils and ground shaking that may result from seismic activity. **Source: 1**				
iii. Seismic-related ground failure, including liquefaction and differential settling?				X
Discussion: Soil liquefaction is a phenomenon primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength and ground failure may occur. According to the Association of Bay Area Governments Resilience Program hazards mapping, the two Project parks are located within areas designated as "very low" to "moderate" potential for liquefaction (ABAG 2021a). However, the proposed Project would not add structures or				

other features that would influence liquification hazards at the two subject parks, nor would it place visitors or structures at increased risk from potential liquification hazards. **Source: 1, 4**				
iv. Landslides?				X
Discussion: Potential seismic-related landslide hazards either have not been mapped or are highly unlikely in the two Project parks (ABAG 2021b). Given the low likelihood of seismic-related landslides, the proposed Project would not increase the risk to people and/or structures beyond existing risk levels. **Source: 4**				
v. Coastal cliff/bluff instability or erosion?			X	
Discussion: Quarry Park is not located along the coast and as such has no costal cliffs or bluffs. The proposed Project would not expose recreational users to any new hazards that may results from coastal cliff/bluff instability or erosion at this site. However, Pillar Point Bluff is located along a coastal bluff and is subject to instability and erosion particularly during storm conditions. In addition, bluff instability from large storms/heavy rain fall can be adversely impacted for several years as impacted soil stability is re-established (Cotton, Shires and Associates, Inc. 2016). Given existing hazards, the County of San Mateo Parks Department currently notifies visitors of potential erosion issues (CSMPD 2017) and requires dogs to be kept on a leash near the coastal bluffs (note: per current policies, all dogs must be kept on leash at Pillar Point). In addition, visitors are not permitted to access Ross' Cove from Pillar Point Bluff, which lessens the chance of injury due to bluff instability. The proposed Project would not expose visitors to new hazards, though implementation would result in a continuation of impacts that are less than significant. While additional mitigation measures are not required, continued public notification, temporary closures (if/when needed), and on-leash rules near the coastal bluffs (with adequate enforcement) are recommended. Compliance with all applicable rules and regulations will help mitigate any potential adverse impacts. **Source: 3**				
7.b. Result in significant soil erosion or the loss of topsoil?				X
Discussion: Trail use including on-leash dog walking, is established at both parks. While there is an abundance of literature about trail uses and their contributions to erosion (Hammitt and Cole 1998), there is no evidence that dogs (on- or off-leash) add to or exacerbate trail use-related erosion (Appendix C). The proposed Project and the introduction of off-leash dog use is not anticipated to have any discernable impacts on the amount of soil erosion beyond those that may be currently caused by typical trail-related activities at both parks. **Sources: 1, 5**				
7.c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, severe erosion, liquefaction or collapse?				X

Discussion: The proposed Project would only utilize existing trails and trailheads. No new trails would be constructed, and as such, the proposed Project would not modify any soils or geologic conditions that could cause instability or collapse. Additionally, current park rules and the policies outlined in the AMP would ensure that visitors with off leash dogs remain on trails (any issues of noncompliance may result in greater restrictions regarding off leash privileges). This would limit the potential that new off-leash dog use would impact any potentially unstable soil areas at both parks.

Sources: 1, 7

7.d. Be located on expansive soil, as defined in Table 18-1-B of Uniform Building Code, creating substantial risks to life or property?			X	

Discussion: The proposed Project includes some existing trails that are on expansive soils. However, expansive soils under a trail do not create a significant risk to life or property. Additionally, the proposed Project does not include any new trail construction.

Source: 1

7.e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

Discussion: There are no septic tanks or wastewater disposal systems associated with this Project and therefore there is no impact.

Source: 3

7.f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Discussion: There are no unique paleontological resources or unique geologic features located within the Project area and therefore there would be no impact.

Source: 1

5.8 CLIMATE CHANGE

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
8.a. Generate greenhouse gas (GHG) emissions (including methane), either directly or indirectly, that may have a significant impact on the environment?			X	
Discussion: San Mateo County Parks are attractive open spaces for local residents and others living in the broader San Francisco Bay Area. However, there are other opportunities to hike with dogs off leash in the Bay Area, so this is not the only potential regional destination. Fort Funston, Crissy Field and Land's End in San Francisco, sections of the Marin Headlands in Sausalito, and various locations throughout the East Bay Regional Park System allow off-leash dogs year-round (Appendix A). The proposed Project could bring more people from throughout the area to Quarry Park and Pillar Point Bluff. Those who travel in personal vehicles to the parks would be contributing to GHGs through vehicle emissions but the estimated increase in park visitation would be an additional 84 vehicle trips per day on weekends at Pillar Point Bluff and 24 vehicle trips at Quarry Park. Therefore, the estimated increase in vehicle trips would not exceed the emissions threshold of 1,100 metric tons per year of CO_2 equivalents to require mitigation. **Source:** Appendix A, Bay Area Air Quality Management District, May 2017, CEQA Air Quality Guidelines, Accessed February 25, 2020 https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en				
8.b. Conflict with an applicable plan (including a local climate action plan), policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X
Discussion: The Project would not conflict with the San Mateo County General Plan's Energy and Climate Change Element. **Source:** San Mateo County. San Mateo County Climate Action Plan. June 2013. https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/Energy%20%26%20Climate%20Change%20Element.pdf. Accessed February 14, 2020.				
8.c. Result in the loss of forestland or conversion of forestland to non-forest use, such that it would release significant amounts of GHG emissions, or significantly reduce GHG sequestering?				X
Discussion: There would be no loss or conversion of forestland as a result of the proposed Project. **Source: 3**				

8.d. Expose new or existing structures and/or infrastructure (e.g., leach fields) to accelerated coastal cliff/bluff erosion due to rising sea levels?				X
Discussion: There are no additional structures that would be constructed that would be occupied by visitors as a result of the proposed Project. **Source: 3**				
8.e. Expose people or structures to a significant risk of loss, injury or death involving sea level rise?				X
Discussion: The proposed trails are at high enough elevations that they would not be threatened by expected sea level rise. **Sources: 1, 6**				
8.f. Place structures within an anticipated 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: Neither of the parks within the Project area boundaries are within an anticipated 100-year flood hazard area. There are no additional structures that would be constructed as a result of the proposed Project.				
8.g. Place within an anticipated 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: There are no additional structures that would be constructed as a result of the proposed Project. **Source: 3**				

5.9 HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
9.a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (e.g., pesticides, herbicides, other toxic substances, or radioactive material)?			X	
Discussion: No hazardous materials would be transported, used, or disposed of as a result of proposed Project activities. The proposed Project includes implementation of an off-leash dog recreation Pilot Program and Adaptive Management Plan that focuses on seven indicators of potential environmental impacts, and none of these indicators involve use of hazardous materials. **Sources: 3, 7**				
9.b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
Discussion: The proposed Project does not include the use of or handling of any hazardous materials that could result in the reasonably foreseeable accident conditions that could cause the unexpected release of hazardous materials into the environment. **Source: 3**				
9.c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
Discussion: The closest school to the Project area is El Granada Elementary school which is approximately one-quarter mile from the Project site. There are no hazardous emissions, hazardous materials, substances, or waste associated with the proposed Project. **Source: 1**				
9.d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	

Discussion: The Department of Toxic Substances Control (DTSC) listed an air strip within the boundary of Pillar Point Bluff as a potentially hazardous area. The air strip includes two abandoned underground storage tanks buried beneath a concrete slab. The potential contaminants of concern are diesel and gas in the soil. The DTSC deemed that no further cleanup action was needed as of January 31, 2014. The proposed Project would not create a new significant hazard to the public or the environment from exposure to this site. While the DTSC lists three other potentially hazardous sites in the vicinity of Pillar Point Bluff (one site) and Quarry Park (two sites), none of these sites are within the boundaries or directly adjacent to either Project site.

Source: Department of Toxic Substances Control. Envirostor. Accessed February 14, 2020. https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29.

9.e. For a Project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the Project area?			X	

Discussion: Pillar Point Bluff is adjacent to the Half Moon Bay Airport. The airport land use plan asserts that the highest noise level that **would** be transmitted within the Project area is 60 CNEL (Community Noise Equivalent Level). This noise level is considered low according to the State of California Office of Planning and Research. There would be no change in the current noise level of the subject parks. Excessive noise would not result in any additional safety hazard to park goers. Less than significant impacts would occur.

Source: 1, 8

9.f. Impair implementation of or physically interfere with an adopted **emergency** response plan or emergency evacuation plan?				X

Discussion: The proposed Project would not impair implementation or physically interfere with adopted emergency response or evacuation plans for San Mateo County or any of the local communities in proximity to the two Project sites. Neither Pillar Point Bluff nor Quarry Park are currently used for emergency access. Furthermore, no element of the proposed Project would change or disrupt vehicular or pedestrian traffic in a way that would have the potential to interfere with emergency response or evacuation in the area.

Source: 1

9.g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				X

Discussion: San Mateo County Parks has an existing fire fuel reduction and fire preparedness program to help foster forest health and community safety throughout its parks (San Mateo County 2021). The program includes specific provisions for reducing the risk of wildland fires at Quarry Park and Pillar Point Bluff including vegetative treatments (primarily aimed at controlling eucalyptus) and creating fuel breaks throughout the park (San Mateo County 2020). The proposed Project would not further

expose people or structures, directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires beyond those risks that currently exist. **Source: 1**				
9.h. Place housing within an existing 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
Discussion: There would be no housing constructed as a result of proposed Project activities. **Source: 3**				
9.i. Place within an existing 100-year flood hazard area structures that would impede or redirect flood flows?				X
Discussion: There will be no additional structures constructed as a result of the proposed Project. **Source: 3**				
9.j. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
Discussion: There is an existing dam in Quarry Park. The proposed Project's activities will not change existing conditions or expose people to additional risk of loss, injury, or death involving flooding. **Source: 1**				
9.k. Inundation by seiche, tsunami, or mudflow?			X	
Discussion: In general, both Pillar Point Bluff and Quarry Park are outside of the delineated tsunami hazard area (CA Department of Conservation 2021). The beach at the base of Pillar Point Bluff – Ross' Cove (part of the Fitzgerald Marine Reserve/Montara State Marine Preserve) – is within a tsunami hazard zone but is not within the proposed Project boundary. The small portion of Quarry Park that extends into the community of El Granada (part of the Wicklow Property acquisition) lies within the Tsunami Emergency Response Planning Zone. In the event of a tsunami, the Maritime Tsunami Response Playbook for Half Moon Bay/Pillar Point Harbor recommends that everyone be evacuated from the tsunami area and seeks higher ground. It also recommends a list of possible mitigation measures (e.g., fortify and armor breakwaters, evacuate public/vehicles from water-front areas, etc.) that may help reduce the risk of impacts from tsunamis (San Mateo County Harbor District 2015). However, the San Mateo County General Plan notes that no tsunamis have been known to strike San Mateo County. The proposed Project activities would not exacerbate tsunami risk at either site or authorize off-leash dog recreation at Ross' Cove. Therefore, the impact would be less than significant. **Sources: 1, 4**				

5.10 HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
10.a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash))?		X		

Discussion: Since 2002, the nearby beaches of Pillar Point Harbor and Venice beach have been added to the 303(d) list by the California Regional Water Quality Control Board for impairment from elevated levels of indicator bacteria. San Vincente Creek, which drains into the waters adjacent to the Fitzgerald Marine Reserve, is also on the 303(d) list as impaired by elevated levels of fecal indicator bacteria. As of May 2016, the Fitzgerald Marine Reserve was removed from the 303(d) list (SFBRWQCB 2016).

Poor water quality due to excessive levels of *Enterococcus* bacteria poses potential health risks to people who swim in contaminated waters and marine mammals. *Enterococcus* bacteria are indicators of fecal waste contaminations. To improve water quality, the San Francisco Bay Regional Water Quality Control Board recently developed a Total Maximum Daily Load (TMDL) and Implementation Plan that dictates allowable levels of bacteria that can enter Pillar Point Harbor (SFBRWQCB 2021). The TMDL establishes a geometric mean numeric target of 30 cfu/100mL (colony forming unit per 100 milliliters) for *Enterococci* bacteria levels. The geometric mean is based on a minimum of five samples collected during a 6-week period and calculated on a weekly basis. This standard must be adhered to in order to ensure that water quality is not further degraded.

Dog waste contains *Enterococcus* and other bacteria, including *Cryptosporidium*, *Giardia lamblia*, *Salmonella*, and *E. coli*. All these bacteria are known pathogens that can cause illnesses in humans (GGNRA 2013). These bacteria do not biodegrade and can persist in water for extended periods of time. One water quality study conducted in an off-leash dog area in Jefferson County, Colorado showed that bacterial contamination in the off-leash area exceeded state limits by as much as 20 times the acceptable level as compared to a reference site. The highest contamination levels occurred during the months where park attendance was highest and when rainfall was lowest (Jefferson County 2017).

Dog waste also adds excess nitrogen and phosphorus into the ecosystem, which could affect marine life in the Fitzgerald Marine Reserve. Excess nutrient input into waterways can lead to eutrophic conditions causing algal blooms. The current ordinance requiring all dog owners/guardians to collect and properly dispose of wastes would remain in effect during implementation of the prosed Project. As evidenced by the need for a TMDL, the water quality of the region is already degraded due to several reasons, including, but not limited to, agricultural runoff from within the watershed. While the proposed Project may potentially increase nutrient loads and/or bacterial input into the system, this impact is likely to be minimal in comparison to existing inputs (SFBRWQCB 2017).

To help determine if the proposed Project contributes excess nutrients and/or bacteria into area watery, the AMP calls for water quality testing to be conducted in Pillar Point Marsh and low in the Quarry Park watershed. This monitoring would be used to determine baseline levels of pathogens in the system and to identify if additional mitigation measures are needed. Water quality monitoring would continue throughout the 12-month Pilot Program associated with the proposed Project to determine if coliform and nutrients levels exceed the prescribed limitations. Should water quality sampling determine that fecal coliform levels exceed the acceptable range as determined by the San Francisco Bay Regional Water Quality Control Board, progressive management actions will be required to reduce impacts to water quality. The water quality testing methodology is described in the attached AMP. **Sources:** [GGNRA] Golden Gate National Recreation Area. 2013. Draft Dog Management Plan / Supplemental Environmental Impact Statement. Jefferson County, Colorado. August 9, 2017. Elk Meadow Dog Off-Leash Area Report. https://www.jeffco.us/DocumentCenter/View/9580/Elk-Meadow-Park-DOLA-Final-Report-8-14-17?bidId=. Accessed February 2020. San Francisco Bay Region Water Quality Control Board. 2016. Resolution No. R2-2016-0024 Supporting Implementing a Water Quality Improvement Plan to Achieve Water Quality Objectives for Bacteria in San Vicente Creek, and Recommending Delisting of the Fitzgerald Marine Reserve for Bacteria Pursuant to Section 303(d) of the Clean Water Act. San Francisco Bay Regional Water Quality Control Board. December 2017. Chapter 3: Water Quality Objectives. https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch3.html. Accessed February 2020. SF Bay Water Board. October 2020. Pillar Point Harbor and Venice Beach Bacteria TMDL. https://www.waterboards.ca.gov/rwqcb2/water_issues/programs/TMDLs/PPH_TMDL.html. Accessed October 2020.				
10.b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?				X
Discussion: The proposed Project would not involve any activities that would deplete groundwater supplies or interfere with groundwater recharge. Furthermore, the proposed Project does not involve any substantial ground disturbance that could affect groundwater supply or recharge. **Source: 1**				
10.c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:				
i. Result in substantial erosion or siltation on- or off-site;				X

Discussion: The proposed Project does not involve any earth-moving and/or ground-disturbing activities. As such, it would not alter drainage patterns and/or result in substantial erosion or siltation of area waterways. **Source: 1**				
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;				X
Discussion: Since the proposed Project will not alter existing drainage patterns, it will not substantially increase the rate or amount of surface runoff. **Source: 1**				
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				X
Discussion: The proposed Project would not create new impervious surfaces, nor does it involve grading. As such, it would not increase the amount of runoff entering stormwater drainage systems. **Source: 1**				
iv. Impede or redirect flood flows?				X
Discussion: As noted previously, there would be no change in topography in the two subject parks as a result of proposed Project activities. There will be no change in topography as a result of Project activities, therefore there will be no impact. **Source: 1**				
10.d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?			X	
Discussion: As noted in Hazards and Hazardous Materials, most of Pillar Point Bluff and Quarry Park are outside of delineated tsunami hazard areas. The beach below Pillar Point Bluff (not within the proposed Project boundary) and the small portion of Quarry Park that extends into El Granada toward Half Moon Bay is in a tsunami zone. If this area of Quarry Park were to be inundated in a tsunami event, there would be the potential for dog waste to enter the water supply (assuming visitors do not comply with dog waste collection regulations). County ordinances require dog owners to collect dog waste, so the introduction of waste due to tsunami inundation would be less than significant if dog owners comply. Additionally, and as noted in the San Mateo County General Plan, no tsunamis have been known to strike San Mateo County, further limiting the potential impact from uncollected dog waste during a flood event. **Source: 4**				

10.e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

Discussion: The proposed Project activities would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. That said, as noted previously, dog waste contains harmful bacteria that may influence water quality. The recently approved TMDL for Pillar Point Harbor and Venice Beach sets a geometric mean limit of 30 cfu/100 mL for *Enterocci* bacteria. To help ensure that the proposed Project does not substantially contribute to increases in harmful bacteria levels that would potentially conflict with this established water quality threshold, a water quality monitoring plan has been developed as part of the AMP. This monitoring would be used to determine if runoff from the Project sites contains high levels of bacteria and if so, recommends appropriate corrective actions to ensure these impacts remain less than significant.

Sources: 1, 7

10.f. Significantly degrade surface or groundwater water quality?			X	

Discussion: At Pillar Point Bluff, the Pillar Point Bluff Trail goes through a wetland area on the eastern border of the site adjacent to the Half Moon Bay Airport (Figure 3). Waters from the marsh within the park boundary adjacent to Pillar Point Marsh flow into Pillar Point Marsh, as well as into an aquifer that serves as a major water source for the Montara Water and Sanitary District and the Coastside County Water District (Go Native Nursery LLC 2003). While dog owners are currently responsible for collecting their dog waste and would continue to be under the proposed Project, the potential introduction of excessive uncollected dog waste from off-leash dogs could negatively affect surface water quality in the marshes, and thereby also has the potential to contaminate the underlying aquifer and associated water supplies. Though this is possible, it is unlikely.

The existing trails in Quarry Park include several stream crossings. The Quarry and Vista Point trails each have four stream crossings and the South Ridge trail has one stream crossing. All of these streams are classified as either intermittent or ephemeral. During the wet season when these streams are flowing, there is the possibility of uncollected dog waste entering the surface water stream. Dogs on-leash are currently allowed on these trails and their owners are responsible for collecting dog waste. As noted above in the air quality section, the proposed Project would result in a modest increase of off-leash dogs on these trails, thus the potential increase in uncollected dog waste is expected to be minimal.

At both Pillar Point Bluff and Quarry Park, if water quality testing consistently shows elevated bacteria levels during monitoring for the AMP Parks may implement additional limitations or other corrective actions on dog owners to protect water quality. The additional limitations would be developed as necessary.

Source: Resource Assessment **for** Pillar Point Bluff, Go Native Nursery LLC. August 2003.

10.g. Result in increased impervious surfaces and associated increased runoff?				X

Discussion: There would be no increase in impervious surfaces as a result of proposed Project activities. **No impacts** would occur.

Source: 3

5.11 LAND USE AND PLANNING

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
11.a. Physically divide an established community?				X
Discussion: The Project would not physically divide an established community. **Source: 3**				
11.b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	
Discussion: The San Mateo County Local Coastal Program outlines policies to protect natural communities within the Coastal Zone, including ESHAs. Section 7 of the San Mateo County Local Coastal Program details the policies that are pertinent to ESHAs within the coastal region. Section 7.1 defines the habitats that are considered ESHAs. Section 7.3 outlines the precautions that must be taken to ensure future habitat quality and viability. Sections 7.11 and 7.19 outline the establishment of buffer zones around streams and wetlands. Project activities conform with the requirements of the policies by avoiding ESHAs, establishing buffer zones, and showing that there would be no significant impact to the environment (Section 7.5), and by installing signs that minimize public impacts in sensitive habitats (Section 10.26a). Therefore, the Project would not conflict with the land use policy and there would be a less than significant impact. **Source:** County of San Mateo – Planning and Building Department. June 18, 2013. Local Coastal Program Policies. Accessed February 6, 2020. https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/SMC_Midcoast_LCP_2013.pdf				
11.c. Serve to encourage off-site development of presently undeveloped areas or increase development intensity of already developed areas (examples include the introduction of new or expanded public utilities, new industry, commercial facilities or recreation activities)?				X
Discussion: The proposed Project would not encourage off-site development or increase development intensity. **Source: 1**				

5.12 MINERAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
12.a. Result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State?				X
Discussion: There are no known mineral resources within the Project area. The historic mine that Quarry Park was named after, El Granada Quarry, was operational during the 1940s and was mined for construction stone (Alden 2011). It has not been operational for decades and the San Mateo County General Plan does not list the area on its map of areas of known mineral resources. The Project would not result in the loss of any available mineral resources. **Sources: 1, 2, 9** Alden, A. 2011. What Happens to Old Quarries? August 11, 2011. KQED. Accessed June 16, 2021. https://www.kqed.org/quest/22726/what-happens-to-old-quarries				
12.b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
Discussion: There are no locally important mineral resource recovery sites delineated within the Project area. The Project would not result in the loss of any available mineral resources. **Sources: 1, 2, 9**				

5.13 NOISE

Would the Project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
13.a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
Discussion: Other than signage and fencing, the proposed Project would not involve construction, and therefore would not generate construction related noise. Walking dogs off-leash would generate limited noise, but both subject parks are located near residential areas where dog walking is already occurring. Operating hours at Quarry Park and Pillar Point Bluff fluctuate throughout the year but is generally from sunrise until sunset. Neither park allows overnight use. San Mateo County Ordinance, Chapter 3.68.130 pertains to noise and prohibits annoying noise. San Mateo County Code of Ordinances, Chapter 4.88.330 pertains to exterior noise standards. Exterior noise measured at the location of a sensitive receptor (house, church, school, public library) cannot exceed 55 dBA for 30 minutes or greater in any hour during daytime hours, and this standard decreases to 50 dBA during nighttime hours. It is possible that barking dogs could impact residents who live near the subject parks. To ensure any noise complaints are addressed Mitigation Measure NOI-1 will be implemented. **MM NOI-1:** Parks shall establish a means of monitoring any noise complaints and shall document and report any complaints to the County Health officer. **Source: 1**				
13.b. Generation of excessive ground-borne vibration or ground-borne noise levels?				X
Discussion: The proposed Project would not involve grading or use of other construction equipment and would not expose people to or generate ground-borne vibration or noise. **Source: 1**				
13.c. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure to people residing or working in the Project area to excessive noise levels?		X		
Discussion: Pillar Point Bluff is adjacent to the Half Moon Bay Airport and falls within the scope of its airport land use plan. As noted above in the hazards section, noise levels within the Project area will not exceed 60 CNEL. As referenced above there may be situations when local residents close to the subject				

parks find dog barking annoying. Implementation of MM NOI-1 would ensure this potentially significant impact is reduced to a less than significant level.

Sources: 1, 8

5.14 POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
14.a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
Discussion: The proposed Project does not directly or indirectly propose any residential, commercial, or other type of development activity. It is limited to changing dog-related policies at both Project sites to pilot off-leash use. This type of policy change would not induce substantial population growth in the area and so would have no impact. **Source: 1**				
14.b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X
Discussion: The proposed Project's scope is limited to two existing park sites, Pillar Point Bluff and Quarry Park. There is no housing in either park and there would be no land use changes or new construction that would have the potential to cause displacement from the proposed Project. As such, there would be no impact. **Source: 1**				

5.15 PUBLIC SERVICES

Would the Project result in significant adverse physical impacts associated with the provision of new or physically altered government facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
15.a. Fire protection?			X	
15.b. Police protection?			X	
15.c. Schools?			X	
15.d. Parks?			X	
15.e. Other public facilities or utilities (e.g., hospitals, or electrical/natural gas supply systems)?			X	

Discussion: The Project would legalize off-leash dog recreation during the Pilot Program in two county parks and on designated and signed trails so that environmental impacts are less than significant. Construction in the two parks would be limited to installation of signs and clean-up bag dispensers, and placement of trash receptacles. There is a possibility for a significant impact to parks staff who would be tasked with enforcing the new regulations. However, the impacts would not result in a need to build new park and recreation facilities that would result in potentially significant impacts to biological and physical resources. Impacts would be less than significant.

Appendix A includes estimates increased use in both parks as a result of the Project; 84 additional vehicle trips a day at Pillar Point Bluff, and 24 additional trips per day at Quarry Park. These increases in use would not create additional demand for fire, police, or parks services such that new facilities.

Source: 1

5.16 RECREATION

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
16.a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated?			X	
Discussion: Prior to Pillar Point Bluff and Quarry Park being incorporated into the San Mateo County Parks system, both on-leash and off-leash dog access were allowed. However, after their incorporation in the park system, all forms of dog access were prohibited by county ordinance. In 2018, the County amended the County Ordinance Code to authorize on-leash dog recreation in specified parks. The amendment to the County Ordinance Code still prohibited off-leash dog recreation. Still, use with off-leash dogs persisted. Through the Project, specified trails will be available for use by people with off-leash dogs, but the Project will also establish behavior controls that have not previously been in place. The extent to which use would potentially increase, or possibly decrease, by allowing off-leash dogs with the initial controls proposed, remains uncertain. Still with the Pilot Program and an adaptive management plan in place, the parks and the established controls can be monitored and adjusted by Parks, in part, to limit physical deterioration of the facilities and the environment, such that impacts would be less than significant. **Source: 3**				
16.b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
Discussion: The Project would not involve any substantial construction or expansion of recreational facilities. **Source: 3**				

5.17 TRANSPORTATION

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
17.a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, and parking?			X	
Discussion: The proposed Project would not substantially increase local vehicle traffic and therefore would not impact any circulation systems. As noted above, visitor use estimates indicate 84 additional vehicle trips during weekend days at Pillar Point Bluff, and 24 additional trips during weekend days at Quarry Park. **Source: 1**				
17.b. Would the Project conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b) *Criteria for Analyzing Transportation Impacts*?				X
Discussion: The proposed Project would not result in 110 new additional vehicle trips, thus no further analysis pertaining to potential VMT impacts is required, and no impacts would occur. **Source: 1**				
17.c. Substantially increase hazards to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
Discussion: The proposed Project would not impact design features or incompatible uses since it would not involve any changes to roads in the project vicinity from which parks would be accessed. No impacts would occur. **Source: 1**				
17.d. Result in inadequate emergency access?			X	
Discussion: The proposed Project would not impact emergency access. It would not result in any new construction or alteration of circulation patterns at the subject parks. Nor would it result in substantial increases in additional vehicular traffic, per results of visitor use estimates discussed above. Impacts would be less than significant. **Source: 1**				

5.18 TRIBAL CULTURAL RESOURCES

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
18.a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)		X		
Discussion: Review of historic registers and inventories identified 11 recorded cultural resources in Pillar Point Bluff Park and one in Quarry Park. One of the sites in Pillar Point is on both the National and State Registers of Historic Places. None of these cultural resources are located in close proximity to trails. However, wandering off-leash dogs could potentially disturb sites, and **MM CUL-1,** discussed above, would be implemented to ensure impacts are less than significant. **Source: 1**				
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. (In applying the criteria set forth in Subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.)		X		
Discussion: As stated above, there were no known resources indicated in the Sacred Lands file of the Native American Heritage Commission. There would be less than significant impacts with incorporation of MM CUL-1 and CUL-2.. **Source: 1, Appendix D**				

5.19 UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
19.a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				X
Discussion: The proposed Project would not require the construction or expansion of wastewater treatment facilities. It would not involve construction of any bathrooms, day use or overnight facilities that could increase demand for wastewater facilities. No impacts would occur. **Source: 1**				
19.b. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
Discussion: There are no expanded water demands required by the proposed Project. It would not involve construction of any bathrooms, day use or overnight facilities that could increase demand for wastewater facilities. No impacts would occur. **Source: 1**				
19.c. Result in a determination by the waste-water treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?				X
Discussion: As noted in the discussion for significance threshold 19a, the proposed Project would not increase demand on the wastewater treatment provider. No impacts would occur. **Source: 1**				
19.d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
Discussion: The proposed Project could generate an increase in solid waste, dog waste in particular, following implementation of the dogs off leash program. However, these amounts would be negligible				

in comparison to the capacity of Ox Mountain Sanitary Landfill, the landfill serving the Project area. The landfill currently has capacity to serve its service areas until 2039. No impacts would occur.

Source: 1

19.e. Comply with Federal, State, and local statutes and regulations related to solid waste?			X	

Discussion: The San Mateo County Parks Dog Ordinance requires that owners collect and properly dispose of their dogs' waste. It is anticipated that despite trailhead signs and enforcement efforts, some dog owners will still not comply. The Adaptive Management Plan includes measures that require monitoring of how much dog waste is being left on site and the presence of fecal coliform bacteria in nearby water bodies. If dog waste is not removed in sufficient amounts or fecal coliform levels get too high, there would be progressive enforcement and the possible reduction and loss of off leash privileges. The impact of those in noncompliance is anticipated to create a less than significant impact.

Sources: 1, 7

5.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
20.a. Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
Discussion: As discussed above under item 17d the proposed project would not impair with any emergency response or evacuation plan. Impacts would be less than significant. **Source: 1**				
20.b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
Discussion: The proposed Project would not alter the existing fire risk conditions related to this topic because there is no construction of new facilities in wildfire prone areas, and the estimated increases in visitor use would be modest; 84 new vehicular trips at PPD, and 24 additional vehicle trips at Quarry Park. There would be no impact. **Source: 1**				
20.c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X
Discussion: There would be no installation or maintenance of associated infrastructure that would exacerbate fire risk. There would be no impact. **Source: 1**				
20.d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X
Discussion: The proposed Project would not impact the existing wildfire risks posed in the Project area. There would be no impact. **Source: 1**				

5.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
18.a. Does the Project have the potential to degrade the quality of the environment, significantly reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
Discussion: With implementation of the proposed changes to the dog ordinance, the proposed Pilot Program , and with adaptive management strategies and additional signage, the proposed Project would not significantly degrade the quality of the environment or impact any special status plant or animal species. The impacts of the proposed Project on the environment would be limited to the areas around already established trails that currently allow on-leash dogs throughout their extent. The allowance of off-leash dogs in these areas would not significantly increase the impact of dogs on the environment. Mitigation Measures CUL-1 and CUL-2 regarding unanticipated discovery of cultural resources during proposed Project implementation would ensure impacts be less than significant. Therefore, impacts would be less than significant with mitigation incorporated as a result of the proposed Project. **Source: 1,** WRA, Inc. February 2020. Biological Resources Technical Memorandum.				
18.b. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively consider- able" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)				X
Discussion: The individually limited impacts of this Project are not cumulatively considerable. All potential impacts assessed above are less than significant and would not combine to create more significant impacts that would require mitigation. **Source: 1**				
18.c. Does the Project have environmental effects which would cause significant adverse effects on human beings, either directly or indirectly?				X
Discussion: Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the				

project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality and noise. The proposed Project would not create any considerable net increase in air pollution or expose sensitive receptors to toxic air contaminants. Implementation of Mitigation Measure NOI 1 would reduce noise impacts from off-leash dogs on nearby residential areas to a less than significant level. No other direct or indirect adverse effects on human beings have been identified. Therefore, the Project would not result in adverse environmental effects which would cause significant adverse effects on human beings.

Source: 1

6.0 RESPONSIBLE AGENCIES

AGENCY	YES	NO	TYPE OF APPROVAL
U.S. Army Corps of Engineers (CE)			
State Water Resources Control Board			
Regional Water Quality Control Board			
State Department of Public Health			
San Francisco Bay Conservation and Development Commission (BCDC)			
U.S. Environmental Protection Agency (EPA)			
County Airport Land Use Commission (ALUC)			
CalTrans			
Bay Area Air Quality Management District			
U.S. Fish and Wildlife Service			
Coastal Commission			
City			
Sewer/Water District:			
Other:			

MITIGATION MEASURES		
	Yes	**No**
Mitigation measures have been proposed in Project application.	X	
Other mitigation measures are needed.		X
The following measures are included in the Project plans or proposals pursuant to Section 15070(b)(1) of the State CEQA Guidelines:		

6.1 DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and in ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant" or "Potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier IER or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

7/13/21
Date

Nicholas B. Calderon
Printed Name

7.0 PRIMARY CHECKLIST INFORMATION SOURCES

1. Professional judgement and expertise of the environmental/technical specialists evaluating the Project, based on a review of existing conditions and Project details, including standard construction measures.
2. San Mateo County General Plan, 2013. https://planning.smcgov.org/documents/general-plan-policies
3. Personal Communications Nicholas Calderon and Hannah Ormshaw at San Mateo County Parks Department, January and February 2020.
4. California Office of Emergency Services. 2021. My Hazards. https://myhazards.caloes.ca.gov/. Most recently accessed January 2021.
5. WRA, Inc. 2021. Whitepaper on Dog Impacts to Natural Resources.
6. County of San Mateo. 2018. Sea Level Rise Vulnerability Assessment.
7. WRA, Inc. 2021. Adaptive Management Plan.
8. City/County Association of Governments of San Mateo County. 2014. Final Airport Land Use Compatibility Plan for the Environs of Half Moon Bay Airport.
9. California Department of Conservation. 2016. Mines Online. https://maps.conservation.ca.gov/mol/index.html. Most recently accessed January 2021.

8.0 LIST OF PREPARERS

WRA, Inc.:

John Baas, Project Manager and Senior Environmental Planner

Leslie Lazarotti, Principal and Senior Coastal Permitting Specialist

Paul Curfman, Senior Environmental Planner

Brian Kearns, Senior Terrestrial Biologist

Eliza Schlein, Biologist

Shawn Carroll, Technical Editor

9.0 REFERENCES

Bay Area Air Quality Management District. April 19, 2017. Final 2017 Clean Air Plan.

Bay Area Air Quality Management District, May 2017, CEQA Air Quality Guidelines

California Coastal Commission. 2019. Maps – Coastal Zone Boundary. https://www.coastal.ca.gov/maps/czb/. Accessed 24 January 2020.

California Department of Conservation. 2016. Mines Online. https://maps.conservation.ca.gov/mol/index.html. Most recently accessed January 2021.

California Office of Emergency Services. 2021. My Hazards. https://myhazards.caloes.ca.gov/. Most recently accessed January 2021.

Caltrans. 2020. Scenic Highways. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed January 22, 2020.

City/County Association of Governments of San Mateo County. 2014. Final Airport Land Use Compatibility Plan for the Environs of Half Moon Bay Airport.

County of San Mateo. 2018. Sea Level Rise Vulnerability Assessment.

County of San Mateo – Planning and Building. 2020. Coastside Design Review Committee. https://planning.smcgov.org/coastside-design-review-committee. Accessed January 22, 2020.

County of San Mateo – Planning and Building Department. June 18, 2013. Local Coastal Program Policies. https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/SMC_Midcoast_LCP_2013.pdf. Accessed February 6, 2020.

Department of Toxic Substances Control. Envirostor. https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29. Accessed February 14, 2020.

[GGNRA] Golden Gate National Recreation Area. 2013. Draft Dog Management Plan / Supplemental Environmental Impact Statement.

Jefferson County, Colorado. August 9, 2017. Elk Meadow Dog Off-Leash Area Report. https://www.jeffco.us/DocumentCenter/View/9580/Elk-Meadow-Park-DOLA-Final-Report-8-14-17?bidId=. Accessed February 2020.

Resource Assessment for Pillar Point Bluff, Go Native Nursery LLC. August 2003.

San Francisco Bay Regional Water Quality Control Board. December 2017. Chapter 3: Water Quality Objectives. https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch3.html. Accessed February 2020.

San Mateo County. San Mateo County Climate Action Plan. June 2013. https://planning.smcgov.org/sites/planning.smcgov.org/files/documents/files/Energy%20%26%20Climate%20Change%20Element.pdf. Accessed February 14, 2020.

WRA, Inc. February 2020. Biological Resources Technical Memorandum.

WRA, Inc. 2021. Adaptive Management Plan.

WRA, Inc. 2021. Whitepaper on Dog Impacts to Natural Resources.

APPENDIX A – VISITOR USE ESTIMATES WHITEPAPER

Visitor Use Estimates for Dogs Off-Leash related use

Background and Purpose

The San Mateo County Parks Department (Parks) is seeking to launch a pilot program in which off-leash dog recreation would be introduced to specified San Mateo County Parks. The pilot program would authorize off-leash dog recreation on specified trails in Quarry Park and on the Pillar Point Bluff for 12 months. Should the pilot program prove to be effective and not produce adverse environmental impacts, Parks would look to make the expanded uses permanent. A Dog Work Group, comprised of members of the dog-owner, environmentalist, mountain biker, and equestrian communities, as well as Parks Commissioners and Parks staff developed a recommendation for the aforementioned program and worked to identify potential county park locations where off-leash dog walking can be piloted and evaluated.

Parks has committed to exploring various dog management strategies to make currently specified disparate approaches consistent with the County Ordinance Code. Current County ordinance sections prohibit dogs off-leash in County parks; yet, Parks acquired properties from other agencies that historically allowed dogs.

As part of their efforts to evaluate this pilot program, Parks has developed a whitepaper that summarizes research literature on the impacts of dogs and dogs off-leash (for which few studies are available) on biological resources and water quality. Parks is also preparing an Adaptive Management Plan (AMP) to allow some flexibility in management response as the Pilot Program is evaluated. When finalized, the AMP will become the Project Description for the Mitigated Negative Declaration (MND) that is being prepared to evaluate potential environmental impacts of the Pilot Program.

The MND will evaluate potential environmental impacts for the 20 topics in the updated CEQA Guidelines Appendix G checklist. For some of these topics potential impacts are tied directly to vehicle visits to the subject parks. In particular, air quality, greenhouse gases, noise and traffic can all be affected by how much vehicle use is associated with visitor use. Thus, to understand how these environmental topics are affected by the Pilot Program requires an understanding of how much, if any, visitor use will increase at the subject parks as a result of allowing dogs off-leash. The purpose of this white paper is to develop reasoned estimates of future visitor use as a result of dogs being allowed off-leash at Pillar Point Bluff and Quarry Park.

Similar to the literature on the impacts of dogs and dogs off-leash on biological resources and water quality, there is also a lack of research on dog and dog off-leash use levels in parks and recreation settings. Given the lack of research, quantifying anticipated use from a new dog-related policy is challenging and requires a broad review of other data points to generalize potential use outcomes. Various sources of information were researched and reviewed to help inform the potential visitor use implications associated with implementation of an off-leash dog policy. The list of sources referenced throughout this white paper is not exhaustive, but generally captures the current context within which off-leash dog use may be considered. Based on this literature and other general information, this white paper establishes a range of potential use outcomes that may reasonably be expected during Park's implementation of an off-leash dog policy at Quarry Park and Pillar Point Bluff during the 12-month pilot period and beyond (assuming the policy extends beyond the pilot period).

Visitor Use – Dog Walking

The popularity of dog parks (or more generally public parks that allow either on- and/or off-leash dog opportunities) has grown substantially in the past 25 years. This is due in part to dog-ownership trends in the U.S. In 2016, more than 38 percent of all households in the U.S. owned at least one dog and about 40 percent of these households had two or more dogs. As noted by the American Veterinary Medical Association (AVMA), this is the highest rate of dog ownership since they began tracking ownership in 1982 (AVMA 2018). As dog ownership has increased, so has the demand for new areas for dog-owners to socialize and exercise their dogs.

From a park and recreation perspective, the demand for dog-related opportunities has largely focused on new dog parks, as well as general use policies regarding on- and/or off-leash dog use in existing parks and recreation areas. For purposes of this assessment, a dog park is an area specifically designated and managed for dog use, and typically includes a fenced-enclosure (AKC 2008). Dog use related policies typically establish appropriate rules and regulations for dog use in other areas of parks and recreation areas (i.e., outside of designated dog parks). The number of dog parks has grown tremendously in the previous 25 years, yet demand remains high for new dog facilities and opportunities, in particular off-leash use areas (TPL 2019).

While the supply has increased and demand remains high for dog-related opportunities, there is a noted absence of empirical studies that quantify use of dogs in park and recreation areas (Gomez 2013). Much of the research associated with dog use in parks focuses on social parameters (e.g., conflict, satisfaction), health benefits (e.g., comparison of walking participation between dog owners and non-owners), design recommendations, and environmental impacts. The research that does exist regarding dog use levels tends to rely on self-reported data and information from visitor surveys instead of other quantitative count methodologies. As such, some studies report dog use levels in term of frequency (i.e., how often a dog-owner visits a park), while others report visits (i.e., how many times a dog-owner visits a park in a given time frame). Results from several of these studies are summarized below and include the following:

- Per the California Statewide Comprehensive Outdoor Recreation Plan (SCORP), more than 20 percent of visitors in the Greater San Francisco Bay Area (which includes San Mateo County) report using a dog park during their last visit to a park. Additionally, nearly 17 percent of visitors report dog walking as one of the activities they participate in on a typical visit to a park (5.5 percent of visitors indicate dog walking is their primary activity) (CSP 2014).
- Sausalito Dog Park (Sausalito, CA) is used by 300 dogs per day (AKC 2008).
- Point Isabel Regional Shoreline receives an estimated 1 million dog visits per year (Krohe 2005, EBRPD 2018.
- At dog parks in Seattle, WA, use ranges from 10-170 visitors with dogs per day (City of Seattle 2017).
- In Edmonton, Canada, daily use is estimated to be over 1,500 total visits across approximately 40 designated dog use sites in the city (City of Edmonton, 2017; B. Boutilier, pers. comm., January 27, 2021).
- In Seattle, WA, about 71 percent of off-leash dog areas typically receive 10 to 50 daily visits and 21 percent of off leash areas receive 50 to 170 daily visits (City of Seattle 2017)
- A case study of use at Colonial Greenway Dog Park in Norfolk, VA, indicated that dog owners visited the park an average of four times per week (Gomez 2013).
- Frequency of visitors to dog parks in Texas and Florida as self-reported by dog owners (Lee, Shepley and Huang 2009):

    - Daily = 15.6 percent
    - 4-5 times per week = 14.0 percent
    - 2-3 times per week = 19.2 percent
    - Once per week = 24.4 percent
    - Less often = 26.8 percent
- Frequency of visitors to dog parks/off-leash areas in Surrey, Canada (City of Surrey 2012):
    - Daily = 10 percent
    - Once per week = about 34 percent
    - Once per month = about 50 percent
- Frequency of visitors to dog parks in Kelowna, Canada (City of Kelowna 2016):
    - Daily = 10 to 34 percent
    - At least once per week = 26 to 47 percent
    - At least once per month = 32 to 49 percent
- Frequency of visitors to dog parks in Ann Arbor, Michigan (City of Ann Arbor 2015):
    - Daily = 1.9 percent
    - Multiple times per week = 6.8 percent
    - At least once per month = 7.6 percent
    - A few times per year = 16.6 percent
- Frequency of off leash dog-trails in central Massachusetts (Walsh 2020)
    - Daily = 29.9 percent
    - Every 2-3 days = 23.6 percent
    - Once per week = 16.9 percent
    - Once every two weeks = 8.8 percent
    - Once per month = 7.4 percent
    - A few times per year = 13.4 percent
- Golden Gate National Recreation Area Final Dog Management Plan does acknowledge an overall increase in use in all types of recreation, including dog walking. Specifically, National Park staff have observed increases in the number of private and commercial dog walkers, reported conflict between users with and without dogs, and the need for additional education and enforcement related to dog uses (NPS 2016).

As noted by the study results above, frequency of use (and correspondingly use levels) tends to be highly variable. Several key factors across these studies likely contribute to dog/dog-off leash use levels at parks and other recreation areas, including, the availability of opportunities for off-leash dog walking, the size of the dog-owning population that wants to allow their dogs off-leash, and the proximity of parks used for off-leash dog walking. In other words, off-leash use at parks and other recreation areas is dependent on the availability of sites that allow/facilitate off-leash use (i.e., supply), 2) a population of dog-owners who want off-leash opportunities (i.e., demand), and finally the proximity of the population to the supply of sites that allow off-leash use.

Availability of Off-Leash Dog Opportunities

Public interest and advocacy for dog parks dates to the late 1960s and early 1970s. San Francisco and Berkeley were at the forefront of this emerging demand and created some of the first dog-centered parks in the late 1907s and early 1980s. Much of this early demand stemmed from a change in the relationships between dogs and their owners (generally from a utilitarian relationship to more of a valued family member relationship), as well as demographic changes in the U.S. (specifically, the shift from rural to urban areas and the corresponding “urban sprawl” that occurred to accommodate this shift). In the time since the first dog parks were experimented with in the Bay Area, dog parks and other

related opportunities (e.g., off-leash areas) have been created across the country and continue to be in high demand (Greenberg 2020).

In the past 10 years, (2009 – 2018), there has been a 40 percent increase in the number of dog parks in the U.S. The majority of this growth has been focused in the 100 largest cities in the U.S. (TPL 2018). The history of parks and recreation development points to both the availability and location of parks as drivers of visitor use levels. From the earliest days of the parks movement (primarily in dense, urban areas), the demand for and development of "close-to-home" outside areas for recreation resulted in increased levels of use at these areas over the past 100 years (Garvin 2011). Relatedly, the more recent demand and development of dog parks has seen a similar expansion of use levels (i.e., "if you build it, they will come").

This is not to imply that dog-owners did not visit parks and other outdoor recreation sites without their dogs before the development of designated dog parks; rather, the designation of dog parks and related off-leash policies, normalized and legitimized this use. Essentially, the availability of designated dog-parks and other off-leash policies provides the opportunity for dog-owners to participate in an activity that did not previously exist, at least from an officially sanctioned perspective in many communities (many parks and recreation districts prohibited dogs at all sites).

Population of Dog Owners Seeking Off-Leash Opportunities

In California, about 41 percent of households own at least one dog. This is slightly higher than the national average of 38 percent (AVMA 2018). In general, dog owners tend to report higher levels of walking compared to non-dog owners (Sehatzadeh, Noland, and Weiner 2011; Lail, McCormack, and Rock 2011; Cutt et al. 2008). This is also the case in California (Yabroff, Troiano, and Berrigan 2008). These dog owners actively seek opportunities to socialize and exercise their dogs in a range of settings, including parks and other outdoor areas; however, not all dog-owners seek off-leash opportunities.

Gaging demand for off-leash opportunities can be measured in two ways (per existing and available research): 1) the percentage of dog-owners who report wanting off-leash opportunities, and 2) the percentage of dog-owners who disregard existing on-leash rules and regulations and let their dogs off-leash regardless of these rules/regulations. While rule-breaking does not always correspond to legitimate demand, in this case, dog-owners are likely responding to the lack of off-leash opportunities by "creating" their own. Several studies have used these measures, including:

- In Surrey, Canada, 38 percent of survey respondents (park visitors) indicated that they let their dogs off-leash (before implementation of off-leash policy). Approximately 80 percent of survey respondents indicated they have observed dogs off-leash with 25 percent indicating they observe this frequently (City of Surrey 2012).
- In Olympia, WA, about 70 percent of respondents to dog use survey indicated a preference for off-leash opportunities with nearly 23 percent of respondents indicated they preferred off-leash dog trails compared to other types of opportunities (e.g., enclosed dog park) (City of Olympia 2019).
- In Seattle, WA, 66 percent of surveyed dog owners indicated a preference for off-leash compared to on-leash opportunities in parks. Nealy 40 percent admit to letting their dogs off leash in non-designated off-leash areas (City of Seattle 2017).
- Survey of dog owners on nature trails in central Massachusetts found that 75 percent of respondents did not leash their dog for the full duration of their visit despite on-leash regulations (Walsh 2020).

Across nearly all of these studies, a majority of dog-owners seek or prefer off-leash opportunities for their dogs. These high levels of demand then drive existing (both on- and illegal off-leash use) and future (legal off-leash) use of parks and recreation areas, in particular once these areas create or adopt official off-leash policies.

Proximity of Off-Leash Areas

From the reviewed literature, between 10 and 34 percent of dog owners generally report a visit a dog park on a daily basis (note: in one study, only 2 percent of dog owners indicated visiting a dog park on a daily basis; City of Ann Arbor 2015). The remaining percentage of dog owners tend to visit dog parks less frequently (e.g., once a week, once a month, a couple of times a year). The variability in visitation frequency is most commonly attributed to proximity; that is, dog owners who live nearby existing dog parks are more likely to visit on a more frequent basis compared to dog owners who must drive longer distances to access a dog park. In particular, studies have found the following:

- Research has shown that there is a positive correlation between owning a dog and walking; that is, dog owners tend to report higher levels of walking than non-dog owners (Sehatzadeh, Noland, and Weiner 2011).
- Dog owners tend to report higher levels of walking compared to non-dog owners, in particular in their neighborhood and local parks (Lail, McCormack, and Rock 2011; Cutt et al. 2008).
- Across multiple studies, access to nearby dog (on- and off-leash) parks is highly correlated with the frequency of use of these areas (Westgarth, Christley and Christian 2014).
- The majority of dog owners (74 percent) in study of dog parks In Texas and Florida reported providing outdoor exercise for their dogs at least once per day with most of this activity occurring at dog and other nearby parks, in their immediate neighborhood, and in their backyards (Lee, Shepley and Huang 2009).
- In Ann Arbor, MI, 70 percent of respondents to dog park survey indicated they are more likely to use a dog park if it was less than a quarter of a mile from their residence (City of Ann Arbor 2015).
- In Seattle, WA, 81 percent of surveyed dog owners indicated that proximity to home was important in their decision to visit a dog park/park that allows dog use (City of Seattle 2017).

In many of the studies referenced above, respondents indicated that their dog park usage would increase as the distance of the dog park from their home decreased. Proximity and related factors, including walkability and safety, tends to have a substantial influence on not only dog park, but park use in general (Zuniga-Teran et al. 2019). This is further evidenced by the push in many urban areas to provide outdoor recreation opportunities with a reasonable walking distance (e.g., 10-15 minutes) of every resident (NRPA 2020). Given this relationship between proximity and frequency of use, the location and size of the nearby population directly influences overall use levels at dog parks and other outdoor areas that allow dog use (either on- and/or off-leash).

Pilot Program Parks

Under the pilot program, Parks would allow off-leash dog use on designated trails, including 2.66 and 6.16 miles of trail, at Pillar Point Bluff and Quarry Park, respectively. Dog use is currently allowed at both parks, though owners must keep their dogs on-leash at all times (as noted below).

Pillar Point Bluff is a 220-acre park along the Pacific Ocean coastline that provides opportunities for hiking, jogging, bike riding, and sightseeing. On-leash dog-walking is currently allowed, though dogs are not permitted on the beach. The park includes a 10-car parking lot on Airport Street with a trailhead that provides access to the park. There is also street parking and trail access in the Seal Cover neighborhood at two trailheads located at the intersections of Ocean and Bernal and Alvarado and Bernal.

Quarry Park is a 517-acre park north of Half Moon Bay that has playgrounds, picnic areas, trails, and other visitor use amenities. Dogs are allowed at the park, except in the playground areas, but must currently be kept on leash. The park includes a parking lot at its main entrance at the intersection of Columbia Street and Santa Maria Avenue. Trail access is also available from adjacent neighborhoods.

Recent observations at the three trailheads at Pillar Point Bluff indicate that on average about 48 percent of current park visitors enter the park with their dogs on-leash (based on data provided by Parks). These observations were conducted on eight days in January and February across both weekdays and weekend days. Ranger interactions indicate that at least a portion of existing dog-related use at each park is from visitors who allow their dogs off-leash (against current policies). In January through October 2019, rangers made 85 and 41 visitor contacts at Pillar Point Bluff and Quarry Park, respectively, for dogs off-leash. These contacts for off-leash policy violations represent a very small percentage of total use at each site (total use at each park is addressed below).

San Mateo County Population Trends

Since 2010, the population of San Mateo County has generally increased (Table 1). While there has been a slight decrease in population the last couple of years, the total population is generally trending upwards and will likely continue to grow.

Table 1. San Mateo County – Estimated Population, Households, and Households with Dogs (2010 – 2019).

Year	Population[1]	Households[1]	Households with Dogs[2]
2010	719,699	257,509	105,579
2011	728,344	256,526	105,176
2012	739,224	258,888	106,144
2013	748,661	258,791	106,104
2014	757,204	257,473	105,564
2015	765,055	263,280	107,945
2016	767,906	263,445	108,012
2017	768,901	264,185	108,316
2018	768,681	259,654	106,458
2019	766,573	265,003	108,651

[1] *Source: US Census Bureau 2019a, 2019b.*
[2] *Source: Calculated based on AVMA 2018.*

As population increases, so does the number of households who own at least one dog (population and dog ownership are both trending higher). In California, more than 41 percent of households own at least one dog, slightly higher than the national average (the national average number of dogs per household is approximately 1.6) (AVMA 2018). Given the current estimate of number of households in San Mateo

County, as well as dog ownership statistics for California, there are likely about 108,651 dog-owning households (Table 1) and over of 170,000 dogs in the County.

In San Mateo County, approximately 24 percent of residents are Hispanic or Latino. The California SCORP indicates that there are slight differences in participation rates and preferences between Hispanic and non-Hispanic park visitors (CSP 2014):

- Participation in dog walking (in general): 15.5 percent vs. 14.3 percent
- Participation in dog walking (typical trip to park): 3.9 percent vs. 4.5 percent
- Use of a dog park: 19.3 percent vs. 18.5 percent
- Importance of off-leash opportunities in parks (scale of 1 [“not at all important”] to 5 [“very important”]): 3.42 vs. 3.4

In general, most of these differences are negligible and are unlikely to broadly influence dog use in parks in the county. Several other studies have explored the relationships between socio-demographic (age, gender, education level, etc.) and environmental (neighborhood design, distance from park, etc.) attributes and dog walking (McCormack et al. 2011). While some of these studies found that one or more of these other attributes may influence dog walking, they likely make little difference at the population level and are most appropriately applied at the local level.

In the long-term, the Association of Bay Area Governments projects a 27 percent increase in the population of San Mateo County by 2040 (ABAG 2017), while the California SCORP expects about a 29 percent population increase in the greater San Francisco Bay area, including San Mateo County, in the 50-year period from 2010 to 2060 (CSP 2014). There is very little information on longer-term trends related to dog walking and population growth. National projections of day hiking under various scenarios range from a 3 to 10 percent increase from 2008 to 2060. While day hiking is broader than dog-walking, ease of activity and general availability of sites (no special amenities/facilities needed) means they are likely comparable or within the same range of increase (USFS 2012).

Regional Off-Leash Dog Opportunities

Outside of San Mateo County, there are ample opportunities for dog-owners to visit a park or recreation with their dog either on- and/or off-leash. As noted previously, the dog park movement began in the San Francisco Bay area and resultingly the area has seen tremendous growth in the number of parks and recreation areas that allow dog use (both on- and off-leash) in the past 40 years. In the four-county area that includes Marin, San Francisco, Santa Clara, and San Mateo counties there are more than 130 parks and recreation areas that allow dog use (either on-leash and/or off-leash). Table 2 includes a summary of available regional parks and recreation areas that allow dog use. Note: Table 2 is not an exhaustive summary of all currently available dog opportunities; rather, it summarizes the sites for which information on dog use is most readily available.

Table 2. Regional Dog Opportunities at Parks and Recreation Areas

County	Number of Sites[1]	Miles of Trail	Acres of Beach or Other Dog Play areas
Marin	52	79.5	1,485
San Francisco	38	8.2	54
Santa Clara	16	NA	4.4

San Mateo[2]	23	1	34.2

[1] *Number of sites that allow on- and/or off-leash dog use.*
[2] *San Mateo County summary does not include the Pilot Program sites.*

Estimate of Current Use in Pilot Program Parks

The Covid-19 pandemic has caused an influx of visitors to outdoor recreation sites and use areas around the county. Based on traffic counter data from 2018 through early 2021, both Pillar Point Bluff and Quarry Park also experienced increases in use during the pandemic (see Figure 1 and the general upward trend in monthly vehicles counts at the parking areas at Pilar Point Bluff and Quarry Park). With the exception of the Bernal parking area (incomplete data for 2020), the other three parking areas at the two sites experienced increases in use between pre-pandemic (December 2018 – December 2019) and pandemic (February 2020 – January 2021) months. Average monthly use based on vehicle counts rose more than 50 percent at the Quarry Point parking area, about 60 percent at the Pillar Point Bluff Ocean parking area, and approximately 70 percent at the Pillar Point Bluff Airport parking area. The counts summarized in Figure 1 only represent visitors who drove to the pilot program sites and do not capture visitors who walk in from adjacent neighborhoods. It is reasonable to expect that there was at least a similar increase in visitors who walk to the increase in visitors who drove to the sites during the Covid-19 pandemic given the proximity and ease of access (they do not require parking to access the sites) of visitors from the adjacent neighborhoods.

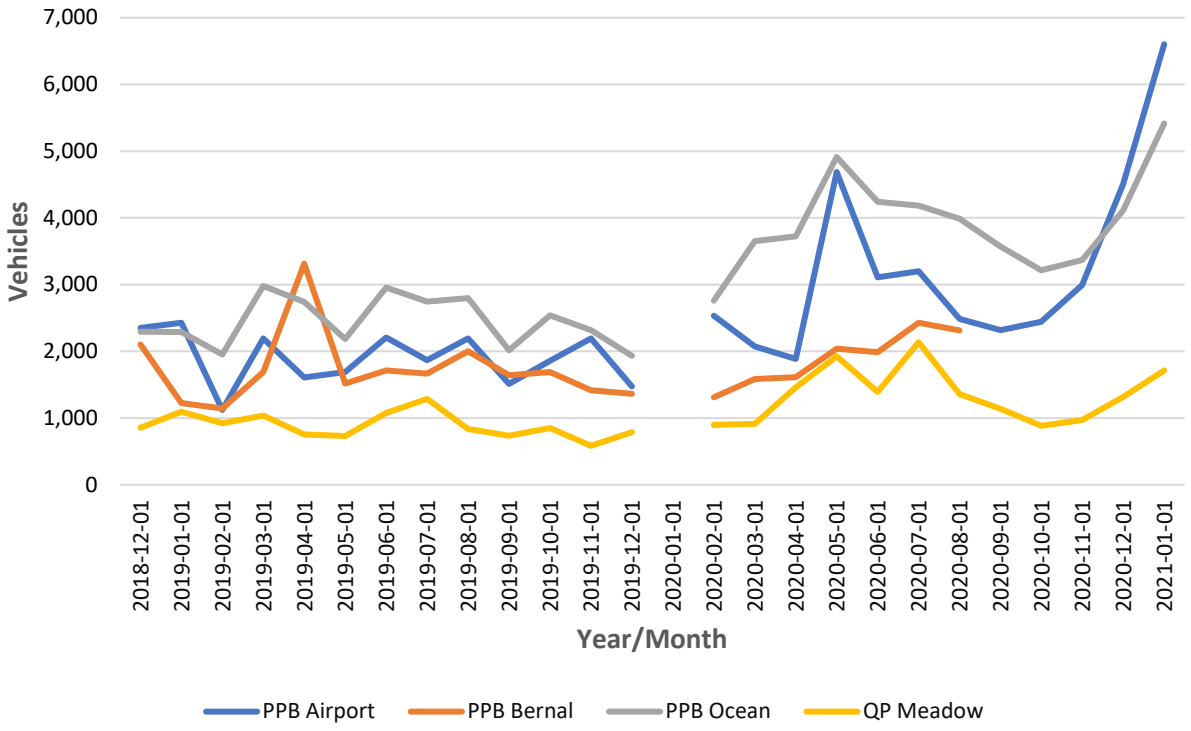


Figure PI-1. Monthly Vehicle Counts at Pillar Point Bluff and Quarry Park (December 2018 – January 2021).
Note: Vehicle counts from January 2020 are unavailable for all four parking areas. Counts are also unavailable for the Point Pillar Bluff Bernal parking area from September 2020 through January 2021.
Source: San Mateo County Parks Department internal traffic counter data.

Estimate of Off-Leash Dog Use in Pilot Program Parks

As noted above, both Pillar Point Bluff and Quarry Park currently allow on-leash dog use. In addition, these is generally strong support among San Mateo County residents for new dog opportunities and associated use policies in County Parks (CSMPD 2017). These high levels of support may be considered one indicator of potential use. Additional factors (as identified above) that may influence use under the pilot program include:

- Availability of other on- and/or off-leash opportunities in the region – as shown in Table 2, there are many parks and recreation sites in the region (including San Mateo County) that allow dog use, including off-leash dog walking. This indicates that there is a substantial supply of dog opportunities in the highly populated region, which may act to dampen large increases in use at Pillar Point Bluff and Quarry Park under the pilot program. Potential visitors from other counties and/or areas of San Mateo County that are more distant from the pilot program sites may use these new off-leash dog opportunities, though at a less frequent rate (e.g., once per week, once per month, several times a year) compared to nearby visitors (see below).
- Population of dog owners seeking off-leash opportunities – despite ample supply, there is still high demand for new dog opportunities, in particular for off-leash opportunities. As estimated in Table 1, there are approximately 108,650 households with dogs in San Mateo County. This corresponds to more than 170,000 dogs (accounting for households with multiple dogs). Given the number of dog owners who report visiting parks and recreation sites that allow dogs (e.g., 2 to 34 percent of dog owners report visiting a dog park daily), as well as the percentage of these owners who would prefer or seek out off-leash opportunities (e.g., 38 to 80 percent of dog owners report a preference for off-leash dog walking), demand is likely high for off-leash opportunities at both pilot program sites. However, while demand is high, much of this demand likely comes from dog-owners who already visit the pilot program sites. A portion of existing use at both Pillar Point Bluff and Quarry Park is already from dog owners who: 1) don't currently visit with their dog, 2) visit with their dog on-leash (upwards of 48 percent based on limited observations), or 3) visit and disregard current dog policies (small percentage of overall use based on ranger interactions). So, while off-leash dog walking/exercising will increase from implementation of a new off-leash dog policy, the corresponding increase in overall use (e.g., total number of visitors or visits) may be less substantial at both pilot program sites.
- Proximity to off-leash opportunities – according to previous studies of dog park use, dog owners who live close to existing dog parks are more likely to visit on a more frequent basis compared to dog owners who must drive longer distances to access a dog park. Given their locations along the coast/western portion of San Mateo County, most daily use is thus likely to originate from visitors who live in nearby towns along State Route 1, from Montara in the north to Half Moon Bay to the south. These communities represent about 4-5 percent of the total County population or about 5,430 households with more than 8,500 dogs. Dog owners in these communities will most likely visit and take advantage of the off-leash opportunities at a more frequent basis than dog owners from more distance locations in and outside of the county.

Given the key factors listed above, the implementation of an off-leash dog policy at Pillar Point Bluff and Quarry Park can be expected to increase the total number of visitors who allow their dogs off-leash at both sites. As noted previously, dog walking is an established use at both sites. A small portion of this existing visitor population already lets their dogs off-leash. With the pilot program in place, a larger percentage of visitors with dogs can reasonably be expected to take advantage of this new opportunity. Most of the increase in off-leash use will likely be from existing visitors with dogs, though a smaller percentage of dog owners may start to visit the sites with the policy in place.

In total, typical monthly use of Pillar Point Bluff and Quarry Park may increase by as much as 20 to 30 percent from pre-Covid visitor use levels. The increases experienced during the Covid-19 pandemic period are substantial (Figure 1); however, these increases are not likely new baseline conditions for either pilot program site (or other parks and recreation areas for that matter). As the County and broader region open and return to pre-pandemic conditions, people will have increased options of what to do with their time, including opting for activities that were limited or unavailable for the past year (e.g., indoor activities, larger gatherings, etc.). This is not to say there will be an equally substantial drop in the number of visitors to parks and outdoor recreation areas; rather, use will return to a range that could be considered more "normal." This also does not imply that the new off-leash policy will not induce visitation changes. Instead, the expected changes in overall visitation will not be in a similar range (e.g., 50-70 percent increase) as those experienced during the Covid-19 pandemic.

Average weekday daily use may reasonably be expected to increase by as much as 10 to 15 percent from current use levels, while increases in weekend day use may peak at 50 percent. This is based in part on the typical pattern of use (e.g., lower on weekdays and higher on weekend days) that most park and recreation areas experience. Additionally, these estimates are for combined use at both sites and actual use may be unevenly spread across the sites. For example, Quarry Park has limited parking compared to Pillar Point Bluff, but it is located in a residential neighborhood that could encourage more pedestrians to visit compared to Pillar Point Bluff. Any changes in use will further be constrained, in part, by existing access limitations. Visitors must rely on existing parking capacity or be able to walk from nearby neighborhoods to access both sites. As such, there is an inherent limit (e.g., availability of parking, acceptable distance to walk) on how much additional use from dog owners either site could accommodate at one time.

Weekday use is anticipated to be primarily from dog owners who live in the vicinity of Pillar Point Bluff and/or Quarry Park and can more conveniently access these sites on a routine basis. Again, a substantial portion of this weekday use is expected to be from existing visitors with dogs at these sites. As noted above, these users will continue to visit the sites (so no increase in total use per se), but will now bring their dog(s) and allow them off-leash. As such, while dog use as an activity will likely increase during the pilot program, total visitation will not increase at a similar rate. While a similar dynamic may be in play on weekend days, there may not be as much overlap between existing users who are dog owners (but don't bring their dogs) and future users with dogs under the pilot program. This is primarily driven by the assumption that weekend users are more likely to come from other, more distant areas of the County or beyond and so are less likely to use either site on a more routine basis.

In the short-term, use levels may peak by as much as 50 percent or more in the immediate weeks/months after the pilot program is implemented. This is because public excitement about the new policy will likely generate demand and induce an influx of visitors with their dogs looking to take advantage of the new opportunity. As time passes and the excitement around the new policy fades, use will likely stabilize in the range of a monthly 20 to 30 percent increase from current use levels.

These estimated changes in use are predicated on implementation of the off-use pilot program only and do not take into account any other potential changes in management approaches to use at Pillar Point Bluff and Quarry Park. Furthermore, they do not take into consideration any use changes that may result if the pilot program is expanded to other sites in San Mateo County. The changes also represent a possible range of increase without consideration of any potential actions associated with other impacts (e.g., dog waste, conflict) that may arise from increased dog use at these sites. In the future, the County

should consider these other types of impacts, in addition to use levels as part of a routine adaptive management program.

References

American Kennel Club (AKC). 2008. Establishing a Dog Park in Your Community. Government Relations Department, American Kennel Club. Raleigh, NC.

American Veterinary Medical Association (AVMA). 2018. AVMA Pet Ownership and Demographics Sourcebook 2017 – 2018 Edition. Veterinary Economics Division, American Veterinary Medical Association. Schaumburg, IL. October 2018.

Association of Bay Area Governments (ABAG). 2017. Projections 2040: Projections by Jurisdiction (curated data). Available at: http://projections.planbayarea.org/. Accessed March 17, 2021.

Boutilier, B., Dogs Off-Leash Program Coordinator, City of Edmonton (Canada), personal communication with Sergio Capozzi, Red Canoe, LLC. January 27, 2021.

California State Parks. 2014. Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012. California State Parks, Natural Resources Agency, State of California. January 2014.

City of Ann Arbor. 2015. Recommendations and Guidelines for Dog Park Site Selection, Design, Operations and Maintenance. Parks and Recreation, City of Ann Arbor, MI.

City of Edmonton. 2017. Dogs in Open Spaces Implementation Plan. Parks and Roads Services, City Operations, City of Edmonton, Canada.

City of Kelowna. 2016. Off-Leash Dog Beaches and Parks Community Engagement Report. City of Kelowna. September 2016.

City of Olympia. 2019. Off-Leash Dog Area Survey. City of Olympia Parks, Arts, and Recreation. Available at URL: https://olympiawa.gov/city-services/parks/Off-leash-Dog-Areas.aspx. Accessed January 26, 2021.

City of Seattle. 2017. People, Dogs and Parks Plan. Seattle Parks and Recreation. August 2017.

City of Surrey. 2012. City of Surrey 2012 – 2021 Dog Off Leash Area Strategy. City of Surrey, Canada.

County of San Mateo Parks Department (CSMPD). 2017. San Mateo County Dog Management Survey Results, as included in: Staff Report To Support Dog Committee Policy Recommendations for Dog Management in San Mateo County Parks. December 6, 2017. Available at URL: https://parks.smcgov.org/dogs-at-SMC-parks. Accessed January 27, 2021.

Cutt H, Giles-Corti B, Knuiman M, Timperio A, Bull F. 2008. Understanding dog owners' increased levels of physical activity: results from RESIDE. American Journal of Public Health. Vol. 98(1): 66-69.

Eastbay Regional Park District (EBRPD). 2018. Point Isabel Regional Shoreline website. Available at URL: https://www.ebparks.org/parks/pt_isabel/. Accessed January 26, 2021.

Garvin, A. 2011. Public Parks: The Key to Livable Communities. W.W. Norton & Company, Inc. New York, NY.

Gomez, E. 2013. Dog Parks: Benefits, Conflicts, and Suggestions. Journal of Park and Recreation Administration. Winter 2013. Vol. 31(4): 79-91.

Greenberg, A. 2020. How Dogs Parks Took Over the Urban Landscape. Smithsonian Magazine. Available at URL: https://www.smithsonianmag.com/history/how-dog-parks-took-over-urban-landscape-180973902/. Accessed 3/1/21.

Krohe, J. 2005. Who Let the Dogs Out? Planning. American Planning Association. February 2005.

Lail, P., McCormack, G.R., and Rock, M. 2011. Does dog-ownership influence seasonal patterns of neighbourhood-based walking among adults? A longitudinal study. BioMed Central Public Health. Vol. 11(148).

Lee, H.S., Shepley, M., and Huang, C.S. 2009. Evaluation of off-leash dog parks in Texas and Florida: A study of use patterns, user satisfaction, and perception. Landscape and Urban Planning. Vol. 92(2009): 314-324.

McCormack, G.R., Rock, M., Sandalack, B., and Uribe, F.A. 2011. Access to off-leash parks, street pattern and dog walking among adults. Public Health. Vol. 125(2011): 540-546.

National Park Service (NPS). 2016. Golden Gate National Recreation Area (California) Final Dog Management Plan/Environmental Impact Statement. San Francisco, CA. December 2016.

National Recreation and Park Association (NRPA). 2020. 2020 Engagement With Parks Report. National Recreation and Park Association, Ashburn, VA. 2020.

Sehatzadeh, B., Noland, R.B., and Weiner, M.D. 2011. Walking frequency, cars, dogs, and the built environment. Transportation Research Part A. Vol. 45(2011): 741-754.

The Trust for Public Land (TPL). 2018. 2018 City Park Facts Report (Dog Parks). The Trust for Public Land – Center for City Park Excellence. San Francisco, CA.

TPL. 2019. Dog Parks 101. The Trust for Public Land – Center for City Park Excellence. San Francisco, CA.

U.S. Census Bureau. 2019a. San Mateo County, California - Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019. Data table available at URL: https://data.census.gov/cedsci/table?q=san%20mateo%20county,%20ca&tid=PEPPOP2019.PEPANNRES&hidePreview=false. Accessed January 28, 2021.

U.S. Census Bureau. 2019b. San Mateo County, California – American Community Survey Demographic and Housing Estimates: April 1, 2020 to July 1, 2019. Data tables for years 2010 to 2019 available at URL: https://data.census.gov/cedsci/table?q=san%20mateo%20county,%20ca&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed January 28, 2021.

U.S. Department of Agriculture, Forest Service (USFS). 2012. Future of America's Forests and Rangelands: Forest Service 2010 Resources Planning Act Assessment. Gen. Tech. Rep. WO-87. Washington, D.C. 198 p.

Walsh, J.M.S. 2020. A Quantitative Exploration of Conflict Potential and Perceptions of Threats, Benefits and Barriers: Toward Conflict Prevention When Dogs Visit Nature Trails. Doctor of Philosophy Dissertation. College of Arts, Humanities, and Social Sciences, Nova Southeastern University. Fort Lauderdale, FL.

Westgarth, C., Christley, R.M., and Christian, H.E. 2014. How might we increase physical activity through dog walking? A comprehensive review of dog walking correlates. International Journal of Behavioral Nutrition and Physical Activity. Vol. 11(83).

Yabroff, K.R., Troiano, R.P., and Berrigan, D. 2008. Walking the Dog: Is Pet Ownership Associated with Physical Activity in California? Journal of Physical Activity and Health. Vol. 5(2008): 216-228.

Zuniga-Teran, A.A., Stoker, P., Gimblett, R.H., Orr, B. J., Marsh, S.E., Guertin, D.P., and Chalfoun, N.V. Exploring the Influence of Neighborhood Walkability on the Frequency of Use of Greenspace. Landscape and Urban Planning. Vol. 190, October 2019.

APPENDIX B – BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

To: Nicholas Calderon, Director
San Mateo County Parks

From: Leslie Allen

cc: John Baas & Paul Curfman, WRA

Date: February 25, 2020

Subject: Biological Communities and Habitat Quality Assessments
Off-leash Dog Pilot Program at Quarry Park and Pillar Point Bluff Park

This memorandum summarizes an assessment of existing conditions pertaining to biological resources at Quarry Park and Pillar Point Bluff Park in San Mateo County, California. This assessment was conducted by WRA, Inc. (WRA) at the request of the County of San Mateo Parks Department (Parks Department) to inform an Initial Study of off-leash dog access at these two County Park units, in conformance with the California Environmental Quality Act (CEQA). In addition to documenting existing biological communities and sensitive habitats in both park units, WRA broadly assessed the baseline quality of such habitats located in relatively close proximity to the trails. This will enable the Parks Department to track and evaluate any changes in habitat quality during and after the pilot period. For the purposes of this assessment, the "Project" is the 12-month pilot program allowing off-leash dog access, with some restrictions, on designated and signed trails at these two parks.

The proposed Project would take place in two public parks owned and operated by the Parks Department (Figure 1, Study Area). Quarry Park is a 577-acre community park with hiking trails, playground areas, a picnic area, a community garden, and open grassy areas. The town of El Granada comprises its southern and the majority of its eastern border. Rancho Corral de Tierra, a natural area within the Golden Gate National Recreation Area, completes the eastern border and all of the northern border. The town of Miramar and open lands associated with it are along the western border.

Pillar Point Bluff Park is a 220-acre bluff top area adjacent to the larger Fitzgerald Marine Reserve, which follows the coast. A 3.1-mile trail loops the bluff and is part of the California Coastal Trail. Pillar Point Bluff Park is bordered along the western edge by the protected tidepools of the Fitzgerald Marine Reserve. Half Moon Bay Airport borders the park along the eastern edge. The lands to the north and south of the park are mixed commercial and residential use areas.

Regulatory Background

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

Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC), and National Marine Fisheries Service (NMFS) Species of Concern (SOC), are species that face extirpation if current population and habitat trends continue. U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are also considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under CEQA. In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Bat species designated as "High Priority" by the Western Bat Working Group qualify for legal protection under Section 15380(d) of the CEQA Guidelines. "High Priority" species are defined as "imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats".

Plant species included within the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory, CNPS 2020) with California Rare Plant Rank (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under the CEQA. Some Rank 4 plant species meet the definitions of Section 1901 Chapter 10 of the Native Plant Protection Act or Sections 2062 and 2067 of the California Fish and Game Code (CFGC) that outlines CESA. However, the CNPS and CDFW strongly recommend that these species be fully considered during the preparation of environmental documentation related to CEQA. This may be particularly appropriate for the type locality of a Rank 4 plant species, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology or occurring on unusual substrates. A description of Ranks is provided below in Table 1.

Table 1. Description of Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but common elsewhere
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act [CWA]), state regulations (such as the Porter-Cologne Act, the CDFW Streambed Alteration Program, and CEQA), or local ordinances or policies (such as City or County Tree Ordinances, Special Habitat Management Areas, applicable Local Coastal Programs, and General Plan Elements).

Waters of the United States

Section 404 of the CWA gives the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) regulatory and permitting authority regarding discharge of dredged or fill material into "navigable waters of the United States". Section 502(7) of the CWA defines waters as "waters of the United States, including territorial seas." Section 328 of Chapter 33 in the Code of Federal Regulations (CFR) defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps under the CWA. A summary of the definition of "waters of the U.S." in 33 CFR 328.3 as published in 1986 includes:

> (1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
> (2) All interstate waters including interstate wetlands;
> (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;
> (4) All impoundments of waters otherwise defined as waters of the United States under the definition;
> (5) Tributaries of waters identified in paragraphs (a) (1)—(4) of this section:
> (6) The territorial seas;
> (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1)—(6) of this section.

Areas not considered to be "waters of the United States" are exempted under the Preamble to the 1986 Rule and subject to a case by case analysis, including:

> (1) Non-tidal drainage and irrigation ditches excavated on dry land.
> (2) Artificially irrigated areas which would revert to upland if the irrigation ceased.
> (3) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing,
> (4) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
> (5) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the

> construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).

In the Corps Rivers and Harbors regulations (33 CFR Part 329.4), the term "navigable waters of the U.S." is defined to include all those waters that are subject to the ebb and flow of the tide, and/or presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The limits of Corps jurisdiction under Section 404 as given in 33 CFR Section 328.4 are as follows:

(1) *Territorial seas:* three nautical miles in a seaward direction from the baseline;
(2) *Tidal waters of the U.S.:* high tide line (HTL) or to the limit of adjacent non-tidal waters;
(3) *Non-tidal waters of the U.S.:* ordinary high water mark or to the limit of adjacent wetlands; or
(d) *Wetlands:* to the limit of the wetland.

The Corps has developed standard methods and data reporting forms contained in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Supplement; Corps 2008) to determine the presence or absence of Waters of the U.S. The procedures described in the Corps Manual were used to identify wetlands and non-wetland waters in the Study Area that are potentially subject to regulation under Section 404 of the CWA.

Waters of the State

The Dickey Water Pollution Act of 1949 and Porter Cologne Act of 1969 established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Board (RWQCB) districts in the State of California. The SWRCB and each RWQCB district regulates activities in Waters of the State, which include Waters of the U.S. Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." In addition, the SWRCB has adopted a wetland definition that is similar to, but slightly different from, that used by the Corps. The state definition as adopted in April 2019 and currently in effect, states that:

> *An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.*

The RWQCB regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act through the State Water Quality Certification Program. State Water Quality Certification is necessary for all projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State. In order for a Section 404 permit to be valid, Section 401 of the CWA requires a Water Quality Certification or waiver to be obtained. The Water Quality Certification (or waiver) determines that the permitted activities will not violate water quality standards individually or cumulatively over the term of the action. Water quality certification must be consistent with the requirements of the CWA, CEQA, the CESA and Porter-Cologne Act.

If a proposed project or portion of a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activity under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements. In these cases, a Water Quality Certification is not necessary under Section 401 of the CWA because federal jurisdiction does not apply.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of the CFGC. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above 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” and keeps records of their occurrences in its Natural Diversity Database (CNDDB, CDFW 2020). Sensitive plant communities are also identified by CDFW on their *List of California Natural Communities Recognized by the CNDDB* (CDFW 2020). Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

California Coastal Commission Environmentally Sensitive Habitat Areas (ESHAs)

The California Coastal Commission defines an ESHA as follows:

> "*Environmentally sensitive habitat area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.* “

California Coastal Commission (CCC) Guidelines contain definitions for specific types of ESHAs, including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. For the

purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the CCC guidelines or the San Mateo County Local Coastal Program (County LCP).

San Mateo County Local Coastal Program and Land Use Plan

The County LCP (San Mateo County 2013) identified sensitive habitats to include: riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species. Further, the County LCP defines sensitive habitats as:

> *…any area which meets one of the following criteria: (1) habitats containing or supporting "rare and endangered" species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.*
>
> County LCP (2013), Policy 7.1

In areas defined as wetlands, buffer zones must be established according to the following guidelines:

> *Buffer zones shall extend a minimum of 100 feet landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50 feet only where (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the State Department of Fish and Game [now Fish and Wildlife]. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.*
>
> County LCP (2013), Policy 7.18

Additionally, the County LCP defines Riparian Corridors as a sensitive habitat, where riparian corridors are defined as:

> *…the "limit of riparian vegetation" (i.e., a line determined by the association of plant and animal species normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and box elder). Such a corridor must contain at least a 50% cover of some combination of the plants listed.*
>
> County LCP (2013), Policy 7.7

This County LCP further clarifies in Policy 7.8 that riparian corridors be established for all perennial and intermittent streams, lakes, and other bodies of freshwater in the Coastal Zone. Guidelines for establishing buffer zones are described as:

> *a. On both sides of riparian corridors, from the "limit of riparian vegetation" extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams.*
> *b. Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50 feet from the predictable high water point for perennial streams and 30 feet from the midpoint of intermittent streams.*
> *c. Along lakes, ponds, and other wet areas, extend buffer zones 100 feet from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.*
>
> County LCP (2013), Policy 7.11

The County LCP also requires in Policy 7.48 that any development keep to a minimum the number of native Monterey pine (*Pinus radiata*) cut in the natural pine habitat near the San Mateo-Santa Cruz County line and allows the commercial cutting of Monterey pine if it perpetuates the long-term viability of stands or prevents environmental degradation.

Additionally, while not considered a Federal, State, or CNPS-ranked special-status plant species, Policy 7.49 of the County LCP requires that any development within one-half mile of the coast mitigate against the destruction of California strawberry through:

a) Prevent any development, trampling, or other destructive activity which would destroy the plant; or,
b) After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site.
c) Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

Methods

On February 12, 2020, WRA biologists, Rei Scampavia and Eliza Schlein, traversed portions of the trails within the Study Area to determine (1) if plant communities present in the Study Area matched existing data and conclusions drawn through desktop analysis, (2) if existing conditions provide suitable habitat for any special-status plant or wildlife species, (3) if sensitive habitats including ESHAs are present close to trails, (4) the baseline conditions of habitat quality within view from the trails, and (5) the size of buffers needed to protect certain habitat types. Plant nomenclature follows Baldwin et al. (2012), except where noted. For cases in which taxonomic discrepancies occur between Baldwin et al. and the Inventory, precedence was given to the species classification used in the Inventory.

Special-status Species

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Half Moon Bay and Montara Mountain 7.5-minute U.S. Geological Survey (USGS) quadrangles. The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- CNDDB records (CDFW 2020)
- USFWS Information for Planning and Conservation Species (USFWS 2020)
- CNPS Inventory records (CNPS 2020a)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- USFWS Critical Habitat Mapper (USFWS 2020)
- County LCP (County of San Mateo 1998, 2013)

Sensitive Biological Communities

The previous biological resources assessment of Quarry Park (WRA 2018) was examined to provide baseline information on plant communities and ESHAs within the park. All ESHA areas were surveyed during the site visit. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation* (Sawyer et al. 2009). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA, the County LCP, and other applicable laws and regulations.

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may provide suitable habitat for some special-status plant or wildlife species and are discussed below. Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Waters

The Study Area was surveyed at a reconnaissance level to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology as defined by the Corps Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status of obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC) as given on the U.S. Department of Agriculture: National Wetland Plant List (Lichvar et al. 2016). Evidence of wetland hydrology can include evidence such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, and oxidized root channels. Given that the site visits did not include a routine-level wetland delineation and was only reconnaissance level, soils were not examined in the field as part of this assessment.

Habitat Quality

WRA documented existing habitat quality of the biological communities that are located within relatively close proximity to the trails that will be included in the off-leash dog access pilot project

and extrapolated habitat conditions for other trail areas. For the purposes of this qualitative assessment, WRA categorized existing or baseline "habitat quality" as outlined in Table 2.

Table 2. Habitat Quality Categories

Category A	**High Quality / Mostly Intact** Vegetation, where present, is composed of greater than 75% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is absent or negligible.
Category B	**Moderate Quality / Moderately Altered or Impacted** Vegetation, where present, is composed of greater than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present but not extensive.
Category C	**Low Quality** Vegetation, where present, is composed of less than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present but not extensive.
Category D	**Low Quality / Extensively Altered or Impacted** Vegetation, where present, is composed of less than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present and extensive.

For areas that were not surveyed directly during the site visit, extrapolations based on field observations in related habitat, desktop analysis using Google Earth imagery (2020), and photographs from the Quarry Park biological resources assessment (WRA 2018) were combined to model the biological communities and their qualities. Areas thought to be part of a biological community observed during the site visit, but not directly traversed, were given the same representative habitat quality rating as observed habitats.

Results

Special-Status Species

In this assessment of special-status species, only species that are known or thought to have the potential to occur in areas close to trails have been considered. The potential impacts of the Project are not expected to extend far beyond the extent of the trail network.

Quarry Park

A CNDDB and CNPS search of the Quarry Park area did not return any occurrences of special-status plant or animal species within the park boundary. During the February 12, 2020 site visit, WRA biologists did not observe any special status plant or animal species along the trails. The following species were documented by WRA to be present in the Biological Resources Assessment completed for the park in 2018.

Allen's hummingbird (Selasphorus sasin), USFWS Bird of Conservation Concern. Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). This species feeds on nectar, as well as insects and spiders. There are a variety of suitable habitats for this species within Quarry Park including northern coastal scrub and blue gum grove. Additionally, the park is in close proximity to a variety of rich natural and landscaped foraging habitats. Allen's hummingbird has been observed within the park, and is therefore considered present throughout the area (Arechiga 2017). It is unlikely that off-leash dogs will negatively affect the hummingbird since they are a highly mobile species that is able to escape ground predators easily.

Burrowing owl (Athene cunicularia), CDFW Species of Special Concern. Though historically occupying a broader range, the current accepted breeding range of the burrowing owl extends throughout much of California, primarily focused around agricultural areas in the Central and Imperial valleys and typically excluding coastal areas. Broad surveys of core areas of the state indicated a lack of breeding activity in Napa, Marin, San Francisco, Santa Cruz, and Ventura, with very low numbers found in Sonoma, San Mateo, Santa Barbara, and Orange Counties. The owl is considered a grassland species and is adaptable to highly managed (agricultural) systems that supply burrows for roosting and nesting and relatively short vegetation with spare shrubs and taller vegetation (Gervais et al. 2008). The thick vegetation within Quarry Park likely precludes nesting activity of the species; however, the site may provide overwintering habitat and the species may nest in adjacent agricultural zones with low growing or sparse vegetation. The species has been observed during camera trap surveys in Quarry Park (Hickman 2017). The only areas in which off-leash dogs would be able affect an owl population have relatively poor habitat quality and burrowing is unlikely, therefore dogs are also unlikely to affect owls.

San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), CDFW Species of Special Concern. This subspecies of the dusky-footed woodrat occurs in the Coast Ranges between San Francisco Bay and the Salinas River (Matocq 2004). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but

will also consume fungi, grasses, flowers, and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick houses/nests in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round and generally nocturnal.

While the species does not typically inhabit Eucalyptus groves, thick sections of willow scrub and riparian corridors are generally preferred habitats for the species. Nests constructed by this species were observed in these habitats. Because nests constructed by this species were observed in multiple locations throughout the park, and suitable habitats are present in various locations, this species is considered present (Hickman 2017). The areas in which woodrats could be found would be considered ESHAs. Off-leash dogs would not be allowed in these ESHA areas and therefore impacts would be minimal, if any, to the woodrat.

Pillar Point Bluff Park

The following species are known to occur within the park area and have the potential to occur near trails.

Rose leptosiphon (*Leptosiphon rosaceus*), CNPS Rare Plant Rank 1B.1. Rose leptosiphon is an annual forb in the phlox family (Polemoniaceae) that blooms from April through July. It typically occurs in coastal bluff scrub habitat at elevations ranging from 0 to 325 feet (CNPS 2020, CDFW 2020). This plant has been documented along trails that are not proposed for off-leash dog access. The impact to this community would not increase as a result of project activities.

California red-legged frog (*Rana draytonii*), Federal Threatened Species, CDFW Species of Special Concern. The California red-legged frog is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still or slow-moving water. Breeding occurs between late November and late April. California red-legged frogs estivate (period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds. This species is known to occur in Pillar Point Marsh which is adjacent to the Jean Lauer Trail. Additionally, the seasonal wetland on the eastern side of the Jean Lauer Trail has the potential to support this species.

San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFW Species of Special Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting (Shuford and Gardali 2008). This species is known to occur within Pillar Point Marsh.

Pacific harbor seal (*Phoca vitulina richardsi*), MMPA. Harbor seals are fairly common, non-migratory pinnipeds inhabiting coastal and estuarine waters from Alaska to Baja California, Mexico. They are a year-round resident in the San Francisco Bay Area (Codde and Allen 2013). They haul out on rocks, reefs, and beaches, and feed in marine, estuarine, and occasionally fresh

waters (National Marine Mammal Laboratory 2012). This widespread true seal is commonly found throughout much of San Francisco Bay. Harbor Seals use open water for feeding and travelling, and terrestrial substrates adjacent to water for hauling out (resting). A haul-out site is generally considered a rookery if there are pups present at the site. Harbor seals in San Francisco Bay also tend strongly towards use of established haul-out areas, as opposed to hauling out in new areas (Kopec 1999). This species is known to occur in Pillar Point Harbor and has the potential to haul out on beaches at Ross' Cove.

California sea lion (*Zalophus californianus*), MMPA. California sea lions are found from Vancouver Island, British Columbia to the southern tip of Baja California in Mexico. They breed mainly on offshore islands, ranging from southern California's Channel Islands south to Mexico, although a few pups have been born on Año Nuevo and the Farallon Islands on the central Californian coast (TMMC 2018). Sandy beaches are preferred for haul out sites, although in California they haul out on marina docks as well as jetties and buoys (TMMC 2018). This species is known to occur in Pillar Point Harbor and has the potential to haul out on beaches at Ross' Cove.

Biological Communities

Non-sensitive biological communities in Quarry Park include developed areas, eucalyptus groves, Monterey cypress stands, Monterey pine stands, non-native annual grassland, and northern coastal scrub (Figure 2). Non-sensitive biological communities in Pillar Point Bluff Park include developed areas, Monterey pine stands, non-native annual grassland, and northern coastal scrub (Figure 3).

Descriptions for each biological community are provided below and the mapped extent of each biological community is identified in Table 3.

Eucalyptus groves are known from the Coast Ranges and Central Valley, typically as planted woodlands and shelterbelts to buffer coastal winds and provide shade. These groves are not described in Holland (1986), but are included in Sawyer et al. (2009), which describes eucalyptus groves as *Eucalyptus globulus* Semi-Natural Woodland Stands. This vegetation alliance is dominated by one of several eucalyptus species (*Eucalyptus* spp.), which are not native to North America. Eucalyptus groves are frequently situated in rural and semi-urbanized settings, along streams, and coastal hills and prairies.

Arroyo willow thickets are common throughout the state of California and consist of a canopy dominated by arroyo willows (*Salix lasiolepis*). To qualify as a true arroyo willow thicket, there must be 50% relative cover in the shrub or tree canopy (Keeler-Wolf et al. 2003) or at least 25% absolute cover. Understory plants consist of typical scrub vegetation which varies throughout the community's geographic range. These communities are typically found along stream banks and benches, slope seeps, and along drainages (CNPS 2020b).

Developed areas are areas within the park extent that have been cleared of natural vegetation communities in order to serve a purpose to the public. These areas consist of trails, parking areas, and structures such as bathrooms and water fountains within the parks. In Quarry Park, the area that was previously the quarry floor is considered to be developed because it is still

maintained as an area devoid of vegetation. Additionally, in Quarry Park the playground and community garden are considered developed areas.

Monterey cypress stands are native only to the Monterey peninsula where it grows on rocky, granitic soils of coastal headlands and bluffs subject to nearly constant onshore winds (Holland 1986). Only two natural stands have been documented, but Monterey cypress has been planted throughout coastal California for its capacity to serve as a windbreak and it has become naturalized. The California Invasive Plant Council (Cal-IPC) has rated Monterey cypress as "limited" for its ability to invade wildlands (Cal-IPC 2020). The Cal-IPC reports that even "limited" species are invasive and should be of concern to land managers and while ratings represent cumulative impacts statewide, a plant whose statewide impacts are categorized as "limited" may have more severe impacts in a particular region. Sawyer (2009) has recognized this biological community as Monterey cypress stands (*Callitropsis macrocarpa* Woodland Special Stands), which are planted for wind protection and as ornamental trees near roadsides, driveways, and homesteads. Native stands of this alliance that occur on the Monterey peninsula are given G1

Table 3. Biological Communities within the Quarry Park and Pillar Point Bluff Park Study Area

Biological Community[1]	**Natural Community[3]**	**Area Mapped Quarry Park** (acres or linear feet)	**Area Mapped Pillar Point Bluff** (acres or linear feet)
Non-Sensitive[4]			
Eucalyptus groves[2]	Eucalyptus groves (*Eucalyptus* [*globulus, camaldulensis*] Semi-Natural Woodland Alliance)	310.01 ac	N/A
Developed[2]	N/A	20.82 ac	5.84 ac
Monterey cypress stands	Monterey cypress stands (*Hesperocyparis* [*Cupressus*] *macrocarpa* Woodland Special Stands)	1.02 ac	N/A
Monterey pine stands	Monterey pine stands (*Pinus radiata* Forest Alliance)	3.36 ac	20.21 ac
Non-native [annual] grassland	Wild oats grassland (*Avena* [*barbata, fatua*] Herbaceous Stands)	46.79 ac	N/A
Northern coastal scrub	Coyote brush scrub (*Baccharis pilularis* Shrubland Alliance)	125.87 ac	121.94 ac
Arroyo Willow Thicket	Arroyo willow (*Salix lasioslepis*)	N/A	15.54 ac
Sensitive[4]			
Beaches and Sea Cliff[2] (ESHA)	N/A	1.92 ac	26.45 ac
Central coast arroyo willow riparian scrub (ESHA)	Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance)	23.65 ac	N/A
Ephemeral, intermittent, and perennial streams[2] (ESHA)	N/A	0.53 ac/ 21,768 lf	N/A
Perennial Ponds[2] (ESHA)	N/A	1.35 ac	N/A
Seasonal Ponds[2] (ESHA)	N/A	0.14 ac	N/A
Potential seasonal wetland[2] (ESHA)	Western rush marshes (*Juncus patens* Provisional Herbaceous Alliance)	4.02 ac	34.03 ac
Freshwater emergent wetland/pond		N/A	0.05 ac
Tidal Open Water	N/A	N/A	2.05 ac

[1]Holland (1986), [2]Biological community not described in Holland (1986), [3]Sawyer et al. (2009)
[4]Determination based on the *List of California Terrestrial Natural Communities* (CDFG 2010) and the *San Mateo County Local Coastal Program* (County 1998)

S1 status due to their rarity; however, stands outside of the native range are not ranked and naturalized stands extend from Humboldt County to Santa Barbara County (Sawyer et al. 2009).

Monterey pine stands are described by Sawyer (2009) as the *Pinus radiata* Forest Alliance (Rarity Ranking G1 S1.2), which is planted throughout the state and worldwide, but only natural stands are considered rare, which exist in three disjunct areas in mainland California: near Año Nuevo, on the Monterey Peninsula, and at Cambria. Soils are typically well drained, and the stands typically occur between 0-300 meters elevation. Monterey pine is only protected under the County LCP by the San Mateo-Santa Cruz County line border and is therefore not protected within the Study Area.

Non-native annual grassland is described by Holland (1986) as a dense to sparse cover of non-native annual grasses with flowering culms 0.2-1-meter-high and often associated with numerous species of showy-flowered annual forbs. This community often occurs on fine-textured, usually clay soils, that are moist, or saturated during the winter rainy season and very dry during the summer and fall. Sawyer (2009) describes this community as wild oats grasslands (*Avena* [*barbata, fatua*] Semi-Natural Herbaceous Stands, no rarity ranking), which are dominated by the cool-season annual grass and occur in most habitats in California. Non-native grasslands typically contain elements of other non-native grasses.

Northern coastal scrub is described by Holland (1986) as a community type having low shrubs with dense covering in scattered grassy openings on shallow, rocky soils. Sawyer (2009) describes this community as coyote brush scrub (*Baccharis pilularis* Shrubland Alliance), which is known from the outer Coast Ranges and Sierra Nevada Foothills from Del Norte County south to San Diego County. This vegetation community is typically located on river mouths, riparian areas, terraces, stabilized dunes, coastal bluffs, open hillsides, and ridgelines on all aspects underlain by variable substrate of sand to clay (Sawyer et al. 2009).

Environmentally Sensitive Habitat Areas (ESHAs)

Eight ESHAs occur within Quarry Park: beaches; central coast arroyo willow riparian scrub; perennial pond, seasonal pond; ephemeral, intermittent, and perennial streams; and potential seasonal wetlands (Figure 2). Four ESHAs occur within Pillar Point Bluff Park, or could occur in areas of Pillar Point Bluff Park that were not directly assessed, based on a desktop analysis: beaches; perennial pond; tidal open water; and potential seasonal wetlands (Figure 3).

In addition to the eight ESHAs documented to occur within Quarry Park, California strawberry was observed scattered throughout eucalyptus grove, northern coastal scrub, and potential seasonal wetlands in the Study Area during site visits conducted to support the Quarry Park biological resources assessment (WRA 2018). California strawberry was not observed during the February 12, 2020 site visit but could be present near trails in eucalyptus groves, northern coastal scrub, and potential seasonal wetlands along trails that were not directly assessed. The County LCP regulates California strawberry, which is therefore considered sensitive under CEQA.

The eight ESHAs that occur within Quarry Park and the four ESHAs that occur or could occur within Pillar Point Bluff Park are described below.

Beaches and seacliffs consist of barren, mobile sand accumulations whose size and shape are determined by abiotic factors such as wind, rather than by stabilizing vegetation. Sawyer et al. (2009) does not describe this community. The closest Holland association to beaches is active coastal dunes, which occur along the Pacific Ocean where sandy beaches are present and coastal headlands are absent. The CCC and County LCP regulate beaches and this community is therefore considered sensitive under CEQA.

Central Coast arroyo willow riparian scrub is described by Holland (1986) as occurring in areas of open to nearly impenetrable willow shrubs associated with a stream or mouth of streams, occurring near the coast in the South Coast Ranges. This community is described by Sawyer (2009) as arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance, Rarity Ranking G4 S4), which occurs throughout much of California along streams, seeps and drainages. The canopy is dominated by arroyo willow (*Salix lasiolepis*), forming an open to continuous layer with a variable herbaceous layer. Soils are relatively fine-grained sand and gravel bars from alluvial deposition. Central coast arroyo willow riparian scrub is considered an ESHA within the Coastal Zone. The RWQCB, CDFW, CCC, and County LCP regulate riparian communities and this community is therefore considered sensitive under CEQA.

Ephemeral, intermittent, and perennial streams are not described by Holland (1986) or Sawyer (2009). The Corps, RWQCB, CCC and County LCP regulate non-wetland waters including ephemeral, perennial, and intermittent streams and this community is therefore considered sensitive under CEQA.

Ponds occupy small portions of Quarry Park and Pillar Point Bluff Park. These features include a large sediment basin located in-line with the unnamed intermittent drainage in the western portion of Quarry Park and a historically created stock pond from a stream impoundment in the northeastern portion of Quarry Park. In the western portion of Quarry Park, Eucalyptus groves surround the perennial sediment pond while the vegetation around the perennial stockpond associated with Arroyo de en Medio includes central coast arroyo willow riparian scrub composed of arroyo willow and red alders. Although man-made, these historically created stock pond features are potentially jurisdictional as an impoundment of potentially jurisdictional non-wetland waters (Arroyo de en Medio). Additionally, two smaller seasonal ponds exist within Eucalyptus groves centrally in Quarry Park and one occurs under Monterey cypress stands in the southern extent of Mirada Surf West.

Three ponds are present in Pillar Point Bluff Park. Two ponds are located within Pillar Point Marsh. These ponds are not accessible by any trails and as such were not surveyed during the site visit. A smaller pond is located along the eastern side of the Jean Lauer Trail, and is surrounded by a wetland fringe. At the time of surveying, there was standing water approximately 6 inches deep in the depression. The Corps, RWQCB, CCC, and County LCP regulate ponds and thus, this community is therefore considered sensitive under CEQA.

Seasonal wetlands are described by Holland (1986) as comprised of mostly perennial herbs, especially sedges and grasses, usually forming complete cover, growing throughout the year in areas with mild winters. This community type occurs scattered throughout California and is most common in mesic grasslands. Sawyer (2009) best describes potential seasonal wetlands within Quarry Park as western rush marshes (*Juncus patens* Provisional Herbaceous Alliance, Rarity Ranking G4 S4), which occur on seasonally saturated soils on flats, depressions, or gentle slopes. Seasonal wetlands contain continuous to intermittent cover of western rush with commonly

associated facultative wetland plants such as Italian ryegrass, velvet grass (*Holcus lanatus*), willow-leaved dock (*Rumex crassus*), and subterraneum clover (*Trifolium subterraneum*).

In the Study Area, this biological community occurs as potential seasonal wetland depressions within the non-native annual grassland of the former quarry floor located centrally in Quarry Park and within the northeast portion of Mirada Surf West. Seasonal wetlands also occur as a large potential seasonal wetland meadow in Mirada Surf East, north of Highway 1 and south of the Eucalyptus grove. The potential seasonal wetland depressions within the Eucalyptus groves were dominated by western rush (*Juncus patens*) with co-dominants including brown headed rush (*Juncus phaeocephalus* var. *phaeocephalus*), subterraneum clover, and buckhorn plantain (*Plantago coronopus*). For the potential seasonal wetland meadow in the southern portion of the park, dominant species present include clustered field sedge (*Carex praegracilis*), western rush, and willow-leaved dock along with bristly ox-tongue and non-native grasses. An additional potential seasonal wetland depression was observed in the southeastern portion Quarry Park and is comprised predominately of willow-leaved dock and water pepper (*Persicaria hydropiperoides*) as well as species similar to the other potential wetlands. The Corps, RWQCB, CCC and County LCP regulate wetlands and this community is therefore considered sensitive under CEQA.

In Pillar Point Bluff Park, a small seasonal wetland is already designated as a sensitive habitat area according to signage posted along the trail. The wetland occurs along the fringe of a pond along the eastern side of the Jean Lauer Trail. Vegetation is comprised primarily of western rush (*Juncus patens*) and is surrounded by northern coastal scrub.

Tidal open waters are unvegetated areas under tidal influence. This unvegetated land cover type is not described in Sawyer et al. (2009) or Holland (1986). These areas are considered sensitive, as they are jurisdictional of the Corps, RWQCB, and CDFW.

Potential wetlands are biological communities extrapolated from desktop analysis that encompass areas appearing to have a wetland signature, but occupying lands that were not surveyed during the site visit. The actual footprint of these areas has not been verified. In general, wetlands are determined by the presence of the primary three wetland indicators: hydric soils, hydrophytic vegetation, and wetland hydrology.

Habitat Quality

An overall habitat quality grade for each biological community in each park was assigned by WRA based on an overall assessment of qualities observed from the trails. All trails were assigned a **D** grade for habitat quality. To account for the extent of human-generated (and, potentially, dog-generated) impact along the D grade habitat quality was applied and mapped an additional 3 to 4 feet laterally beyond either side of all trails. These areas were composed mostly of trampled earth and non-native vegetation in the highly disturbed areas.

Along trails that were directly assessed, the distance of the habitat quality as depicted in Figures 2 and 3 was determined based on average visibility from the trail into each biological community. For trails not directly assessed, a 20-foot distance from the trail was assumed and mapped. Habitat quality assessments by biological community are described below.

Quarry Park

Eucalyptus groves – **B and C**
The majority of Quarry Park is composed of eucalyptus groves. These areas are dominated by non-native eucalyptus species in the canopy. The understory composition determined the difference in habitat rating. Native vegetation such as sticky monkey-flower (*Diplacus aurantiacus*), coffeeberry (*Rhamnus californica*), California blackberry (*Rubus ursinus*), and sword fern (*Polystichum* sp.), comprised the understory of areas that were assigned a **B** grade. The majority of directly assessed eucalyptus grove areas were of **C** grade habitat quality, with the understory dominated by non-native plants such as Cape ivy (*Delairea odorata*) and Bermuda buttercup (*Oxalis pes-caprae*). Areas of eucalyptus groves that were not directly assessed during the February 12, 2020 site visit were assigned a **C** grade as well.

Monterey pine stands – **C**
Monterey pine stands were not directly assessed in Quarry Park. Based on habitat quality observed in Monterey pine stands occurring within Pillar Point Bluff Park (see description below), this community was assigned a **C** grade.

Non-native annual grassland – **C**
Non-native annual grasslands by definition are composed of mostly non-native species. The grasslands observed had minimal evidence of trampling; therefore, all grasslands (including those not directly observed) were given a **C** grade.

Northern coastal scrub – **C**
Northern coastal scrub was not directly assessed within Quarry Park during the February 12, 2020 site visit. The Quarry Park biological resources assessment report (WRA 2018) describes this community as containing an understory dominated by non-native species, such as soft chess (*Bromus hordeaceus*), dog-tail grass (*Cynosurus echinatus*), and Italian thistle (*Carduus pycnocephalus*). This description most closely matches areas of northern coastal scrub directly assessed in Pillar Point Bluff Park on February 12, 2020 that were assigned a **C** grade; therefore, this community was assigned a **C** grade in Quarry Park as well.

Central Coast arroyo willow riparian scrub – **A**
Central Coast arroyo willow scrub adjacent to surveyed trails consisted of a dense canopy of arroyo willow with other native shrubs and woody vines. According to the Quarry Park biological resources assessment report (WRA 2018), within this community the canopy is dense and nearly impenetrable. The high native shrub cover is likely to preclude the growth of invasive plant species and trampling by humans and domesticated animals. Based on the relatively intact condition of arroyo willow thickets observed in Pillar Point Bluff Park during the February 12, 2020 site visit, this community was assigned an **A** grade.

Ephemeral streams – **A, B, and C**
Ephemeral streams run adjacent to trails throughout Quarry Park. The stream that was assigned a **C** grade supports vegetation continuous with the **C-**rated eucalyptus groves in which the stream occurs. Areas that were assigned a **B** grade support vegetation contiguous with the **B** grade eucalyptus groves in which the streams are found. The stream segment given an **A** grade is far enough away from the trail to not show signs of trampling and is surrounded by associated native

vegetation with no non-native tree canopy. All ephemeral streams along trails were directly assessed during the February 12, 2020 site visit.

Pond – **C**
The perennial stock pond that is located along a trail in the western portion of the park was not directly assessed during the February 12, 2020 site visit. The Quarry Park biological resources assessment report (WRA 2018) describes this pond as surrounded by eucalyptus grove. Because the adjacent eucalyptus grove was assigned a **C** grade, the pond was given a corresponding **C** grade.

Seasonal wetlands – **D**
The seasonal wetland within Quarry Park that was directly assessed is located on the quarry floor in a highly trafficked area. The area shows signs of seasonal inundation and native vegetation, but the close proximity to the trail has degraded the area severely. The native vegetation is sparse showed signs of trampling. A WRA biologist observed off-leash dogs in the area during the February 12, 2020 site visit. Therefore, all seasonal wetlands in Quarry Park were assigned a **D** grade.

Pillar Point Bluff Park

Arroyo willow thicket – **A**
A small patch of arroyo willow thicket was observed along the sea side edge of the Ross Cove trail. The section of this trail is proposed to be an on-leash area, but is connects to off-leash trails nearby. The willow thicket does not show any evidence of pedestrian trampling likely due to its precarious location.

Monterey pine stands – **C**
A stand of Monterey pine occupies the center area of Pillar Point Bluff Park east of the Jean Lauer Trail. The canopy is composed of Monterey pine and the understory consists of mostly non-native grasses such as Harding grass (*Phalaris aquatica*). No signs of trampling were observed in the Monterey pine stands.

Northern coastal scrub – **B and C**
The majority of the landscape at Pillar Point Bluff Park is composed of northern coastal scrub habitat. The dominant species is coyote brush (*Baccharis pilularis*). Areas designated with a **B** grade also support other natives such as California sagebrush (*Artemisia californica*) and yarrow (*Achillea millefolium*), with low relative cover by non-native grasses. Areas assigned a **C** grade are characterized by lower relative cover of California sagebrush and yarrow and higher relative cover of non-natives such as Harding grass and Cape ivy.

Beaches and sea cliffs – **A**
The beaches at Pillar Point Bluff Park consist of open sandy areas and tide pools that are exposed at low tide. These areas were not directly observed by WRA during the site visit and their quality has been determined by desktop analysis. The cliffs slope dramatically down to the beach and support little vegetation. There is no evidence of trampling in the cliff area likely due to the hazards traversing this area would present.

Wetlands and potential wetlands – **B**

The majority of the wetland habitat located within the boundary of Pillar Point Bluff Park, is not in the vicinity of any proposed off-leash dog trails. These trails were not proposed due to their proximity to this sensitive habitat. The wetlands nearest to the off-leash trail consist of a seasonal wetland along the eastern side of the Jean Lauer Trail. This area has already been designated as sensitive habitat by a sign along the trail. The wetland shows some signs of trampling around the edges and is composed of mainly native wetland plants. There is an undesignated trail that leads into the wetland area from the Jean Lauer Trail which could explain the trampling evidence observed. The area is fringed by coyote brush, which provides a barrier between the trail and the wetland.

References

Arechiga, R. 2017. Personal communication with San Mateo County Parks on July 10, 2017.

Baldwin, BG, DH Goldman, DJ Keil, R Patterson, TJ Rosatti, and DH Wilken (eds.). 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley, CA.

[CDFW] California Department of Fish and Wildlife. 2020. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento, California. Accessed: February 2020.

[CNPS] California Native Plant Society. 2020a. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, California. Accessed: February 2020.

[CNPS] California Native Plant Society. 2020b. A Manual of California Vegetation Online - Salix lasiolepis Shrubland Alliance. California Native Plant Society, Sacramento, California. http://vegetation.cnps.org/alliance/282. Accessed February 2020.

Codde, S. and S. Allen. 2013. Pacific harbor seal (Phoca vitulina richardsi) monitoring at Point Reyes National Seashore and Golden Gate National Recreation Area: 2012 annual report. Natural Resource Technical Report NPS/SFAN/NRTR—2013/806. National Park Service, Fort Collins, Colorado.

[Corps] United States Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

County of San Mateo. 1998. Local Coastal Program. June 1998.

County of San Mateo. 2013. Local Coastal Program Policies. June 18.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.

Gardali, T and J Evens. 2008. San Francisco Common Yellowthroat (Geothlypis trichas sinuosa). In: Shuford, WD and T Gardali, eds. 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.

Gervais, J. A., D.K. Rosenberg, and LA. Comrack. 2008. Burrowing Owl (Athene cunicularia).In: Shuford , W. D. and T. Gardali, eds. 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.

Google Earth. 2020 Aerial Imagery 1993-2020. Accessed February 2020.

Hickman, K. 2017. Camera Trap Survey of Wildlife in Quarry Park. Produced for San Mateo County Parks.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Prepared for the California Department of Fish and Game, Sacramento, California.

T. Keeler-Wolf, Schirokauer, D., J. Meinke, and P. van der Leeden. 2003. Plant community classification and mapping project. Point Reyes National Seashore, Golden Gate National Recreation Area, San Francisco Water Department Watershed Lands, Mount Tamalpais, Tomales Bay, and Samuel P. Taylor State Parks. Final report. California State Department of Fish and Game, Wildlife and Habitat Data Analysis Branch, Sacramento, National Park Service, Point Reyes Station, and Aerial Information Systems, Redlands, CA. 82 pp. [http://biology.usgs.gov/npsveg/pore_goga/index.html]

Kopec, Diane. 1999. Harbor Seals in the Bay. Tideline Vol 19 No. 1 1-3.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17.

Matocq, M. D., and Lacey, E. A. Philopatry, kin clusters, and genetic relatedness in a population of woodrats (Neotoma macrotis), Behavioral Ecology, Volume 15, Issue 4, July 2004, Pages 647–653, https://doi.org/10.1093/beheco/arh056

Mitchell, D. E. 2000. Allen's Hummingbird (Selasphorus sasin). In: The birds of North America (A. Poole, and F. Gill, eds.), no. 501. The Birds of North America Inc., Philadelphia, PA.

Sawyer, J. O. and T. Keeler-Wolf. 2009. A Manual of California Vegetation. California Native Plant Society, Sacramento, California.

Shuford, WD and T Gardali, 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.

[TMMC] The Marine Mammal Center. 2018. Marine Mammal Information.
http://www.marinemammalcenter.org. Accessed February 2018.

[USFWS] U.S. Fish and Wildlife Service. 2020. ECOS – Environmental Conservation Online System. U.S. FWS Threatened & Endangered Species Active Critical Habitat Report. Sacramento Fish and Wildlife Office. Available onlinehttps://ecos.fws.gov/ecp/report/table/critical-habitat.html. Accessed February 2020.

[WRA] WRA, Inc. 2018. Biological Resources Assessment, San Mateo County Quarry Park Master Plan Project, El Granada, San Mateo County, California. December.

Figures

Path: L:\Acad 2000 Files\29000\29010-2\GIS\ArcMap\Location.mxd

Sources: National Geographic, WRA | Prepared By: njander, 2/26/2020

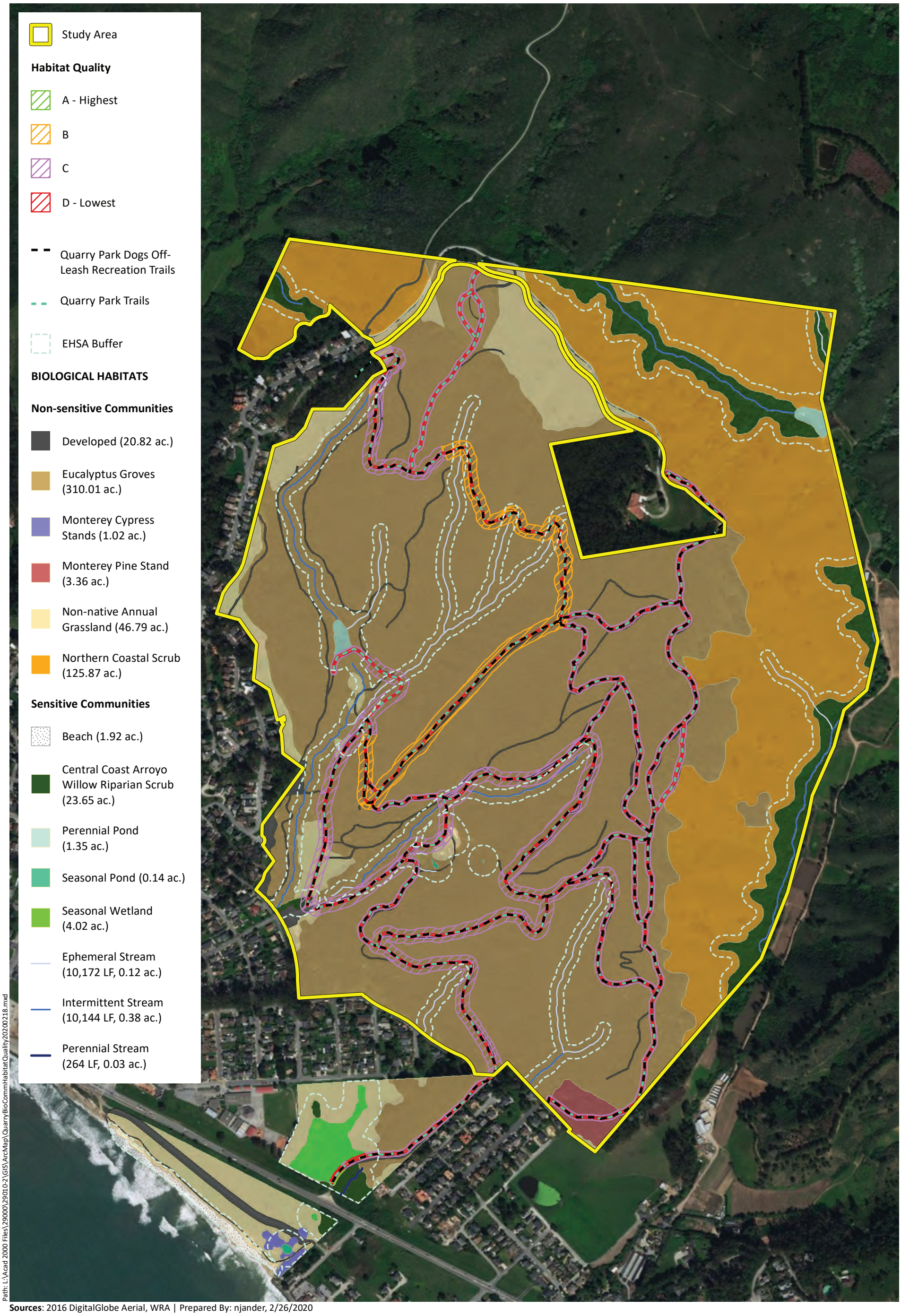
Figure 1. Study Area Regional Location Map

Biological Resources Technical Memorandum
San Mateo County Parks
San Mateo County, California

0 0.5 1 Miles

N

ENVIRONMENTAL CONSULTANTS



Path: L:\Acad 2000 Files\29000\29010-2\GIS\ArcMap\QuarryBioCommHabitatQuality20200218.mxd

Sources: 2016 DigitalGlobe Aerial, WRA | Prepared By: njander, 2/26/2020

*Primarily based on a combination of desktop analysis and GIS-based modeling; limited areas were confirmed in the field on February 12, 2020.

Figure 2: Quarry Park Biological Communities and Habitat Quality*

Biological Resources Technical Memorandum
San Mateo County Parks
San Mateo County, California

wra ENVIRONMENTAL CONSULTANTS

Study Area

ESHA Buffer

Pillar Point Bluff Recreation Off Leash Dog Trails

Pillar Point Bluff Recreation Trails

Habitat Quality

A - Highest

B

C

D - Lowest

Non-Sensitive Biological Communities

Northern Coastal Scrub (121.94 ac.)

Arroyo Willow Thicket (15.54 ac.)

Monterey Pine Stands (20.21 ac.)

Developed (5.84 ac.)

Sensitive Biological Communities

Beach and Sea Cliff (26.45 ac.)

Freshwater Emergent Wetland/Pond (0.05 ac.)

Potential Wetland (34.03 ac.)

Pond (0.16 ac.)

Tidal Open Water (2.05 ac.)

0 200 400 Feet

N

Path: L:\Acad 2000 Files\29000\29010-2\GIS\ArcMap\PillarBioCommHabitatQuality20200214.mxd

Sources: DigitalGlobe 2016 Aerial, WRA | Prepared By: njander, 2/26/2020

*Primarily based on a combination of desktop analysis and GIS-based modeling; limited areas were confirmed in the field on February 12, 2020.

Figure 3: Pillar Point Bluff Park Biological Communities and Habitat Quality*

Biological Resources Technical Memorandum
San Mateo County Parks
San Mateo County, California

wra ENVIRONMENTAL CONSULTANTS

APPENDIX C – DOGS ENVIRONMENTAL IMPACTS WHITEPAPER

WHITEPAPER ON DOG IMPACTS TO NATURAL RESOURCES

Prepared by John Baas

1.0 Background

The San Mateo County Parks Department (Parks) is seeking to launch a pilot program in which off-leash dog recreation would be introduced to specified San Mateo County Parks. The pilot program would authorize off-leash dog recreation on specified trails in Quarry Park and on the Pillar Point Bluff for 12 months. Should the pilot program prove to be effective and not produce adverse environmental impacts, the Department would look to make the expanded uses permanent. A Dog Work Group, comprised of members of the dog-owner, environmentalist, mountain biker, and equestrian communities; Parks Commissioners; and Parks staff developed a recommendation for the aforementioned program and working to identify potential county park locations where off-leash dog walking can be piloted and evaluated.

Parks has committed to exploring various dog management strategies to make currently specified disparate approaches consistent with the County Ordinance Code. Current County ordinance sections prohibit dogs off-leash in County parks. Yet, Parks acquired properties from other agencies that historically allowed dogs.

The purpose of this whitepaper is: (1) to summarize the results of reconnaissance level site visits conducted at Quarry Park and Pillar Point Bluff, (2) to summarize published research literature and its relevance to the off-leash dog recreation pilot program at the above referenced parks, and (3) to identify any best management practices for addressing potential impacts on biological and physical resources created by allowing dogs off-leash at the above referenced parks.

2.0 Summary of Sensitive Biological and Physical Resources

On February 12, 2020, WRA biologists, Rei Scampavia and Eliza Schlein, traversed segments of the trail networks within Quarry Park and Pillar Point Bluff (i.e., the Study Area): (1) to verify the desktop analysis of vegetation communities, (2) to rank the baseline conditions of habitat quality within view from the trails traversed, (3) to determine if existing conditions provide suitable habitat for any special-status plant or wildlife species, and (4) to determine if sensitive habitats including ESHAs are present close to trails.

Quarry Park

Eight different vegetative communities were documented within Quarry Park during the reconnaissance level site visit (Figure 1) using a combination of desktop analysis and field observations. These include eucalyptus groves, Monterey pine stands, non-native annual grasslands, northern coastal scrub, Central Coast arroyo willow riparian scrub, ephemeral streams, ponds, and seasonal wetlands. Of these, Central Coast arroyo willow riparian scrub, ephemeral streams, ponds, and seasonal wetlands are considered Environmentally Sensitive Habitat Areas (ESHAs) according to the California Coastal Commission and the San Mateo County Local Coastal Program. Of all the ESHAs observed, only the Central Coast arroyo willow riparian scrub is considered to be high quality habitat based on the categorical system established by WRA biologists

This categorical system documents existing habitat quality of the biological communities that are located within close proximity to the trails that are included in the off-leash dog recreation pilot project and

assigns ratings to habitat ranging from "A" (High Quality and Mostly Intact) to "D" (Low Quality and Extensively Altered or Impacted) (Table 1).

Although it was not directly observed during the 2020 visit, previous visits have documented California strawberry, a sensitive plant under the County Local Coastal Plan (LCP).

Table 1. Habitat Quality Categories

Category A	**High Quality / Mostly Intact** Vegetation, where present, is composed of greater than 75% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is absent or negligible.
Category B	**Moderate Quality / Moderately Altered or Impacted** Vegetation, where present, is composed of greater than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present but not extensive.
Category C	**Low Quality** Vegetation, where present, is composed of less than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present but not extensive.
Category D	**Low Quality / Extensively Altered or Impacted** Vegetation, where present, is composed of less than 50% native plant cover based on visual estimates from the trail. Visible evidence of vegetation trampling by humans or dogs is present and extensive.

For areas that were not surveyed during the site visit, extrapolations based on field observations in related habitat, desktop analysis using Google Earth imagery (2020), and photographs from the Quarry Park biological resources assessment (WRA 2018) were combined to model the biological communities and their qualities. Areas thought to be part of a biological community observed during the site visit, but not directly traversed, were given the same representative habitat quality rating as observed habitats.

During the February 12, 2020 site visit, WRA biologists did not observe any special status plant or animal species along the trails of Quarry Park. A CNDDB and CNPS search of the park area, in combination with a previous WRA Biological Resources Assessment for the park completed in 2018, was used to determine that the following special status animals may be present during various portions of their life history within the park boundary: Burrowing owl (Athene cunicularia, CDFW Species of Special Concern), San Francisco

dusky-footed woodrat (*Neotoma fuscipes annectens*, CDFW Species of Special Concern), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*; Federal Endangered, State Endangered, CDFW Fully Protected Species), and California red-legged frog (*Rana draytonii*; State threatened, CDFW Species of Special Concern).

Although not documented within Quarry Park's boundaries, CRLF is documented nearby in water bodies within typical dispersal distance of the park. CRLF thus may traverse the park or enter its wetlands during upland movements in the rainy season. Some wetlands within the park could potentially be used as aquatic breeding or non-breeding habitat. SFGS additionally has potential to occur in wetland areas, given its potential to co-occur with CRLF, one of its chief prey species.

While burrowing owl is periodically documented along the San Mateo County Coast, this area is not generally considered to be part of this species' breeding range. Therefore, burrowing owl would likely only use habitats within Quarry Park during brief wintering stopovers. Suitable habitats for this species are additionally limited within Quarry Park, as this species requires open habitats with California ground squirrel (*Otospermophilus beecheyi*) burrows or surrogates.

*Summary***:** WRA biologists determined that special-status species that may occur within Quarry Park are not likely to be affected by off-leash dogs because all species would either be located in ESHA areas that would not allow off-leash dogs or would be out of reach from ground predators.

Pillar Point Bluff

Five different vegetative communities occur within the Pillar Point Bluff (Figure 2), and these were verified through a combination of desktop analysis and field observations. These vegetation communities include arroyo willow thickets, Monterey pine stands, northern coastal scrub, beaches and sea cliffs, and wetlands and potential wetlands. Of these communities, beaches and sea cliffs and wetlands and potential wetlands are considered ESHAs under the San Mateo County Local Coastal Program. The beaches and seacliffs are considered high quality habitat and the wetlands and potential wetlands are moderate quality habitats based on the categorical system established by WRA biologists, and summarized above. The beaches and sea cliffs do not occur in areas where off-leash dog trails are proposed, so those habitats would not be impacted by the Pilot Project. One special status plant, Rose leptosiphon (*Leptosiphon rosaceus*, CNPS Rare Plant Rank 1B.1), was documented in areas of the park not proposed for off-leash dog use. This plant species would not be affected by the Pilot Project.

Special status animal species with the potential to occur within the Pillar Point Bluffs include California red-legged frog (*Rana draytonii*, Federal Threatened Species, CDFW Species of Special Concern), San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*, CDFW Species of Special Concern), Pacific harbor seal (*Phoca vitulina richardsi*, MMPA), California sea lion (*Zalophus californianus*, MMPA), and the San Francisco garter snake (*Thamnophis sirtalis tetrataenia*; Federal Endangered, State Endangered, CDFW Fully Protected Species*).*

CRLF and SFGS both have the potential to occur within the boundaries of Pillar Point Bluff. CRLF has been documented to occur in Pillar Point Marsh; SFGS, although not documented at Pillar Point Bluff, can often co-occur with CRLF in wetlands with emergent vegetation, given that CRLF is a common prey item for SFGS. Pillar Point Marsh, the main area with potential for CRLF and SFGS to occur, is designated as an ESHA and is not adjacent to trails proposed for off-leash use. However, the small seasonal wetland to the east of the Jean Lauer Trail is located in relatively close proximity to a proposed off-leash trail and could be used by CRLF as a hydration stopover or non-breeding aquatic habitat during upland movements in the

rainy season. The inundation period of this wetland is unknown, and thus its status as a breeding pond cannot be determined.

Summary: Both marine mammal species (Pacific harbor seal and sea lion) do not occur in areas of the park proposed for off-leash dog use, but due to the proximity of proposed off-leash trails by Ross' Cove, possible impacts could occur. CRLF has been documented within Pillar Point Marsh and may traverse upland areas during dispersal movements. SFGS additionally has some potential to occur within ESHAs at this park, given that it often co-occurs with CRLF as a prey source. Potential habitat for SFGS and CRLF within Pillar Point Bluff is located in ESHAs and is thus not located in areas that will be impacted by proposed off-leash trails. The one possible exception to this is the seasonal wetland to the east of the Jean Lauer trail, which may provide habitat for CRLF during certain portions of the year and is in close proximity to a proposed off-leash trail There is potential for dogs off-leash to impact potential habitat in ESHAs. However, if the standards (specifically standard #4: dog entry into sensitive areas) associated with the Adaptive Management Plan are adhered to these impacts can be avoided.

3.0 Summary of Follow-up Pillar Point Bluff and Quarry Park Site Visits

On August 1, 2020, an additional site visit was made to make general observations of visitor and dog use at each of the subject parks.

Pillar Point Bluffs: The primary trail bisecting the park is the Jean Lauer Trail. The trail has a gravel surface and is flat and broad. There were numerous locations where dog waste was found within 15 to 30 feet off the edge of trail. There were several locations of what appeared to be digging beneath plants resulting in exposed roots, but it could not be confirmed as to whether the digging was caused by dogs. Multiple locations along the edge of the bluff were viewed, and the majority of slopes in between the bluff and the beach were very steep.

During the 1-hour site visit, approximately nine parties were observed, six with dogs. Overall, this park appeared heavily used based on a single reconnaissance level site visit. There are multiple locations of littering, and multiple social trails, some located along the "fall line." There also is evidence of erosion on multiple trails (designated and social trails) that appear unrelated to dog use.

Quarry Park: The park is approximately twice as large as PPB and visitor use during the limited reconnaissance level site visit was lower than what was observed at PPB. The majority of trails follow previously established roads that provided access to multiple locations within the old quarry. The trails appear in good condition. No evidence of erosion or social trails were found, and substantially less dog waste was found on or immediately adjacent to those trails visited. No evidence of digging or soil erosion attributable to dogs was identified.

4.0 Key Findings from Literature Reviews and Case Studies

The general subject of dogs and impacts to wildlife is well documented, and WRA staff examined the following sources of information to complete this whitepaper. In contrast, documented studies on impacts of dogs on plant species is not well documented.

- Multiple articles from a literature review of recreation impacts to natural resources prepared by Portland Metro Parks
- Two articles in the California Fish and Wildlife Journal, Special Issue on the Effects of Non-consumptive Recreation on Wildlife in California
- Other studies not covered in the above literature reviews
- Jefferson County Open Space Dogs Off-leash Case Study

4.1 Metro Parks Literature Review

In the Metro Parks (Portland, Oregon) review, Hennings hypothesized four types of dog to natural resource impacts based on a literature review of 77 articles.

- Physical or temporal displacement of wildlife
- Wildlife disturbance and stress responses
- Human disease and water quality impacts from dog waste

4.1.1 Physical or Temporal Displacement

Regarding physical or temporal displacement of wildlife, a Colorado study showed reduced deer activity within 100 meters (m) of recreational trails where dogs were prohibited, and the distance doubled to at least 50 m for trails that allowed dogs, with similar effects on a variety of small mammals including squirrels, rabbits, chipmunks, mice, and prairie dog burrow locations Lenth et al. 2008). The study was completed using pellet surveys, track plates, remote triggered cameras, on-trail scat surveys, and mapping prairie dog (*Cynomys ludovicianus*) burrow locations and did not differentiate between day and night. No effects of dogs on vegetation or soil were addressed in this study. Another study in Colorado found that prairie dogs demonstrated increased wariness of humans with dogs over humans without dogs, although they showed antipredator responses in both situations. No effects of dogs on vegetation and soil were addressed in this study.

In the San Francisco Bay Area, several studies on recreation impacts to avian wildlife have emerged in recent years. For example, a 2008 study on foraging shorebirds found no change in behavior or species diversity as a result of recreational use of trails (Trulio and Sokale 2008). These findings indicate foraging shorebirds at regularly used trails may habituate to human activity. However, other experimental studies have found that shorebird numbers decreased with human presence on trails (Trulio et al. 2013), and that trail uses such as jogging and dog walking can increase flight initiation distance (Lafferty 2001a, 2001b), which was measured as the distance between hikers and birds. Differences in shorebird response to human disturbance are likely attributable to the birds' degree of habituation to human disturbance. Studies indicate that shorebirds in areas of more frequent human disturbance display less response to human activity; although, birds tend to use these areas at lower rates than areas with less disturbance. They also suggested that infrequent trail use may be more disruptive to birds then frequent trail use, indicating that habitation may occur as referenced above. Similarly, Miller et al. (2001) found the composition and abundance of birds to be altered in a Colorado grassland and forest setting, with an area of influence of approximately 75 m (zone where human activity may displace wildlife from suitable habitat).

Reed and Merenlender (2008) examined dog impacts on mammalian carnivores in the Northern San Francisco Bay Area in multiple open space locations. They consistently found that sites where quiet, non-consumptive recreation is permitted had lower density of native mammalian carnivores than areas with no recreation. All recreational sites showed a shift in carnivore detections toward non-native carnivores such as domestic dogs and cats. These results corroborate the relatively consistent finding that the mere presence of humans and their introduced domestic species may prove detrimental to native wildlife, regardless of the types of recreation in which they engage. Whether dogs were present on or off-leash, did not have an effect on mammalian carnivore densities at the study sites.

4.1.2 Wildlife Disturbance and Stress

The Metro review cites four articles documenting wildlife disturbance and stress in birds; however, none of these articles evaluated the presence of dogs as a stressor. Hormone levels indicative of stress were artificially manipulated by the investigators for all of these studies. This review also cites two articles (Phillips and Alldredge, 2000) and Stankowich (2008) that evaluated stress induced problems with birthing in deer and elk. However, neither study specifically investigated the presence of dogs, much less dogs off-leash on birthing rates in these ungulate species. Thus, the articles summarized in the Metro literature review do not offer any information on the relationship between dogs off-leash and wildlife disturbance and stress.

4.1.3 Water Quality Impacts

The third type of impact is most relevant to the off-leash dog pilot program. One study documented water quality impacts from dogs at multiple stream sites, and another study documented erosion in areas visited by dogs. Results of the water quality study indicated that dog waste accounted for 13% of total fecal bacteria at multiple stream sites in the Tualatin River Basin (Clean Water Services, 2005). However, neither study clarified if the areas where sampling occurred were dog off-leash areas. None of the articles reviewed addressed impacts of dogs on vegetation, and only one addressed impacts of dogs on soil erosion. This case study was conducted by Jefferson County Open Space and focused on a confined space of one acre that was eventually expanded to approximately five acres. The case study was based on professional judgement; it did not include quantifying soil loss due to erosion caused by dogs off leash.

Based on WRA's literature review, the issue of dogs and water quality appears to be exclusively focused on dog waste. As cited in Lenth et al. (2008), the City of Boulder Open Space and Mountain Parks noted that dogs often defecate very soon after arriving at a trail, and many visitors do not walk dogs much beyond the trailhead. As part of their review of relevant literature NPS stated that dogs were determined to be a major contributor of fecal coliform bacteria in the Four Mile Run watershed in Northern Virginia; however, other studies in Long Beach, California, showed no effect from dog waste in areas where dogs are allowed as compared to the rest of the beach. About 50 percent of approximately 500 fecal coliform samples from Four Mile Run and its tributaries exceeded Virginia water quality standards for fecal coliform bacteria (NVPDC 1998b). In a 1982 study of Baltimore, Maryland, catchments, dog waste was the single greatest contributor of fecal coliform and fecal strep bacteria (Lim and Olivieri 1982).

The San Mateo Resource Conservation District (RCD) monitors water quality at multiple locations at and upstream of Pillar Point Harbor. In a 2014 report prepared by UC Davis (Kim and Wuertz, 2014), the authors found dogs represented a significant, but not the main, fecal source at Capistrano Beach. The main fecal source at Deer Creek was bovine followed by canine. The standards, expressed in Total Daily Maximum Load for fecal coliform are regulated by the Regional Water Quality Control Board, and are related to the land uses displayed below. The standard is the following: Presence of E. coli shall not exceed 320 cfu/100mL at any monitoring location.

4.2 Articles from the CDFW Journal Special Issue

Most of the articles focused on management of and planning for outdoor recreation in protected areas occupied by wildlife (mostly special status species) throughout California. None of the articles evaluated impacts of dogs off-leash, or even the mere presence of dogs, for their potential impacts to vegetation, soils, or water quality. Of note though, Townsend et al. (2020) investigated changes in wildlife trail use and occupancy from baseline conditions after a park in Sonoma County opened to the public. Therefore, this article was reviewed and is summarized below. The researchers wanted to know if wildlife would alter either their use of the trails or the surrounding areas or both in response to the park opening. They generated single-season occupancy estimates as a site-wide occupancy metric from 23 camera traps placed at 0.5 km intervals throughout the park and wildlife and human detection rates to measure intensity of trail use from 10 camera traps placed every 500 m on the trail. The researchers compared the findings from the four seasons before to the four seasons after the park opened to the public. Human trail use increased sharply after opening and then lessened but was markedly higher than prior to opening. Bobcat (*Lynx rufus*), coyote (*Canis latrans*) and gray fox (*Urocyon cinereoargenteus*) did not alter trail use relative to study area occupancy. Two species, black-tailed deer (*Odocoileus hemionus*) and gray squirrel (*Sciurus griseus*) altered trail use, and puma (*Puma concolor*) and wild turkey (*Meleagris gallopavo*) altered both trail and study area use. All species, except for the raccoon (*Procyon lotor*) and wild turkey, recovered

to pre-opening conditions, by the winter (that is, after approximately 9 months) following opening. However, the topic of dogs was not directly addressed in any of the articles, and only the article by Lucas mentioned dogs and wildlife, drawing on the literature compiled for the Portland Metro Parks study.

The second article in the CDFW special issue was prepared by Baas et al. (2020) and included a comprehensive literature review that broadly investigated effects of non-consumptive recreation use on wildlife and plant species. They found most research on the effects of non-consumptive recreation on wildlife to date has focused on birds and mammals. Very little research focused on reptilian or amphibian species, and only one report was found that focused on impacts of multiple types of recreation uses on sensitive plant species. (Forest Service 2008). These data gaps therefore present difficulties in integrating wildlife-protective policies into public access management. Moreover, these gaps are exacerbated by a lack of wildlife studies that include data on public use patterns of open space areas. Baas et al. (2020) only found one study that attempted to link visitor use levels and the ease of public access to open space areas to wildlife impacts (Larson et al. 2016). A follow-up review of a literature review on dogs and impacts to wildlife conducted by Portland Metro Parks did not identify any articles that investigated dog impacts associated with visitor use levels.

Other research relevant to potential impacts to vegetation speculated on the extent to which dogs go off-trail. It has been suggested that dogs, "particularly while off leash, increase the radius of human recreational influence or disturbance beyond what it would be in the absence of a dog" (Sime 1999, Miller et al. 2001, Lafferty 2001a). Andrusiak (2003) suggested that dogs traveling quietly along a trail with screening vegetation on both sides are unlikely to disturb or even encounter wildlife. Off-leash dogs and their handlers were studied in Boulder, Colorado by Bekoff and Meaney (1997). They found that off-leash dogs generally did not travel far off-trail and rarely were observed to chase other dogs, disturb people, chase wildlife, destroy vegetation or enter bodies of water (Bekoff and Meaney 1997). They further noted that dogs traveling farther off trail were often lured there by the people responsible for them (throwing sticks, balls, or Frisbees, or going off trail and calling their dogs to follow). When dogs chase or pursue wildlife while off leash, they may be lured off a trail or road to follow wildlife and disturb vegetation along the way (Bekoff and Meaney 1997).

4.3 Other Studies

Other studies documented impacts of dogs (both on and off-leash) on terrestrial mammals, birds, and marine mammals. The most obvious impact was dogs chasing wildlife. As noted by Sime (1999), "At some level, domestic dogs still maintain instincts to hunt and/or chase." However, several researchers have suggested that dogs traveling quietly along a trail with screening vegetation on both sides are unlikely to disturb or even encounter wildlife. But "even if the chase instinct is not triggered, dog presence in and of itself may be an agent of disturbance or stress to wildlife" (Sime 1999) and animals that are prey of wild canids (carnivorous mammals of the family Canidae, which includes the dogs, wolves, foxes, coyotes, and jackals) may perceive dogs as predators and may be subject to non-lethal, fear-based alterations in physiology, activity, and habitat use (Miller et al. 2001; Lenth et al. 2008). Generally, potential direct impacts to wildlife as a result of interactions with domestic dogs could be broadly classified as falling into three categories: harassment, injury, or death and secondary or indirect impacts include displacement, avoidance, abandonment of areas and habitat, physical alteration of habitat, and potential disease transmission. Harassment is defined as the disruption of normal maintenance activities, such as feeding, resting, or grooming and can include disrupting, alarming, or even chasing after wildlife. Dogs may disturb wildlife either accidentally or deliberately by chasing after wildlife (Andrusiak 2003). Reactions are most often short term but may result in responses that range from direct and obvious (flight, confrontation) to

covert and physiological (loss of energy, stress), which complicates the documentation of disturbance to wildlife from the presence of dogs (Sime 1999). Animals most often affected by disturbance from dogs include deer, small mammals, and birds (Sime 1999), although canids and other larger mammals such as bobcats can also be affected by disturbance from dogs (George and Crooks 2006).

Dog presence has been correlated with altered patterns of habitat use for wildlife species (Lenth et al. 2008). "Authors of many wildlife disturbance studies concluded that dogs with people, dogs on leash, or loose dogs all provoked the most pronounced disturbance reactions from their study animals" (Sime 1999). Dogs on leash disturb wildlife less frequently than dogs off leash, but actual direct injury or mortality to wildlife by dogs in either situation is rare (Andrusiak 2003). If dogs chase or pursue wildlife, injuries to wildlife could be sustained directly or indirectly as a result of accidents that occur during the chase rather than direct contact with the dog. Injuries sustained may result in death or may compromise the animal's ability to carry out other necessary life functions resulting in eventual death or reduced reproductive success. The modification of normal behaviors such as feeding, nesting, grooming, and resting can also occur through repeated disturbance and wildlife may relocate from preferred habitat to other areas to avoid harassment, including the displacement of wildlife from public to private lands (Sime 1999). When dogs participate in "marking" (scent marking with urine), it could also attract wildlife or cause avoidance of an area by wildlife. Dogs can also physically damage burrows used by ground-dwelling mammals (squirrels, pocket gophers, chipmunks, and other rodents) by digging up or collapsing the burrows.

A study of marmots by Mainini et al. (1993) provides some indication of potential responses of ground-dwelling mammals to the presence of dogs and/or people. Their study showed that the reaction of marmots was least when hikers remained on trails and greatest from hikers with a free-running dog (Mainini et al. 1993). With trail hikers and no dogs, the marmots rarely took refuge in the burrows; this happened more often in the instances when these hikers had a leashed dog and with cross-country hikers (Mainini et al. 1993). Even more animals took to their burrows in those instances of people walking off the trail and across the marmot burrow or hikers with free-running dogs. Marmots reacted with warning whistles only during encounters with hikers with dogs; and this occurred more in the case of hikers with a free-running dog than with trail hikers with a dog on a leash.

A study of off-leash dog/wildlife interactions in the Berkeley Meadow and Cesar Chavez Park found that wildlife (raptors and egrets) were more abundant in Berkeley Meadow, where there are fewer people and off-leash dogs, than at Chavez Park, where the off-leash dog area is adjacent to the delineated Protected Natural Area, which off-leash dogs regularly access (Abraham 2000). In a study conducted by Lenth et al. (2008) at two study sites, dogs were allowed to travel off-leash (under "voice and sight control") At Fort Funston in GGNRA, a survey was conducted to determine the differences between a restricted/restored habitat that included a fenced exposure and was planted with native vegetation versus an unrestricted/unrestored habitat that included an area that received heavy visitor use, including off leash pets and was not planted with native vegetation (Shulzitski and Russell 2004). Results of the survey detected two to three times more wildlife (bird, amphibian, reptile, and mammal species) in the restricted/restored habitat compared to the unrestricted/unrestored habitat (Shulzitski and Russell 2004).

Birds

Birds are usually more sensitive to the approach of dogs than they are to the approach of human beings and the "presence of dogs may intensify bird responses to pedestrians" (Sime 1999). Disturbance by dogs generally occurs when unleashed dogs chase feeding and roosting birds; however, birds can also be disturbed by the physical proximity of on-leash dogs and/or by barking. It has been shown that birds react

when dogs accompany walkers and that even "dogs restrained on leashes can disturb birds sufficiently to induce displacement and cause a decrease in local bird fauna" (Banks and Bryant 2007). Although leashing makes it difficult for pets to chase birds and reduces the probability of disturbance and the number of birds impacted per disturbance, leashed pets still disturb birds (Lafferty 2001a).

Ground-dwelling birds have been shown to be most affected by dogs (Banks and Bryant 2007). "Dogs can disrupt habitat use, cause displacement responses, and injure or kill birds" (Sime 1999). In addition, the predictability of disturbance is reduced when dogs are off-leash and dogs that are off leash in natural areas during the breeding season can result in a higher level of disturbance to wildlife, including ground-nesting or colonially nesting birds (Sime 1999). Shorebirds such as gulls and terns may use beach/dune habitat for roosting, and some species are found year-round. Flocking birds in open habitats (i.e., beaches) such as shorebirds are more vulnerable to disturbance than single birds in dense cover (Andrusiak 2003). Lafferty (2001a) states that in general, shorebirds at the Santa Barbara study beach were very sensitive to dogs on the beach.

Pet activity can also reduce shorebird abundance (Burger 1981, Lafferty 2001b). In Burger et al. (2004), research has indicated (J. Burger, unpublished data 2002) that dogs are currently the prime and most important factor disturbing the shorebirds at protected beaches along Delaware Bay (Burger et al. 2004). The effect of intruders, including humans and dogs, on the beaches can be disruptive, especially when human activity is intense, or people are on the beaches for long periods of time. Shorebird foraging is disrupted by the presence of people and dogs on the foraging beaches, and they respond by flying away (Burger et al. 2004). Sensitivity of shorebirds to dogs may result from previous experiences of being chased or because birds instinctively view dogs as predators (Lafferty 2001b). Separate studies further note that even dogs restrained on leash can disturb birds sufficiently to induce displacement and cause a decrease in local bird fauna (Banks and Bryant 2007) and that although being walked on leash makes it difficult for dogs to chase birds and reduces the probability and the number of disturbances to birds, dogs walked on leash still disturb birds (Lafferty 2001a). Dogs can also disrupt habitat use, cause displacement responses, and injure or kill birds (Sime 1999). They can also cause temporary abandonment of shorebird nests containing eggs or young, as well as crushing eggs or preying on young.

At GGNRA, there have been multiple instances where dogs have flushed or chased shorebirds and snowy plovers at Ocean Beach and Crissy Field as documented in NPS monitoring reports by Park Natural Resources Division (Hatch et al. 2006, Hatch et al. 2007, Hatch et al. 2008). Birds are unlikely to habituate to dog disturbance because dog disturbance is unpredictable and represents an actual physical threat (Andrusiak 2003) and further studies have shown that local wildlife does not become habituated to continued disturbance by dogs (Banks and Bryant 2007).

Hatch et al. (2006) examined the impacts that humans and dogs have on the Western Snowy Plovers at Ocean Beach and Crissy Field in San Francisco. The two areas are known to support wintering populations of the federally listed species. This report was written before new restrictions on off-leash dog walking were put in place. Snowy plovers see dogs as threats and frequently respond by running or taking flight. Such disturbances at wintering sites require an increase in energy expenditure that may adversely impact individual survival and reproductive success, thereby affecting the species at the population level.

When off leash dog walking was allowed to resume in the protected areas following a 2005 court ruling, the number of dogs at Ocean Beach substantially increased, and 75% to 85% of them were off leash. Additionally, the number of dogs per person increased. The average number of dogs per hour observed chasing shorebirds jumped from 0.14 in 2004 to 0.48 in 2005 on weekdays, and from 0.33 in 2004 to 1.92

in 2005 on weekends. There was also a 125% increase in the observed number of dogs chasing shorebirds during surveys in 2005 as compared to what was observed from 2000 through 2005.

Snowy plovers also experienced a significant increase in the average number of dogs chasing them in survey year 2005 as compared to 2004 ($df=1$, $F=4.36$, $P<0.05$). All survey observations of dogs chasing snowy plovers from the 2000 through 2005 survey years occurred in the 2005 survey year. Dogs were observed chasing plovers on 4 occasions, disturbing a total of 22 snowy plovers, in February and March of 2006. No dogs were observed chasing plovers in the 2004 survey year.

Townsend and Merkle (2020) recently published monitoring results of for Western snowy plovers at GGNRA. Seventy-four percent of dogs observed in the Snowy Plover Protection Area at Ocean Beach were not leashed. Despite this, higher than average numbers of plovers were observed with a max count of 74 and a winter average of 55 individuals. Only 4% of dogs were unleashed in the Wildlife Protection Area at Crissy Field where protective fencing, entrance gates, and signage were posted. High visitation by people and dogs, particularly off-leash dogs, has been noted as a major source of disturbance to snowy plovers on Ocean Beach and Crissy Field (Hatch 1996, Zlatunich 2007). Dogs were observed deliberately chasing snowy plovers, and inadvertently disturbing plovers or chasing other shorebirds during 111 surveys totaling approximately 40 hours of direct plover observation from 1994 to 1996 (Hatch 1996).

Zlatunich (2010) reported results of 2008 and 2009 monitoring of western snowy plover at Crissy Field Wildlife Protection Area (WPA). The WPA is a regular overwintering site for plovers in the area and is listed in the USFWS Recovery Plan for the species. There are five access points to the gated area that clearly state no off leash dogs are allowed. Compliance with the dog leash requirements remains approximately 34%, unchanged from 2008-2009, meaning that approximately 2/3 of dog owners visiting the area are failing to comply with the requirement to leash their dogs. There were a minimum of five snowy plovers in the WPA during the 2009-2010 season. Plovers arrived later in the season and departed much earlier than in previous years. This could be due to the construction of a fence along the eastern boundary of the WPA, which bisected usable habitat and allowed off-leash dog play to occur adjacent to the WPA. Only one plover was observed after fence installation.

Marine Mammals

There is documentation of marine mammal strandings as well as healthy animals hauling out on the GGNRA beaches or intertidal, rocky areas (Marine Mammal Center 2010) as a result of nearby dog recreation. Marine mammals that strand on beaches or other shoreline areas are often injured or ill, and can experience additional stress from disturbance, such as dogs biting, barking at, or climbing on the animals.

Healthy marine mammals can also haul out on GGNRA beaches. At the beach in the Crissy Field WPA, three healthy elephant seals (a fully protected species in California) hauled out at different times in December of 2009 and January of 2010, and off-leash dogs detected the scent of the stranded elephant seals and moved toward the seals on the beach (Merkle 2010f). The Marine Mammal Center has documented many cases of marine mammals that have stranded or hauled out on GGNRA sites and been surrounded by dogs, approached by dogs, or chased back into the water by dogs. Depending on the circumstance, the NPS may temporarily fence, sign, and close areas where marine mammals are hauled out, particularly where visitor use is more moderate as opposed to areas of intense use during good weather. On-leash dog walking would restrain or prevent access to stranded marine mammals and marine mammals that haul out on GGNRA beaches and rocky, intertidal habitat. However, even leashed dogs may disturb and cause additional stress to marine mammals. It is important to note that all marine mammals

in GGNRA are protected by the Marine Mammal Protection Act, and any disturbance to a marine mammal would be in violation of this act. The impacts on hauled-out marine mammals may be different from those on stranded marine mammals and include harassment to the extent that they are flushed back into the water and do not return to the beach, which could inhibit establishment of new haul-out sites and/or breeding and pupping sites as marine mammal populations expand. However, the most likely impact from dogs off-leash is from disease transmission associated with dog waste (Trial, 1993). WRA found one newspaper article in the Washington Post describing a dog attack on a Guadalupe fur seal pup at Point Reyes in 2019. That was the only source of information found pertaining to dog attacks on marine mammals.

4.4 Jefferson County Open Space District Dogs Off-leash Case Study

WRA also reviewed Jefferson County (Colorado) Open Space response to managing dogs off-leash. A summary of key events and management actions is provided below.

- Jefferson County Open Space Department typically requires dogs be leashed in open space areas but was pressured in the 1990s to develop off leash areas for dog training.
- Elk Meadow Dog Off-Leash Area (DOLA)
    - Established in the 1990s as the first and only dog park managed by JeffCo Open Space
    - This DOLA did not have fencing or established trails
    - 107 acres
    - Had relatively low to moderate use, estimating about 15-20 visitors per week
- Bark Park at Elk Meadow
    - 1-acre fenced area for off-leash dogs, typical dog park
    - 45-50 visitors per week
    - Constructed within the existing Elk Meadow DOLA in 2001
    - Expanded to 4.89 acres by 2005, visitation rose
- Had an issue in early 2000s of people creating their own trails in the DOLA
    - Resulted in habitat fragmentation, denuding of landscape, erosion, and created conflicts with nearby residents whose land was being trespassed upon
    - In 2008 parks staff laid pine branches across undesignated trails to curb usage and prevent further habitat fragmentation
    - 2011 constructed a loop trail through the DOLA
- Issues after loop trail was constructed
    - Lack of dog waste pick up, stream degradation, poor water quality, continued use of undesignated trails resulting in erosion, lack of compliance with voice and sight control
- Water Quality Concerns
    - Pet waste carries microbial fecal coliform bacteria which can be spread to water bodies when waste is left uncollected, when dogs go into the stream, and from runoff
    - In 2016, bi-weekly water quality sampling was done over the course of 6 months to test fecal coliform levels and the presence of specific bacteria
        - One sampling area upstream of the DOLA and one downstream
        - Test confirmed that DOLA had levels of bacterial contamination as much as 20 times the Colorado state limits, especially during spring and summer months
        - Water in DOLA was deemed unsafe for humans and pets
        - Could also impact water quality for those who rely on well water in the area (6 residences)
- Pet Waste Pick-up Monitoring

    - Only 60% of dog park visitors pick up their pet's waste
    - Dog waste does not biodegrade like typical wildlife waste due to the ingredients in their food
    - Park has increased signage, increased ranger enforcement, and has organized poop pick up events to maintain DOLA
- Still a high level of noncompliance, and they have not found a solution yet
- Jeffco found that their rangers do not have enough time for other duties they are responsible for when patrolling DOLA
- JeffCo quantifies the carrying capacity for the park (number of visitors for each park to balance resource protection, visitor experience and maintenance capacity)
    - Measured by vehicle counts, number of park visitors, and identifying conflict points.
    - Visitation currently exceeds carrying capacity
- DOLA officially closed on April 4, 2017 for restoration
    - Trying to find a new location for a different DOLA

There was no formal documentation as to how dogs impacted the vegetation and soil. The 2017 report only states that there was severe denuding as a result of trampling and that soil eroded to the point that bedrock was exposed. It appears that stream sedimentation and contamination are the major factors considered, and that vegetation is less of a priority. The only quantifiable data points Jeffco Open Space gathered was from water quality testing and visitor carrying capacity estimates.

5.0 Summary

To support the CEQA evaluation of the off-leash dog recreation pilot program, this whitepaper reviewed literature on the impacts of visitors and dogs on wildlife, vegetation, soils, and water quality. Overall, results of the review indicate that human recreation and dog recreation both impact wildlife, and that while dog recreation has an impact, it is inconclusive that it will have a greater impact at Pillar Point Bluff and Quarry Park than human recreation and that it is not necessarily adverse or permanent. This finding supports the needs for an Adaptive Management Plan to guide implementation and management of the pilot program.

WRA used limited site visits, a literature review, and review of Jefferson County Open Space's experience with the DOLA to prepare this whitepaper. WRA staff found evidence of different special status animal and plant species that could occur in the two subject parks. WRA staff noted multiple locations at PPB with dog waste occurring within 15 to 30 feet of trails. In contrast, for only two locations at QP was dog waste noted. WRA found that overall PPB is impacted more than QP, but the impacts appear to be related to overall use levels, not specifically from dogs off-leash.

WRA's review of research literature found strong evidence that dogs off-leash cause disturbance to wildlife for various bird species, mountain lions, bobcats, coyotes, deer, and elk. Less evidence was found that dogs kill wildlife. Some evidence was found that dog waste can contribute to water quality impairment. Only one study found dog impacts to vegetation, and only one study found soil erosion impacts from presence of dogs. Finally, much of the literature WRA reviewed did not separate impacts from dogs on or off-leash. In other cases, studies in published literature failed to distinguish impacts from visitors in general to a particular park or open space area, as compared to areas that allowed dogs. The Portland Metro Parks literature review found more than 500 articles on impacts of human use on biological resources and water quality, but only about 50 articles on dog impacts. As stated above, much of the research reviewed by WRA did not distinguish between impacts of dogs on-leash versus dogs of-

leash. The lack of comprehensive scientific evidence about the impacts of dogs off-leash supports the premise of managing dogs off-leash with an adaptive management plan.

6.0 References

Abraham, K. 2000. Interactions Between Dogs and Wildlife in Parks on the Berkeley Marina, unpublished paper. https://pdfs.semanticscholar.org/a636/4893cf8b7bcf243e02c4801daed4b8f017ba.pdf

Andrusiak, L. 2003. Impacts of Dogs on the Foreshore and Nearshore at Blackie Spit Park: Literature Review and Management Options. Prepared for City of Surrey Parks, Recreation and Culture Department.

Baas, J., K. Dupler, A. Smith, and R. Carnes. 2020. An assessment of non-consumptive recreation effects on wildlife: current and future research, management implications, and next steps. California Fish and Wildlife, Recreation Special Issue; 62-73.

Banks, P.B., and J.V. Bryant 2007. Four-legged Friend or Foe? Dog Walking Displaces Native Birds from Natural Areas. Biology Letters 3:611–613.

Bekoff, M., and C.A. Meaney. 1997. Interactions among Dogs, People, and the Environment in Boulder, Colorado: A Case Study. Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder.

Bekoff, M. and R.W. Ickes. 1999. Behavioral interactions and conflict among domestic dogs, black-tailed prairie dogs, and people in Boulder, Colorado. Anthrozoos. 1999. 12(2): 105-110.

Burger, J., C. Jeitner, K. Clark, and L. Niles. 2004. The Effect of Human Activity on Shorebirds in Two Coastal Bays in Northeastern United States. Environmental Conservation 31 (4): 283–288.

Butler JRA, Du Toit JT, Bingham J. 2004. Free-ranging domestic dogs (Canis familiaris) as predators and prey in rural Zimbabwe: Threats of competition and disease to large wild carnivores. Biological Conservation 115:369-378.

Clean Water Services, 2005. DNA Fingerprinting of bacteria sources in the Tualatin sub-basin. https://www.cleanwaterservices.org/media/1309/bacteria-dna-fingerprinting-study.pdf

Forest Service. 2008. Spring Mountains National Recreation Area Landscape Assessment. USDA Forest Service, Humboldt Toiyabe National Forest, Las Vegas, NV, USA.

George, S.L. and K.R. Crooks. 2006. Recreation and large mammal activity in an urban nature reserve. Biological Conservation. 133(1): 107-117.

Hatch, D., W. Merkle, and D. Press. 2006 Status Report: Western Snowy Plovers and Recent Changes in Human and Dog Use within the Snowy Plover Management Area at Ocean Beach and the Wildlife Protection Area at Crissy Field. Golden Gate National Recreation Area. Unpublished Report.

Hatch, D., W. Merkle, and D. Press .2007. Addendum: 2006 Plover Monitoring Western Snowy Plovers and Recent Changes in Human and Dog Use within the Snowy Plover Management Area at Ocean Beach and the Wildlife Protection Area at Crissy Field. Golden Gate National Recreation Area. 29 June.

Hatch, D., W. Merkle, and D. Press. 2008. Addendum: 2007 Plover Monitoring Season Update Western Snowy Plovers and Recent Changes in Human and Dog Use within the Snowy Plover Management Area at Ocean Beach and the Wildlife Protection Area at Crissy Field. Golden Gate National Recreation Area.

Hennings, L. 2016. The impacts of dogs on wildlife and water quality: A literature review. Unpublished paper, Metro Parks, Portland, Oregon.

Jefferson County Open Space. 2017. Elk Meadow Dog Off Leash Area Report. https://www.jeffco.us/DocumentCenter/View/9580/Elk-Meadow-Park-DOLA-Final-Report-8-14-17?bidId=

Kim, M and S. Wuertz. 2014. Identification of Sources of Fecal Pollution Impacting Pillar Point Harbor. Final report submitted to the San Mateo Resource Conservation District. http://www.sanmateorcd.org/PPH/Appendix%20D_PPH%20REPORT_FINAL%20(UCD)_SW_KX_Accepted_011314.pdf

Lafferty, K.D. 2001a. Birds at a Southern California Beach: Seasonality, Habitat Use, and Disturbance by Human Activity. Biodiversity and Conservation 10: 1949–1962.

Lafferty, K.D. 2001b. Disturbance to Wintering Western Snowy Plovers. Biological Conservation 101(3):315–325.

Larson, C. L., S. E. Reed, A. M. Merelender, and K. R. Crooks. 2018. Accessibility drives species exposure to recreation in a fragmented urban reserve. Landscape and Urban Planning 175: 61–72

Lenth, B.E., R.L. Knight, and M.E. Brennan. 2008. The effects of dogs on wildlife communities. Natural Areas Journal. 2008. 28(3): 218-227.

Lim, S. and V. Olivieri. 1982. Sources of Microorganisms in Urban Runoff. John Hopkins School of Public Health and Hygiene. Jones Falls Urban Runoff Project. Baltimore, MD. 140 pp.

Mainini, B, Neuhaus P, and Ingold P. 1993. Behavior of marmots Marmota marmot under the influence of different hiking activities. Biological Conservation 64:161-164.

Merkle, W., 2010f. Email Response dated Friday, January 12, 2010 and titled: “Re comment #236 Marine mammal strandings.”

Miller, S.G., R.L. Knight, and C.K. Miller. 2001. Wildlife Responses to Pedestrians and Dogs. Wildlife Society Bulletin 29(1):124–132.

Marine Mammal Center. 2010. Marine Mammal Center total number of individual live animal reports for stranding within GGNRA, 2000 through 2005. Data received via email from Erin Brodie, Stranding Coordinator at the Marine Mammal Center.

Northern Virginia Planning District Commission (NVPDC). 1998. Dog Park BMP Pilot Project: Making the connection between dog waste and bacterial contamination in streams. https://www.nps.gov/goga/learn/management/upload/-1565-Dog-Park-bacteria-report.pdf

Phillips GE, and AW Alldredge. 2000. Reproductive success of elk following disturbance by humans during calving season. Journal of Wildlife Management 64:521-530.

Reed, S.E. and A.M. Merenlender. 2008. Quiet, nonconsumptive recreation reduces protected area effectiveness. Conservation Letters. 1(3): 146-154.

Sime, C.A. 1999. Domestic Dogs in Wildlife Habitats. Pages 8.1–8.17 In: G. Joslin and H. Youmans, coordinators, Effects of Recreation on Rocky Mountain Wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of the Wildlife Society.

Shulzitski, J., and W. Russell. 2004 Wildlife Response to Habitat Restoration in Fort Funston, Golden Gate National Recreation Area, California. Prepared for the National Park Service, Golden Gate National Recreation Area, by Golden Gate Field Station, USGS Western Ecological Research Center, Fort Cronkhite, Building 1063, Sausalito, California.

Stankowich, T., Ungulate flight response to human disturbance: A review and meta-analysis. Biological Conservation. 2008. 141(9): p. 2159-2173.

Townsend, S.E., S. Hammerich, and M. Halbur. 2020. Wildlife occupancy and trail use before and after a park opens to the public. California Department of Fish and Wildlife Journal, Recreation Special Issue, 74-94.

Trial, W. et al. 1993. Bacterial Source Tracking: Studies in an Urban Seattle Watershed. Puget Sound Notes. 30:1-3.

Trulio, L.A. and J. Sokale. 2008. Foraging shorebird response to trail use around San Francisco Bay. Journal of Wildlife Management. 72(8): 1775-1780.

Trulio, L. A., J. Sokale, and D. Chromczak. 2013. Experimental study of shorebird response to new trail use in the South Bay salt pond restoration project. South Bay Salt Pond Restoration Project. Available from: https://www.southbayrestoration.org

APPENDIX D – CULTURAL RESOURCES RECORDS SEARCH

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-003136	Voided - E-141 SMA	1980	Steven A. Brandt	Cultural Resources Investigation of Operating Projects, Half Moon Bay - Pillar Point Harbor	U.S. Army Corps of Engineers	
S-003158	Voided - E-166 SMA	1980	Suzanne Baker	Archaeological Reconnaissance of the Proposed Corporation Yard Area Near Half Moon Bay Airport, Princeton, California	Archaeological Consultants	
S-009444		1987	Robert Cartier	Cultural Resource Evaluation of 111 Stanford Avenue in the Town of Princeton-By-The-Sea, County of San Mateo	Archaeological Resource Management	41-000001
S-009600		1987	Gary S. Breschini and Charles R. Smith	Preliminary Cultural Resources Reconnaissance of Two Parcels of Land (Assessor's Parcel Numbers 047-031-150 & 160), Princeton-by-the-Sea, San Mateo County, California	Archaeological Consulting	
S-010589		1989	Matthew R. Clark	Archaeological Reconnaissance of the Lands of Wyr in the Community of Princeton-By-The-Sea, San Mateo County, California	MRC Consulting	
S-011127		1981	Mark Rudo	Cultural Resources Survey, Pillar Point Harbor Navigational Improvements	U.S. Army Corps of Engineers	
S-011127a		1980	Steven A. Brandt	Cultural Resources Investigation of Operating Projects, Half Moon Bay - Pillar Point Harbor	Army Corps. Of Engineers	
S-011324		1989	Matthew R. Clark	Archaeological Evaluation of the Proposed New Boat Launch Ramp, Access Road, Parking Lot, Attendant Facilities, and Mitigation Area, Pillar Point Harbor, San Mateo County	MRC Consulting	
S-012509		1991	Matthew R. Clark	Archaeological Reconnaissance of the McGregor Parcel at 180 West Point Avenue, Princeton-By-The-Sea, San Mateo County, California	MRC Consulting	
S-019593		1997	Matthew R. Clark	An Archaeological Reconnaissance of the "West Point Project Area" at West Point Avenue and Ocean Boulevard in the Community of Princeton-by-the-Sea, San Mateo County, California	MRC Consulting	
S-020094		1998	Matthew R. Clark	An Archaeological Reconnaissance of the Leslie Property at 150 Yale Avenue in the Community of Princeton-By-The-Sea, San Mateo County, California	MRC Consulting	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-003026	Submitter - Purchase Order No. 5397; Voided - E-24 SMA	1975		An Archaeological Assessment of the Proposed Fitzgerald Marine Reserve Additions	Archaeological Consulting and Research Services, Inc.	41-000002, 41-000027, 41-000135, 41-000136
S-003082	Voided - E-81 SMA	1970	Stephen A. Dietz and Thomas L. Jackson	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College	41-000027, 41-000073, 41-000074, 41-000076, 41-000082, 41-000084, 41-000112, 41-000117, 41-000129, 41-000130, 41-000131, 41-000132, 41-000133, 41-000134, 41-000135, 41-000136, 41-000137, 41-000138, 41-000139, 41-000140, 41-000141, 41-000142, 41-000143, 41-000144, 41-000145, 41-000146, 41-000147, 41-000148, 41-000171, 41-000188, 41-000189, 41-000190, 41-000191, 41-000192, 41-000194, 41-000195, 41-000196, 41-000206, 41-000564, 41-000595, 41-000599, 41-000606, 41-001487, 41-001498, 41-001829
S-005395	Voided - E-114 SMA	1976	Karen M. Nissen and Sean Swezey	Assessment of Archaeological Resources, San Mateo County Mid-Coastside Waste-Water Management Plan for Thomas Reid Associates, Palo Alto, California.	University of California, Berkeley	41-000027, 41-000112, 41-000137, 41-000138, 41-000139, 41-000140, 41-000141, 41-000142, 41-000143, 41-000145, 41-000151, 41-000152
S-009366		1987	Robert Cartier	Cultural Resource Evaluation of the Half Moon Bay Industrial Park on Airport Street in Half Moon Bay, County of San Mateo	Archaeological Resource Management	41-000001
S-009375		1987	Robert Cartier	Cultural Resource Evaluation of the Koontz/Blum Project in the Town of Princeton-By-The-Sea, County of San Mateo	Archaeological Resource Management	41-000001
S-009727		1988	Robert Cartier	Cultural Resource Evaluation of the Candlework Parcel in the Town of Moss Beach, County of San Mateo	Archaeological Resource Management	
S-011128		1973	George Phebus, Jr.	Contributions to Costanoan Archaeology: Archaeological Investigations at 4-ALA-330 and 4-SMA-22	Smithsonian Institution	01-000106, 41-000027
S-020486		1998	Matthew R. Clark	An Archaeological Reconnaissance of the Hanson Property at 199 West Point Avenue in the Community of Princeton-By-The-Sea, San Mateo County, California	MRC Consulting	
S-026684		2003	Benjamin Ananian	Archaeological study of a 22.2 acre parcel in Princeton, CA (letter report)	Ananian Associates	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-029888		2005	Matthew R. Clark	Initial Cultural Resources Reconnaissance of the Peninsula Open Space Trust Pillar Point Property Project Area, San Mateo County, California	Holman & Associates	41-000002, 41-000137, 41-000138, 41-002239
S-031752		2005	Sandra S. Flint, Barry A. Price, Randy Baloian, Mary Clark Baloian, and Kathleen Jernigan	Archaeological Investigations at CA-SMA-109/H, CA-SMA-151, and CA-SMA-347, Pillar Point Air Force Station, San Mateo County, California, Contract No. T0900DF415	Applied EarthWorks, Inc.	41-000001, 41-000002, 41-000433
S-033490		2007	Vicki R. Beard	A Cultural Resources Survey for the Big Wave Project, San Mateo County, California	Tom Origer & Associates	41-000001
S-036558	Voided - S-36561	2009	Matthew Clark	Archaeological Resources Recording and Monitoring Report for the Peninsula Open Space Trust, Pillar Point Bluff Property, San Mateo County, California	Holman and Associates	41-000002, 41-000137, 41-000138, 41-002239
S-036558a		2005	Matthew Clark	An Addendum Analysis: Potential Impacts to Cultural Resources for Staging Area and Trail Location Alternatives for the Peninsula Open Space Trust Pillar Point Property, San Mateo County, California	Holman and Associates	
S-046397		2014	Tim Spillane	Archaeological Overview and Assessment: Indigenous Sites of the GGNRA, 2014	BayArcheo	21-000072, 21-000073, 21-000074, 21-000075, 21-000224, 21-000311, 21-000312, 21-000313, 21-000314, 21-000317, 21-000367, 21-000430, 21-000431, 21-000432, 21-000460, 21-000470, 21-000473, 21-000496, 21-000526, 21-000611, 21-000612, 21-000629, 21-000632, 21-000638, 21-002550, 21-002552, 21-002615, 21-002665, 21-002701, 21-002819, 38-000005, 38-000006, 38-000021, 38-000026, 38-000029, 38-000030, 38-000031, 38-000097, 38-000162, 38-004945, 38-004947, 38-004948, 41-000004, 41-000075, 41-000116, 41-000117, 41-000128, 41-000134, 41-000149, 41-000150, 41-000264, 41-000272, 41-000456, 41-002352
S-047522	Other - PM No. 31005840	2015	Esme Hammerle	Cultural Resources Constraints Report, Half Moon Bay 1101 Targeted Circuit (Circuit No.: Half Moon Bay 1101), San Mateo County, PM No. 31005840	Garcia and Associates	41-000001, 41-000065, 41-000066, 41-000067, 41-000151, 41-000550

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-049783		1980	Ann S. Peak	Archaeological Test Excavations at CA-SMA-151, Half Moon Bay Vicinity, San Mateo County, California	Ann S. Peak & Associates	41-000001

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-021027		1998	Matthew R. Clark	An Archaeological Reconnaissance of the Thompson Property at Stanford Avenue and Airport Street in the Community of Princeton-By-The-Sea, San Mateo County, California	MRC Consulting	
S-022092		1996	Thomas R. Kendall	Pillar Point Harbor in San Mateo County, California (letter report)	U.S. Army Corps of Engineers	
S-023158	Other - Contract No. DACA09-99-D0012	2000	Jennifer M. Farquhar	Archaeological Survey and Testing for the New Gatehouse Construction Area, Pillar Point Air Station, San Mateo County, California	Cultural Resource Management Services; Albion Environmental, Inc.	
S-023398		2000	Stuart A. Guedon and Colin I. Busby	Cultural Resources Assessment - Half Moon Bay Airport, San Mateo County, California (letter report)	Basin Research Associates, Inc.	
S-031472		2004	Robert Cartier	Cultural Resource Evaluation for the Project at the El Granada Mobile Home Park in the County of San Mateo	Archaeological Resource Management	41-000139
S-031479		2004	Robert Cartier	Archaeological Testing Program at the El Granada Mobile Home Park in the County of San Mateo	Archaeological Resource Management	41-000139
S-034745		2008	Robert R. Peterson, Barry A. Price, and Clayton G. Lebow	Cultural Resources Investory in Support of Upgrades at Three Locations for the Western Range Instrumentation Modernization Project Project; Vandenberg Air Force Base, Santa Barbara County; Pilar Point Air Force Base, San Mateo County	Applied Earthworks, Inc.	
S-043974	OHP PRN - FAA 110916 A; Submitter - PL 2506-01	2011		Half Moon Bay Airport Taxiway and Access Road Improvements Project, Cultural Resources Survey and Evaluation Report	Pacific Legacy, Inc.	
S-043974a		2011	Caprice Harper, Samantha Murray, and Francescoa Smith	Cultural Resources Survey Report for the Half Moon Bay Airport Taxiway and Access Road Improvements Project, San Mateo County, California	SWCA Environmental Consultants	
S-043974b		2012	Leroy Laurie	Supplemental Cultural Resources Survey Report for the Half Moon Bay Airport Taxiway and Access Road Improvements Project, San Mateo County, California (letter report)	SWCA Environmental Consultants	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-049638	OTIS Report Number - COE_2016_0610_001; Submitter - 15-02192	2016	Ashlee M. Bailey and Christopher Duran	Cultural Resources Records Search and Technical Memorandum for the Romeo Pier Removal Project, Pillar Point Harbor, Princeton-by-the-Sea, San Mateo County, California (letter report)	Rincon Consultants, Inc	41-002641
S-049638a		2016	Susan Zamudio-Gurrola, Shannon Carmack, Christopher A. Duran, and Ashlee Bailey	Cultural Resources Assesment, San Mateo County Harbor District, Romeo Pier	Rincon Consultants, Inc	
S-049638b		2016	Aaron O. Allen and Julianne Polanco	COE_2016_0610_001, San Mateo County Harbor District Romeo Pier Removal (2015-00347S), Princeton-by-the Sea, San Mateo County, California	U.S. Army Corps of Engineers, San Francisco District; Office of Historic Preservation	

Resource Detail: P-41-000001

Identifying information

Primary No.: P-41-000001
Trinomial: CA-SMA-000151
Name: Nelson's 412, 413, 414; UC-ARF 61, 62, 63
Other IDs:

Type	*Name*
Resource Name	Nelson's 412, 413, 414; UC-ARF 61, 62, 63
OHP PRN	NPS-78000771
Other	U.C. Archaeological Research Facility No. SMA-151

Cross-refs:

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey, Excavation, Other
Attribute codes: AP09 (Burials); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	4/2/1976	Nissen, Swezey	UC	
b	5/2/1994	A. Kirkish	Vandenberg AFB	
c	5/28/2004	S. Flint	Applied Earth Works, Inc	
e	2/17/2007	V. Beard	Tom Origer & Associates	
d	1/12/1977	Karen M. Nissen	Archaeological Research Facility	NPS-78000771; voided S-3089

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003089		Voided, see P-41-000001	
S-009366	1987	Cultural Resource Evaluation of the Half Moon Bay Industrial Park on Airport Street in Half Moon Bay, County of San Mateo	Archaeological Resource Management
S-009375	1987	Cultural Resource Evaluation of the Koontz/Blum Project in the Town of Princeton-By-The-Sea, County of San Mateo	Archaeological Resource Management
S-009444	1987	Cultural Resource Evaluation of 111 Stanford Avenue in the Town of Princeton-By-The-Sea, County of San Mateo	Archaeological Resource Management
S-031752	2005	Archaeological Investigations at CA-SMA-109/H, CA-SMA-151, and CA-SMA-347, Pillar Point Air Force Station, San Mateo County, California, Contract No. T0900DF415	Applied EarthWorks, Inc.
S-033490	2007	A Cultural Resources Survey for the Big Wave Project, San Mateo County, California	Tom Origer & Associates
S-047522	2015	Cultural Resources Constraints Report, Half Moon Bay 1101 Targeted Circuit (Circuit No.: Half Moon Bay 1101), San Mateo County, PM No. 31005840	Garcia and Associates
S-049780	2017	San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4	California Department of Transportation, District 4
S-049783	1980	Archaeological Test Excavations at CA-SMA-151, Half Moon Bay Vicinity, San Mateo County, California	Ann S. Peak & Associates

Resource Detail: P-41-000001

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS: T5S R6W Sec. MDBM
UTMs: Zone 10 545740mE 4150450mN NAD27

Management status

OTIS ID	*Prop. ID*	*OHP Unit*	*Unit Activity ID*	*Status*	*Criteria*	*Evaluator*	*Date*
587637		National Register		1S	A,C,D	KPNP	2/23/1978

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	12/12/2019	hagell	
IC actions:	*Date*	*User*	*Action taken*
	8/3/2016	simsa	Voided S-3089, added to recording event 'd' of this resource
	4/1/2005	jay	Appended records from discontinued ICRDS.
	1/28/2008	neala	record update

Record status: Verified

Resource Detail: P-41-000002

Identifying information

Primary No.: P-41-000002
Trinomial: CA-SMA-000109/H
Name: Pillar Point Bluff #3
Other IDs:

Type	*Name*
Resource Name	Pillar Point Bluff #3
Other	Frenchmans Reef Overlook

Cross-refs: Subsumes 41-002238
Physically overlaps or intersects 41-002239

Attributes

Resource type: Site
Age: Prehistoric, Historic
Information base: Survey
Attribute codes: AH04 (Privies/dumps/trash scatters); AP02 (Lithic scatter); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	4/13/1969	Schenk, Whelan	[none]	
b	5/2/1994	A. Kirkish	CES/CEVA	
c	4/24/1997	Maria Ribeiro	NWIC	Boundary Change Only
d	11/18/1999	Leigh Jordan	NWIC	Letter Correspondance
e	12/30/1999	Annette Schachter	NWIC	Primary # Assignment
f	10/22/2009	Matthew R. Clark	Holman & Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003026	1975	An Archaeological Assessment of the Proposed Fitzgerald Marine Reserve Additions	Archaeological Consulting and Research Services, Inc.
S-005537	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	
S-029888	2005	Initial Cultural Resources Reconnaissance of the Peninsula Open Space Trust Pillar Point Property Project Area, San Mateo County, California	Holman & Associates
S-031752	2005	Archaeological Investigations at CA-SMA-109/H, CA-SMA-151, and CA-SMA-347, Pillar Point Air Force Station, San Mateo County, California, Contract No. T0900DF415	Applied EarthWorks, Inc.
S-036558	2009	Archaeological Resources Recording and Monitoring Report for the Peninsula Open Space Trust, Pillar Point Bluff Property, San Mateo County, California	Holman and Associates

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Airport Street	Moss Beach		94038

PLSS:

Resource Detail: P-41-000002

UTMs: Zone 10 544180mE 4150780mN NAD27
Zone 10 543646mE 4151686mN NAD83 (2009 record)
Zone 10 543548mE 4152121mN NAD83 (2009 record)
Zone 10 544441mE 4150762mN NAD83 (2009 record)

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	5/25/2018	muchb	
IC actions:	*Date*	*User*	*Action taken*
	11/10/2010	ballesterosr	DB completed
	4/1/2005	jay	Appended records from discontinued ICRDS.
	4/18/2017	raelync	Edited recording events; entered address.
Record status:	Verified		

Resource Detail: P-41-000027

Identifying information

Primary No.: P-41-000027
Trinomial: CA-SMA-000022
Name: Half Moon Bay
Other IDs:

Type	*Name*
Resource Name	Half Moon Bay
Other	Nelson's Map 407
Other	Princeton
Other	4-SMA-22

Cross-refs:

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey, Excavation
Attribute codes: AP02 (Lithic scatter); AP09 (Burials); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	1/1/1912	Loud	[none]	
b	4/12/1969	Schenk, Whelan	[none]	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003026	1975	An Archaeological Assessment of the Proposed Fitzgerald Marine Reserve Additions	Archaeological Consulting and Research Services, Inc.
S-003082	1970	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College
S-005395	1976	Assessment of Archaeological Resources, San Mateo County Mid-Coastside Waste-Water Management Plan for Thomas Reid Associates, Palo Alto, California.	University of California, Berkeley
S-005537	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	
S-011128	1973	Contributions to Costanoan Archaeology: Archaeological Investigations at 4-ALA-330 and 4-SMA-22	Smithsonian Institution
S-013597	1991	Prehistoric Native American Adaptation Along the Central California Coast of San Mateo and Santa Cruz Counties	San Jose State University
S-033041	2003	Archaeological Research Issues for the Point Reyes National Seashore - Golden Gate National Recreation Area: For Geoarchaeology, Indigenous Archaeology, Historical Archaeology, Maritime Archaeology	Anthropological Studies Center, Sonoma State University
S-048931	2016	Cultural Resources Sensitivity Assessment for the 2016 Caltrain and Dumbarton Rail Fence Installation and Replacement Project	Far Western Anthropological Research Group, INC.
S-049780	2017	San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources, Caltrans District 4	California Department of Transportation, District 4

Resource Detail: P-41-000027

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544510mE 4150800mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	12/12/2019	hagell	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.
	2/5/2015	neala	data entry

Record status: Verified

Resource Detail: P-41-000061

Identifying information

Primary No.: P-41-000061
Trinomial: CA-SMA-000057
Name: Nelson 408
Other IDs:

Type	*Name*
Resource Name	Nelson 408

Cross-refs:

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

No map with the site record.

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
	[none]	[none]	

Associated reports

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544210mE 4151125mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	2/27/2017	simsa	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.
	11/17/2014	hagell	edited database

Record status: Verified

Resource Detail: P-41-000062

Identifying information

Primary No.: P-41-000062
Trinomial: CA-SMA-000058
Name: Nelson 409
Other IDs:

Type	*Name*
Resource Name	Nelson 409

Cross-refs: See also 41-000137

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

No map with the site record, location not on archived basemap.

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
1/1/1907	Nels Nelson	UC Archaeological Survey	

Associated reports

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544320mE 4151335mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	5/25/2018	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.
	11/17/2014	hagell	edited database

Record status: Verified

Resource Detail: P-41-000063

Identifying information

Primary No.: P-41-000063
Trinomial: CA-SMA-000059
Name: Nelson 410
Other IDs:

Type	*Name*
Resource Name	Nelson 410
Other	SMA-135

Cross-refs: See also 41-000137

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP01 (Unknown)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

No map with the site record, location not on archived basemap

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
1/1/1907	Nels Nelson	UC Archaeological Survey	

Associated reports

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544100mE 4151440mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	5/25/2018	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.

Record status: Verified

Resource Detail: P-41-000137

Identifying information

Primary No.: P-41-000137
Trinomial: CA-SMA-000135
Name: Pillar Point Bluff #1
Other IDs:

Type	*Name*
Resource Name	Pillar Point Bluff #1
Other	Sma 59
Other	Nelsons 410
Other	4-Sma-135

Cross-refs: See also 41-000062
See also 41-000063

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP11 (Hearths/pits); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	7/2/1970	Jackson & Dietz	[none]	
b	10/20/2009	Matthew Clark	Holman & Assoc.	Clark notes this resources is likely Nelson's 409 or 410

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003082	1970	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College
S-005395	1976	Assessment of Archaeological Resources, San Mateo County Mid-Coastside Waste-Water Management Plan for Thomas Reid Associates, Palo Alto, California.	University of California, Berkeley
S-005537	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	
S-029888	2005	Initial Cultural Resources Reconnaissance of the Peninsula Open Space Trust Pillar Point Property Project Area, San Mateo County, California	Holman & Associates
S-036558	2009	Archaeological Resources Recording and Monitoring Report for the Peninsula Open Space Trust, Pillar Point Bluff Property, San Mateo County, California	Holman and Associates

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS: T5S R6W Sec. MDBM
UTMs: Zone 10 543978mE 4151662mN NAD27
Zone 10 544100mE 4151395mN NAD27

Resource Detail: P-41-000137

Management status

Database record metadata

	Date	User	
Entered:	4/1/2005	icrds	
Last modified:	5/25/2018	muchb	
IC actions:	*Date*	*User*	*Action taken*
	12/12/2017	moored	The identifiers of Sma 59 and Nelsons 410 come from the original trinomial log book.
	4/1/2005	jay	Appended records from discontinued ICRDS.
Record status:	Verified		

Resource Detail: P-41-000138

Identifying information

Primary No.: P-41-000138
Trinomial: CA-SMA-000136
Name: Nelson #409
Other IDs:

Type	*Name*
Resource Name	Nelson #409
Other	Pillar Point Bluff #2
Other	Sma 58

Cross-refs:

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP11 (Hearths/pits); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	7/2/1970	Dietz & Jackson	[none]	
b	10/20/2009	Matthew R. Clark	Holman & Assoc.	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003082	1970	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College
S-005395	1976	Assessment of Archaeological Resources, San Mateo County Mid-Coastside Waste-Water Management Plan for Thomas Reid Associates, Palo Alto, California.	University of California, Berkeley
S-005537	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	
S-029888	2005	Initial Cultural Resources Reconnaissance of the Peninsula Open Space Trust Pillar Point Property Project Area, San Mateo County, California	Holman & Associates
S-036558	2009	Archaeological Resources Recording and Monitoring Report for the Peninsula Open Space Trust, Pillar Point Bluff Property, San Mateo County, California	Holman and Associates

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
Airport Blvd.	Moss Beach		94038

PLSS: T5S R6W Sec. MDBM
UTMs: Zone 10 544038mE 4151560mN NAD27
Zone 10 544140mE 4151320mN NAD27

Management status

Resource Detail: P-41-000138

Database record metadata

	Date	User	
Entered:	4/1/2005	icrds	
Last modified:	4/12/2018	carlosp	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.
Record status:	Verified		

Resource Detail: P-41-000139

Identifying information

Primary No.: P-41-000139
Trinomial: CA-SMA-000137
Name: Nelson #408
Other IDs:

Type	*Name*
Resource Name	Nelson #408
Other	SMA-57

Cross-refs:

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey
Attribute codes: AP15 (Habitation debris)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
6/16/1970	Jackson & Dietz	[none]	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-003082	1970	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College
S-005395	1976	Assessment of Archaeological Resources, San Mateo County Mid-Coastside Waste-Water Management Plan for Thomas Reid Associates, Palo Alto, California.	University of California, Berkeley
S-005537	1974	Evaluation of the Archaeological Resources of the Coastal Zone of Monterey, Santa Cruz, and San Mateo Counties, California	
S-031472	2004	Cultural Resource Evaluation for the Project at the El Granada Mobile Home Park in the County of San Mateo	Archaeological Resource Management
S-031479	2004	Archaeological Testing Program at the El Granada Mobile Home Park in the County of San Mateo	Archaeological Resource Management

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544205mE 4151100mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	4/12/2018	carlosp	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS

	4/1/2003	jay	
	4/10/2018	carlosp	no affiliation submitted

Record status: Verified

Resource Detail: P-41-000433

Identifying information

Primary No.: P-41-000433
Trinomial: CA-SMA-000347
Name: PP-2
Other IDs:

Type	*Name*
Resource Name	PP-2

Cross-refs: Subsumes 41-000003

Attributes

Resource type: Site
Age: Prehistoric
Information base: Survey, Other
Attribute codes: AP02 (Lithic scatter); AP15 (Habitation debris)
Disclosure: Not for publication
Collections: Yes
Accession no(s):
Facility:

General notes

Located on Vandenberg Air Force Base at Pillar Point.

Recording events

	Date	*Recorder(s)*	*Affiliation*	*Notes*
a	5/2/1994	A. Kirkish	730 CES/CEVA, Vandenberg AFB	
b	5/3/2004	S. Flint	Applied EarthWorks, Inc.	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-031752	2005	Archaeological Investigations at CA-SMA-109/H, CA-SMA-151, and CA-SMA-347, Pillar Point Air Force Station, San Mateo County, California, Contract No. T0900DF415	Applied EarthWorks, Inc.

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:
PLSS:
UTMs: Zone 10 544479mE 4150100mN NAD27

Management status

Database record metadata

	Date	*User*	
Entered:	4/1/2005	icrds	
Last modified:	5/25/2018	muchb	
IC actions:	*Date*	*User*	*Action taken*
	4/1/2005	jay	Appended records from discontinued ICRDS.
	1/7/1998	AOApp1	Primary Number Autofill

Record status: Verified

Resource Detail: P-41-002239

Identifying information

Primary No.: P-41-002239
Trinomial:
Name: Pillar Point Bluff #4
Other IDs:

Type	*Name*
Resource Name	Pillar Point Bluff #4
Other	Pillar Point Historic Dairy

Cross-refs: Physically overlaps or intersects 41-000002

Attributes

Resource type: Building, Structure, Site
Age: Historic
Information base: Survey, Analysis, Other
Attribute codes: AH02 (Foundations/structure pads); AH05 (Wells/cisterns); AH06 (Water conveyance system); AH07 (Roads/trails/railroad grades); AH11 (Walls/fences); HP04 (Ancillary building); HP20 (Canal/aqueduct); HP22 (Lake/river/reservoir); HP33 (Farm/ranch)
Disclosure: Not for publication
Collections: No
Accession no(s):
Facility:

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
12/7/2009	Matthew R. Clark	Holman & Associates	

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-029888	2005	Initial Cultural Resources Reconnaissance of the Peninsula Open Space Trust Pillar Point Property Project Area, San Mateo County, California	Holman & Associates
S-036558	2009	Archaeological Resources Recording and Monitoring Report for the Peninsula Open Space Trust, Pillar Point Bluff Property, San Mateo County, California	Holman and Associates

Location information

County: San Mateo
USGS quad(s): Montara Mtn
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
	Moss Beach		

PLSS:
UTMs: Zone 10 543862mE 4151793mN NAD27 (main complex, all 2009 record)
Zone 10 543949mE 4151924mN NAD27 (east end)
Zone 10 543949mE 4151672mN NAD27 (at southerly pump house)
Zone 10 543450mE 4151225mN NAD27 (NW end of northern reservoir)
Zone 10 543650mE 4152093mN NAD27 (SE end of northern reservoir)
Zone 10 543860mE 4151471mN NAD27 (at poinds on top of bluff)

Management status

Database record metadata

	Date	*User*
Entered:	1/4/2010	jordanl
Last modified:	2/22/2019	moored

IC actions:

Date	*User*	*Action taken*
2/22/2019	moored	Corrected disclosure

	2/22/2019	moored

Record status: Verified

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
SMA-000151	41-000001	1S	02/23/78	78000771	KPNP	U.C. ARCHAEOLOGICAL RESEARCH FACILITY NO. SMA-151 UC-ARF 61,62,63
SMA-000162	41-000162	6Y	10/30/86	ADOE-41-86-001-000	RJPR	DOT-04-SMA-1-2
		6Y	10/30/86	FHWA860919A	RJPR	
SMA-000232	41-000230	6Y	07/17/95	ADOE-41-95-002-000	SGPR	82-9A
		6Y	07/17/95	FHWA950714X	SGPR	
SMA-000233	41-000231	6Y	07/17/95	ADOE-41-95-003-000	SGPR	
		6Y	07/17/95	FHWA950714X	SGPR	
SMA-000299	41-000409	6Y	12/27/95	ADOE-41-95-001-000	GRPR	
		6Y	12/27/95	UMTA900828A	GRPR	
SMA-000336H	41-000316	6Y	04/04/94	ADOE-41-94-003-000	GRPR	
		6Y	04/04/94	GSA940322A	GRPR	
SMA-000337H	41-000279	6Y	04/04/94	ADOE-41-94-001-000	GRPR	
		6Y	04/04/94	GSA940322A	GRPR	
SMA-000338H	41-000280	6Y	04/04/94	ADOE-41-94-002-000	GRPR	
		6Y	04/04/94	GSA940322A	GRPR	
SMA-000353H	41-002147	6Y	08/06/07	FTA040913A	CFPR	PN-1
SMA-000378H	41-002160	6Y	08/06/07	FTA040913A	CFPR	FT-2
SMA-00353HH		6Y	08/06/07	FTA040913A	CFPR	
SMA-00378HH		6Y	08/06/07	FTA040913A	CFPR	
SMA-Z00003	41-000257	6Y2	04/20/10	FCC100311B	JSPR	PREHISTORIC LITHIC SCATTER, S-022606

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-009729		1987	Robert Cartier	Cultural Resource Evaluation of 457 Cortez Avenue in the Town of El Granada, County of San Mateo	Archaeological Resource Management	
S-020296		1998	Matthew R. Clark	An Archaeological Reconnaissance of the Banks Property at 910 Ventura Street in the Community of El Granada, San Mateo County, California	MRC Consulting	
S-020485		1998	Matthew R. Clark	An Archaeological Reconnaissance of the Carey Properties on Coronado Avenue (APNs 048-025-380, 048-025-390, 048-025-390, 048-025-400), in the Community of Miramar, San Mateo County, California	MRC Consulting	
S-026314		2002	Matthew R. Clark	An Archaeological Reconnaissance of A Portion of the Sterling Properties (APN 047-320-060) on San Juan Avenue in the Community of El Granada, San Mateo County, California	Holmon & Associates	
S-026855	Submitter - MRC 02-01-03	2003	Matthew R. Clark	An Archaeological Reconnaissance of the Perrone Parcel (APN 048-024-110) at 403 Coronado Avenue in the Community of Miramar, San Mateo County, California	MRC Consulting	
S-028730	Submitter - MRC 06-01-04	2004	Matthew R. Clark	An Archaeological Reconnaissance of the Mack Parcel (APN 048-024-190) on Magellan Avenue in the Community of Miramar, San Mateo County, California	MRC Consulting	
S-029884	Submitter - MRC 12-01-04	2005	Matthew R. Clark	An Archaeological Reconnaissance of Two Parcels, (APNs 048-024-420 & -430) on Coronado Avenue in the Community of Miramar, San Mateo County, California.	MRC Consulting	
S-029885	Submitter - MRC 01-01-0	2005	Matthew R. Clark	An Archaeological Reconnaissance of Three Parcels (APNs 048-025-450, -460, & -470) on Cortez Avenue in the Commmunity of Miramar, San Mateo County, California.	MRC Consulting	
S-030039	Submitter - MRC 02-01-05	2005	Matthew R. Clark	An Archaeological Reconnaissance of the Two Gehrels Parcels (APNS 048-021-320 & -330) on Magellan Avenue in the Community of Miramar, San Mateo County, California.	MRC Consulting	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-046397		2014	Tim Spillane	Archaeological Overview and Assessment: Indigenous Sites of the GGNRA, 2014	BayArcheo	21-000072, 21-000073, 21-000074, 21-000075, 21-000224, 21-000311, 21-000312, 21-000313, 21-000314, 21-000317, 21-000367, 21-000430, 21-000431, 21-000432, 21-000460, 21-000470, 21-000473, 21-000496, 21-000526, 21-000611, 21-000612, 21-000629, 21-000632, 21-000638, 21-002550, 21-002552, 21-002615, 21-002665, 21-002701, 21-002819, 38-000005, 38-000006, 38-000021, 38-000026, 38-000029, 38-000030, 38-000031, 38-000097, 38-000162, 38-004945, 38-004947, 38-004948, 41-000004, 41-000075, 41-000116, 41-000117, 41-000128, 41-000134, 41-000149, 41-000150, 41-000264, 41-000272, 41-000456, 41-002352

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-003082	Voided - E-81 SMA	1970	Stephen A. Dietz and Thomas L. Jackson	An Archaeological and Historical Reconnaissance of a Portion of the San Mateo County Coastside	Adan E. Treganza Anthropology Museum, San Francisco State College	41-000027, 41-000073, 41-000074, 41-000076, 41-000082, 41-000084, 41-000112, 41-000117, 41-000129, 41-000130, 41-000131, 41-000132, 41-000133, 41-000134, 41-000135, 41-000136, 41-000137, 41-000138, 41-000139, 41-000140, 41-000141, 41-000142, 41-000143, 41-000144, 41-000145, 41-000146, 41-000147, 41-000148, 41-000171, 41-000188, 41-000189, 41-000190, 41-000191, 41-000192, 41-000194, 41-000195, 41-000196, 41-000206, 41-000564, 41-000595, 41-000599, 41-000606, 41-001487, 41-001498, 41-001829
S-006381	Agency Nbr - application 26995-26997	1984	William E. Soule	Archaeological Survey Report, Applications 26995-26997, J.L. and Ferol Johnson, San Mateo County	California Water Resources Control Board, Division of Water Rights	
S-020736	Other - FHWA070412A	1998	David Chavez and Jan M. Hupman	Cultural Resource Investigations for the Mirada Surf Development Project, San Mateo County, California	David Chavez and Associates	
S-026108		2002	Matthew R. Clark	An Archaeological Reconnaissance of the Hayes/Bienenstock Parcel (APN 048-025-110, -120, & -140) on Coronado Avenue in the Community of Miramar, San Mateo County, California	MRC Consulting	
S-027954	Submitter - MRC 12-02-03	2004	Matthew R. Clark	An Archaeological Reconnaissance of the Licato Parcel (APN 048-024-290) at 491 Coronado Avenue in the Community of Miramar, San Mateo County, California	MRC Consulting	
S-033514		2006	Richard Greene and Brian F. Smith	A Phase I Archaeological Assessment of the Stebbins Residential Property, Granada Sanitary District, APN 048-021-230	Brian F. Smith and Associates	
S-034097		2007	Matthew R. Clark	Archaeological Survey Report for the Phase 3 El Granada Transmission Pipeline Replacement Project, San Mateo County, California	Holman & Associates	
S-034097a		2007		Archaeological Monitoring Plan for the Phase 3 El Granada Transmission Pipeline Replacement Project, San Mateo County, California	Holman & Associates	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
S-034152		2007	Matthew R. Clark	Archaeological Survey Report for "Wicklow Western Slope Fuels Management Action Plan" Project on POST Property in El Granada, San Mateo County, California	Holman & Associates	

Resource Detail: P-41-000550

Identifying information

Primary No.: P-41-000550
Trinomial:
Name: El Granada
Other IDs:

Type	*Name*
Resource Name	El Granada
OHP PRN	4018-0001-9999
OHP PRN	41-0016

Cross-refs: Is a district with element 41-000548
Is a district with element 41-000549
Physically overlaps or intersects 41-000531

Attributes

Resource type: District
Age: Historic
Information base: Survey
Attribute codes: HP39 (Other) - town
Disclosure: Unrestricted
Collections: No
Accession no(s):
Facility:

General notes

Recording events

Date	*Recorder(s)*	*Affiliation*	*Notes*
5/1/1981	[none]	San Mateo Urban/Rural Conservation	HRI form

Associated reports

Report No.	*Year*	*Title*	*Affiliation*
S-047522	2015	Cultural Resources Constraints Report, Half Moon Bay 1101 Targeted Circuit (Circuit No.: Half Moon Bay 1101), San Mateo County, PM No. 31005840	Garcia and Associates

Location information

County: San Mateo
USGS quad(s): Half Moon Bay, Montara Mtn
Address:

Address	*City*	*Assessor's parcel no.*	*Zip code*
SR 1	El Granada		94018

PLSS:
UTMs:

Management status

OTIS ID	*Prop. ID*	*OHP Unit*	*Unit Activity ID*	*Status*	*Criteria*	*Evaluator*	*Date*
408127	005172	National Register		7J		CHRG	2/27/1996
408127	005172	Cert. Loc. Dist.		5S2		UNKN	1/2/1901

Database record metadata

	Date	*User*
Entered:	4/1/2005	icrds
Last modified:	6/28/2019	brewers

IC actions:

Date	*User*	*Action taken*
10/28/2010	ballesterosr	Moved to District
6/24/2002	AOOHP2	OHP Property file import
3/6/2002	AOOHP2	Primary number 41-000550 assigned.

Resource Detail: P-41-000550

	4/1/2005	jay	Appended records from discontinued ICRDS.
	6/28/2019	brewers	Cross-referenced 41-000548 as element of the district
	6/12/2018	rinerg	mark verified
Record status:	Verified		

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-41-000548		Resource Name - 850 Francisco; OHP Property Number - 005170; OTIS Resource Number - 408125; OHP PRN - 4018-0001-0001	Building, Element of district	Historic	HP02	1980 ([none], [none])	
P-41-000619		Resource Name - Purissima Way; OHP Property Number - 005241;	Building	Historic	HP02	1981 ([none], [none])	