City of Half Moon Bay
Community Development Director Review
EMERGENCY COASTAL DEVELOPMENT PERMIT ISSUANCE
PDP-23-090– December 11, 2023

PERMIT ISSUANCE

This permit under consideration, PDP-23-090, is a joint application of the County of San Mateo and the City of Half Moon Bay for an Emergency Coastal Development Permit to develop a new neighborhood (preliminarily referred to as "Stone Pine Cove") comprised of manufactured homes for low-income households located at 880 Stone Pine Road on the western side of the property used for the City of Half Moon Bay Corporation Yard. The neighborhood includes 46 manufactured homes for lower-income farmworker households, one manager's unit, and associated neighborhood infrastructure (e.g., access drives and utilities). Site amenities include public open spaces, two shared parking areas, and landscaping. The project includes the development of 28 units under the Joe Serna Farmworker Grant Program which will be made available to qualified (very low-income) farmworkers including the households displaced by the January 23, 2023 shooting incident. The City of Half Moon Bay is the property owner. An Emergency Coastal Development Permit for Stone Pine Cove is hereby approved subject to the Conditions of Approval contained in Attachment 1 for plans contained in Attachment 2.

PERMIT ISSUANCE

Jill Ekas

Jill Ekas, Community Development Director

December 11, 2023

Date

PROJECT SUMMARY

Owner:	City of Half Moon Bay
Applicant:	County of San Mateo and City of Half Moon Bay
City Contact:	John Doughty, Assistant City Manager (650) 726-8252
Requested Permits:	Emergency Coastal Development Permit for the Stone Pine Cove neighborhood emergency housing.

Site Location:	880 Stone Pine Road (Assessor's Parcel Number 056-260-180)
Local Coastal Land Use Plan/ General Plan:	Public Facilities and Institutions
Local Coastal Implementation Plan/Zoning:	Urban Reserve (U-R); note that the Certified Local Coastal Land Use Plan identifies this site for rezoning to the Public and Quasi-Public Land Use (P-S) Zoning District
Environmental Determination:	Statutorily Exempt pursuant to CEQA Statute Section 21080(b)(4) and Categorically Exempt pursuant to CEQA Guidelines Section 15269. Note: An Initial Study/Mitigated Negative Declaration (IS/MND) was prepared for the City of Half Moon Bay Corporation Yard Improvement Project. Mitigation measures have been implemented per the Corporation Yard's IS/MND and its Mitigation Monitoring and Reporting Plan. A subsequent CEQA assessment will be conducted in conjunction with the follow-up Coastal Development Permit. It will incorporate previous work prepared for the Corporation Yard IS/MND as well as new studies as applicable.
Water:	The project includes an extension of a water line to serve the project site and will be sized to provide adequate pressure. The new manufactured homes will be affordable to lower-income households and qualify for affordable housing water connections. Because agriculture is a Coastal Act priority land use, and because farmworker housing is considered to be an agricultural use, farmworker housing units are also eligible for Coastal Act priority water connections. The Coastside County Water District (CCWD) estimates that 30 water connections will be needed for the Stone Pine Cove residential units and additional connections will be needed for landscaping. The applicant will secure such connections directly from CCWD with the City authorizing 28 units from Coastal Act Priority allocation and remaining connections from Affordable Housing allocation.

Sewer:

An existing sewer main is located on the property, and no new sewer mains are required. A private collection system will be installed within the project site to direct effluent to the existing sewer main. There is adequate capacity in the collection system and treatment plant to serve the project. A maximum of 94 sewer capacity units and fees are required.

Dry Utilities:

Dry utilities include telecommunications/cable and electric power. Natural gas will not be provided to the site in accordance with the City of Half Moon Bay's commitment to carbon reduction. Dry utilities will be installed below grade.

Right of Appeal:

Emergency Coastal Development Permit: This permit allows property development necessary to address an emergency. As such the Emergency Coastal Development Permit is not appealable; however, per California Code of Regulations §13569 "Dispute Resolution for Local Permit Processing Procedures" parts C and D, an interested person may request the Coastal Commission executive director to review the local government permitting process and determinations.

Follow-Up Coastal Development Permit: A follow-up Coastal Development Permit will be required and submitted to the City within 60-days of issuance of the emergency permit. When that permit is considered, any aggrieved person may appeal future decisions of the Planning Commission or Community Development Director, as applicable. This project site is located within the Coastal Commission Appeals Jurisdiction; therefore, the City's final action on the follow-up Coastal Development Permit will be appealable to the California Coastal Commission.

BACKGROUND

Project Description: The project includes the development of a new neighborhood, tentatively named Stone Pine Cove. Stone Pine Cove will include 47 manufactured homes of varying sizes, access drives, infrastructure, and amenities including public open space. 46 units will be deed restricted affordable with 1 unit occupied by a resident manager. The proposed development would comprise approximately 5 acres at the western end of the City's Corporation Yard property at 880 Stone Pine Road.

Site & Surrounding Properties: The approximately 21-acre City-owned site is located within the City's defined Town Center at the terminus of Stone Pine Road. The property was used as a garden nursery prior to its current use as the City's Corporation Yard. The City's Corporation Yard utilizes approximately 4 acres on the east end of the site. Stone Pine Cove is to be located on an approximately 5-acre portion of the westerly portion of the property with the remainder of acreage devoted to habitat areas and respective buffers. The site abuts a fenced area containing a Conservation Easement and buffers to protect Pilarcitos Creek and its riparian habitat. Adjacent land uses are summarized below.

Surrounding Uses

	Use	Land Use Plan Designation / Zoning
North	Pedestrian path, Highway 92, and mostly undeveloped land across the highway	Mobile Home Park and the Carter Hill Planned Development (PD) / Industrial (IND) and Planned Unit Development (PUD)
South	Pilarcitos Creek and greenhouses beyond	Horticultural Business / Open Space Reserve (OS-R) and Agriculture (A-1)
East	Mixed light industrial, retail, and residential	Light Industrial / Industrial (IND)
West	Residential uses including Cypress Cove townhouses and the south side of the Hilltop Mobile Home Park	Residential Medium Density and Mobile Home Park / Planned Unit Development (PUD)

Improvements to the Half Moon Bay Corporation Yard have recently been completed ("Corporation Yard Improvement Project"). In advance of that project, the site was developed with the following:

- Corporation Yard offices in a converted ranch house
- Unpaved loop road from the terminus of Stone Pine Road to the Corporation Yard facilities
- Abandoned agricultural pond
- Trash and landscape materials enclosures
- Storage structures and yard space

The newly improved Corporation Yard includes the following additional and/or modified structures and uses:

- Storage and operations building (construction pending for a future phase of improvements)
- Two-way paved access road traversing the center of the site from west to east, starting at the terminus of Stone Pine Road to provide access to the Corporation Yard facilities at the eastern end of the property; replaces the northern portion of the unpaved access loop road
- Demolition and relocation of trash and landscape materials enclosures
- Solar field
- Corporation Yard parking lot
- Security fencing and gate
- Wildlife conservation corridor for protection of California red-legged frog and San Francisco garter snake which are special status species
- Riparian buffer and trail easement fencing

In total, the site area is comprised of the following:

Use	Acreage
Corporation Yard	4
Habitat Conservation	12
Stone Pine Cove Site	5
Total	21 acres

Note: Acreages are approximate.

A majority of the property is devoted to habitat conservation. A 100-foot-wide trail easement; environmentally sensitive areas (ESHAs) including Pilarcitos Creek and the abandoned agricultural pond; and required ESHA buffers cover approximately 12 acres of the property. Buffer requirements are 100 feet from delineated wetlands and 50 feet from the edge of Pilarcitos Creek's riparian vegetation or 100 feet from the top-of-bank, whichever is greater. The riparian buffer is generally within the wider trail easement; consequently, the effective riparian buffer is typically greater than the minimum required. Additionally, a designated wildlife conservation corridor supports protected status reptile and amphibian species. The corridor has been fully implemented with the recent installation of wildlife exclusionary fencing and via wildlife access tunnels under the new access road. Wildlife corridor fencing also extends westward along the edge of the trail easement. The corridor is designed to allow safe passage of protected status species, including the California red-legged frog (CRLF) and the San Francisco garter snake (SFGS), between the abandoned agricultural pond and Pilarcitos Creek and to keep protected status species away from the active portions of the property where they could potentially be harmed by vehicle traffic and other activities. Fencing also provides a barrier to the migration of these species onto Highway 92.

Granting of Emergency Permits: Municipal Code 18.20.040 C. presents the findings that must be made to grant an Emergency Coastal Development Permit. The code also provides the parameters under which the Community Development Director shall act on an Emergency Coastal Development Permit. Generally, the Director may act as quickly as deemed appropriate in the situation. The co-applicants (County of San Mateo and City of Half Moon Bay) addressed these requirements in the application's supplemental narrative contained in Attachment 3. The three required findings and the Community Development Director's determinations are presented below:

1. **Finding:** An emergency exists and requires action more quickly than permitted by the procedures for administrative permits or for ordinary permits, and the development can and will be completed within thirty days unless otherwise specified by the terms of the permit.

   Director's Determination: Per Municipal Code Section 18.20.020.E, "Emergency" means a sudden unexpected occurrence demanding immediate action to prevent or mitigate loss or damage to life, health, property or essential public services.

   This project is an emergency response. A mass shooting on January 23, 2023, at two Coastside farms, was a sudden and unexpected occurrence. This tragic event directly caused at least 19 lower-income farmworker households, comprising 40 individuals, to become homeless due to the "red-tagging" of substandard and unsafe housing, which included storage containers, recreational vehicles, and other non-habitable structures. These conditions precluded any ability for re-occupancy of this housing.

   Following this tragedy, the County established an Emergency Farmworker Housing Safety Task Force. The Task Force has been inspecting housing on Coastside agricultural properties to ensure farmworker safety and safe living conditions. The process has been indicating that additional homes are needed immediately due to excessive overcrowding and substandard living conditions. As of November 2023, the task force has examined approximately 50% of the properties to be evaluated and has inspected 90 farmworker housing units occupied by 268 farmworkers. The task force determined that units housing 68 farmworkers do not meet minimum safety standards and require corrective actions.

   San Mateo County anticipates that the task force will continue to identify substandard and unsafe housing units, creating an emergency need for additional affordable housing units. The County acknowledges that if the trend continues, as many as 130 farmworkers, in addition to the 19 households displaced by the shooting, will become homeless absent the immediate provision of new affordable housing units.

   Homelessness and unsafe living conditions constitute a threat to life and health. Therefore, immediate action to prevent or mitigate loss or damage to life is essential to address this housing emergency. In the most immediate initial response, San Mateo

County and the City of Half Moon Bay, along with other non-governmental organizations (NGOs), secured temporary housing for this traumatized population; however, maintaining long-term funding of market-rate rental housing is not sustainable, and a permanent housing solution is needed quickly in consideration that these leases will expire in mid-2024. At present, these same families face the real possibility of homelessness once again. The City, NGOs, and philanthropic groups are working to secure funding to extend leases until the fall of 2024, the anticipated opening of the project.

This local housing emergency is set against the backdrop of a Statewide housing crisis and its Bay Area context. In the Bay Area, lower-income households are especially impacted because of the lack of units combined with a very high median income driving market-rate housing costs up to some of the highest levels in the United States.

For farmworkers on the San Mateo County Coastside, who typically earn near minimum wage with few, if any, benefits, market-rate housing is out of reach. Absent housing provided by particular farms, households double or triple up to share rent or they resort to living in substandard and often unsafe structures. In any of these cases, living conditions are often poor and overcrowded. These conditions discourage farmworkers and their families from working in this very high-income stretch of the Coastal Zone. Although the farming industry on the Coastside has been contracting in recent years primarily due to drought which has resulted in lower yields, the challenge of providing housing for and retaining farmworkers exacerbates the matter of maintaining coastal agriculture in this area. Coastal agriculture is a State priority as set forth in the California Coastal Act, and these lands are rich with prime soils as mapped by the State Natural Resource Conservation Service.

It is notable that this emergency – the need to find replacement housing for (a) the 19 lower-income farmworker households (40 individuals) who became homeless following the mass shooting in January 2023 as their temporary leases expire in mid-2024, and (b) any additional farmworkers and their families found to be living in unsafe conditions by the San Mateo County Emergency Farmworker Housing Safety Task Force – presents different timelines than more typical emergencies in the Coastal Zone which are often associated with weather-related or tidal impacts to structures, trees, or roadways. In those cases, the emergency is typically addressed within days or weeks of the event, with the follow-up Coastal Development Permit coming forward soon after. In this case, the City has some lead-time in advance of the next phase of the emergency response. However, that lead-time is still not sufficient to process a standard Coastal Development Permit and deliver critical affordable housing to 46 very low-income farmworker households. The project site is located within the Coastal Commission's appeals jurisdiction and thus an administrative Coastal Development Permit could not be processed. The standard process, including public hearing(s), would take several months

and be subject to lengthy appeals periods. Furthermore, San Mateo County, as the property developer, cannot go out to bid for the project construction until an entitlement is in place, thus the timing needed for completing a Coastal Development Permit through the standard process would delay the project by at least a year and likely longer.

The Emergency Coastal Development Permit provides a path for the County to proceed with public bidding and project construction to house the displaced farmworker households in permanent affordable units in a timely manner. Under normal processing, bidding of the project would not likely occur for at least 16 months, and occupancy of the first unit would be no earlier than 2026. The emergency permit affords the opportunity to see occupancy by displaced farmworkers in the fall or winter of 2024. Manufactured homes were selected as the most appropriate for this location and emergency housing need due to their fast build and low cost; the availability of grant funding for this housing type; and the context of the site, where a mobile home park is already adjacent to the property and low-rise structures are preferable because they maintain views from Highway 92 to the Pilarcitos Creek riparian corridor vegetation.

2. **Finding:** Public comment on the proposed emergency action has been reviewed if time allows.

   Director's Determination: The public has been informed and input has been carefully considered.

   Municipal Code 18.20.40.C specifies that in cases where public notice can be made, it shall be provided. In this case, the emergency action required upfront efforts to secure funding, which allowed time for significant public engagement. San Mateo County and the City of Half Moon Bay have co-hosted three outreach sessions as follows:

   - April 17, 2023: Informational meeting with residents of the adjacent Cypress Cove Townhouse community with approximately 50 attendees.

   - May 8, 2023: Facilitated community listening session with approximately 120 attendees. The San Mateo County District 3 Supervisor, Half Moon Bay Mayor, and Half Moon Bay Vice Mayor attended to listen to community input.

   - August 17, 2023: Facilitated community meeting to present project plans, project timing, and permit process. Approximately 130 individuals attended.

   - August 31, 2023: Follow-up meeting with residents of the adjacent Cypress Cove Townhouse community for a project update and a question and answer session with approximately 70 attendees.

Input from the first two sessions provided design guidance for this project. Draft plans and the traffic study were made available in advance of the third session to solicit specific feedback. Additionally, the third and fourth sessions were held in advance of approving this Emergency Coastal Development Permit, again to maximize opportunities for public input and disclosure. The City created and has maintained a special project update page on its website to update the community. The City has also continued to meet with community members and shared information via community enews.

Community input was far-ranging. Some Cypress Cove residents expressed concerns, especially about traffic, parking, and property values. Some residents expressed support for the project, some with reservations, while others stated their intent to support the new neighborhood residents as they move into the community. Farmworkers and housing advocates have indicated that the need is immediate, that the situation is dire, and that this condition goes far beyond the 19 displaced households from the January 23, 2023, shooting tragedy.

Public comment has been addressed in the following areas:

- Traffic study
- Parking needs assessment
- Biological resources protections
- Hazard avoidance and management
- On-site neighborhood management

All the above topics are described later in this permit documentation.

In advance of the issuance of this Emergency Coastal Development Permit, the project site was posted, emails were sent to individuals who had signed up for updates about this project, an update was provided at the December 5, 2023 City Council meeting, and all application materials were posted and made available to the public.

3. **Finding:** The work proposed would be consistent with the requirements of the coastal program.

Director's Determination: At its foundation, the Local Coastal Program's (LCP's) implementation of the California Coastal Act protects coastal resources including environmental resources, coastal access, coastal recreation, scenic and visual resources, and agriculture. The project's Town Center location is aligned with conformance to these protections. While the site allows for housing near services including schools, health care, and shopping areas, this location is in lieu of over-crowded and sometimes unsafe conditions on agricultural properties which often do not have access to potable water or permitted and/or sustainable sewer service. Such conditions can adversely impact coastal

resources, a condition that has been observed in coastal San Mateo County in numerous locations. Additional considerations relative to coastal resource projections include:

Environmental Resources: ESHA was protected and enhanced by improvements included in the Corporation Yard Improvement Project. The Stone Pine Cove neighborhood will not impact ESHA due to the measures taken to establish a wildlife conservation corridor and buffers in conjunction with the Corporation Yard project. Tree removals are required to accommodate the development. In summary, 12 trees proposed for removal qualify as "heritage" trees per Municipal Code Section 7.40.020 and consist of eight Monterey pines, three are Monterey cypress, and one shining willow which has a multi-trunk form and appears to be a large shrub. Monterey pine trees are shallow-rooted, susceptible to numerous pests and diseases, and have been in decline throughout the City for many years. The neighborhood was designed to avoid the most significant tree stands and plantings on the site, including mature Monterey cypress trees that form a hedge row along the site's western property line. City regulations specify that Heritage trees that are removed must be replaced on a one-for-one basis with a minimum size 24-inch box specimen tree. The landscape plan includes significant replacement trees, resulting in a ratio of nearly 6:1 for each heritage tree removed. Some of the replacement trees will be Monterey cypress to fill in gaps in the hedgerow. Other trees proposed for removal do not qualify as heritage trees and replacement is not required; however, the landscape plan includes a significant number of new trees, as well as a range of landscaped spaces with shrubs and groundcovers compensating for the overall loss of vegetation. A tree removal plan summary was provided with the application and is included in Attachment 4.

Coastal Access and Recreation: Coastal access and recreation are maintained by this project. The project will not impede the development of a future trail along the north side of Pilarcitos Creek, for which a conservation and trail easement is already in place. The design and location of on-site amenities include provision for future access to the trail.

Scenic and Visual Resources: With frontage on Highway 92, the proposed development is adjacent to the Town Boulevard Scenic Corridor. Bordering Pilarcitos Creek and its riparian vegetation, it is also adjacent to a significant plant community. The Town Boulevard and significant plant communities are both visual resource areas per the Local Coastal Land Use Plan. Site planning and development form result in compliance with visual resource requirements. With respect to site planning, the new neighborhood will be located at a grade significantly lower than Highway 92. The location is screened from view by the elevated grade of the abandoned agricultural pond and existing hedge row of Monterey cypress trees. The development includes one-story manufactured homes that will be less visible than the structures approved and associated with the Corporation Yard for which no visual impact was identified. Homes are located further away from Highway 92 and on a lower portion of the property than the Corporation Yard structures. Views

from Highway 92 of Pilarcitos Creek riparian vegetation will be maintained. Renderings of the proposed neighborhood are provided in Attachment 5, and story poles will be installed per standard procedure as part of the follow-up Coastal Development Permit review process to confirm this opinion.

Coastal Agriculture: The Stone Pine Cove neighborhood will provide safe and deed-restricted affordable housing to individuals and families that work on San Mateo County coastside farms which directly supports the preservation of coastal agriculture.

In addition to coastal resource protection, the project is also consistent with additional land use/development, growth management, and hazard avoidance Land Use Plan policies.

Land Use/Development: The project site is in the Public Facilities and Institutions land use designation. The Land Use Plan directs future rezoning of the site to Public and Quasi-Public Land Use (P-S). Land Use Plan Policy 1-2, Coastal Resource Protection Priorities, determines that in advance of updates to the Zoning Ordinance in conformance with the recent Land Use Plan update, the Land Use Plan shall provide the standard of review, which includes the land use designations if they are insistent with the underlying zoning. The policy states:

> **Policy 1-2. Coastal Resource Protection Priorities.** *Protection of ESHA, public access and other coastal resources are a high priority for the City. To the extent that any policies in this Land Use Plan (which serves as the City's General Plan Land Use Element) and other elements of the City's General Plan are ambiguous, the City shall interpret them in the way that best protects ESHA and other coastal resources and maximizes public access.* ***In advance of updating the Implementation Plan for conformance with the policies of the 2020 Land Use Plan, the policies of the Land Use Plan shall provide the standard of review for any proposed new development****, including where these policies are more protective of ESHA and other coastal resources and maximize public access as consistent with the Coastal Act. (Emphasis added.)*

Furthermore, the P-S zoning district allows emergency shelters as a permitted use. This project is aligned with that use.

Additional Land Use Plan policies in support of housing at this location and in support of farmworkers and affordable housing include:

> **Policy 2-5. Housing Element Conformance.** *To ensure conformance with Coastal Act policies and priorities, focus the Housing Element's inventory of adequate sites*

within Town Center and through the Workforce Housing Overlay land use designation.

Policy 2-6. Housing Diversity and Affordability. *Encourage a diversity of housing types, including housing at a range of affordability levels, densities, sizes, and ownership types with equitable access to environmental benefits. Meet the needs of Half Moon Bay's diverse population, including young families, multi-generational families, students, young professionals, and seniors.*

Policy 2-8. Community Needs. *Support the development of land uses desired by the community and which contribute to quality of life.* ***Uses include affordable and diverse housing types such as farmworker housing*** *and smaller homes; light industrial uses including live-work and artisan uses; adaptive reuse of heritage buildings; agriculture and Half Moon Bay - Local Coastal Land Use Plan Chapter 2: Development 2-20 agriculture-compatible uses along with supportive accessory uses; commercial including neighborhood and local-serving uses; quasi-public uses including childcare, healthcare, animal care, and assisted living; and public uses including parks and other community facilities. (Emphasis added.)*

Policy 2-30. Town Center Planning. *Prepare and adopt an updated plan or zoning regulations and associated programs for the Town Center that includes use requirements, design standards, and circulation and parking management strategies. Specifically, Town Center planning shall include:*

a. Uses. Provisions to encourage a diverse mix of uses, including a range of housing types and affordability levels and non-residential uses that support the needs of the local community and visitors;

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Policy 2-3. Priority Land Uses. *Define priority land uses and support development of such land uses throughout the City by the following categories:*

a. Coastal Act Priority Uses: Coastal-dependent uses, ***agricultural uses****, visitor-serving commercial uses, and coastal access and recreational facilities. Coastal Act Priority Uses are considered top tier priority in this LCP; and furthermore, as consistent with Coastal Act Section 30222, coastal-dependent industry and agriculture take precedence over all other uses including visitor-serving commercial recreation facilities.*

b. Local Priority Uses: ***Affordable dwelling units*** *for extremely low, very low, and low-income households. Local Priority Uses are considered second tier priority behind Coastal Act Priority Uses in this LCP. (Emphasis added.)*

Policy 4-4. Farmworker Housing. ***Farmworker housing is considered a Coastal Act Priority Use, as well as a Local Priority Use.*** *Encourage a range of farmworker housing including non-permanent housing for seasonal farmworkers and permanent housing through the Workforce Housing Overlay at appropriate affordability levels, densities, and locations on agricultural lands in Rural Coastal and Horticultural Business land use designations. Encourage clustering of farmworker housing where feasible, especially to preserve prime agricultural soils such that it has the least impact on agricultural production. For agricultural and agricultural compatible uses in Planned Developments, allow for limited on-site affordable employee housing as provided for in the Planned Development designation in Chapter 2. Development. (Emphasis added.)*

Growth Management: The project is subject to the City's growth management allocation system, generally referred to as "Measure D." Measure D requires that one growth allocation per unit be secured prior to the issuance of a Coastal Development Permit. Allocations are limited each year to a number that would result in 1% population growth citywide with a 0.5% bonus allowed within a defined downtown area (the City's former Redevelopment Area). 880 Stone Pine is located within the defined downtown area and 28 Measure D allocations for the downtown area were not yet allocated as of May 23, 2023, the date when the State of California Joe Serna Jr. Grant was awarded to San Mateo County for 28 manufactured housing units for farmworkers. Following the second community meeting during which the concept plans were presented, the City processed an application and awarded 28 allocations on August 18, 2023.[1] No pending applications for allocations had been submitted at that time, and no applicants were denied allocations within the downtown area in 2023 as of the date of this application for an Emergency Coastal Development Permit. An application for the remaining 19 required allocations will be processed in conjunction with the follow-up Coastal Development Permit.

Archeological Resources: A Phase 1 study was conducted in conjunction with the Corporation Yard Improvement Project. Based on the results of the Phase 1 study, the consultant team prepared and implemented a sampling plan that covered the developed areas associated with the Corporation Yard including the new access drive. No resources were identified during the sampling work for the Corporation Yard improvement project. To address the western portion of the site, the City further engaged a qualified consultant to assess the project area of Stone Pine Cove. The consultant prepared a supplemental sampling plan for the proposed development footprint of Stone Pine Cove which was reviewed and approved by the City. Subsequently, the archaeological sampling studies were completed. The results were negative and are summarized in an email provided in Attachment 7. Furthermore, the conditions of approval will ensure compliance with

[1] The City applied for all 47 allocations, however, only 28 remained following the allocation process in spring 2023.

standard provisions for stoppage of work upon the discovery of archaeological, cultural, or paleontological resources.

Hazard Avoidance: The project site's exposure to hazards is substantially the same as that of the adjacent Cypress Cove townhome neighborhood. Development of the Corporation Yard and related access ensures secondary emergency access for adjacent Cypress Cove residents as well as residents of the planned Stone Pine Cove community.

Flood Hazards: A flood elevation study prepared by a qualified civil engineer determined that the Stone Pine Cove community will be located outside both the 100- and 500-year flood zones of Pilarcitos Creek. The project engineer completed studies and utilized prior Army Corps of Engineers studies. Beyond modeling, it is notable that the site experienced no flooding, pooling/ponding, or evident erosion as a result of the most significant run-off recorded from Pilarcitos Creek during the winter storms of 2022-2023. The flood levels are presented in the project plans. Like Cypress Cove, the site is located within the Pilarcitos Dam inundation zone where evacuation planning is required, as addressed below.

Seismic and Geotechnical Hazards: A geotechnical consultant reviewed the proposal and provided a letter confirming project construction requirements (Attachment 8).

Fire Hazards: The site is not mapped within a "Very High Fire Severity Zone" per the California Department of Forestry and Fire Protection (CalFire). Tree removals, including some eucalyptus trees, and new landscaping that will be irrigated and managed, will put in place ongoing fuel load management and reduce wildland fire risk for this portion of the project site. The neighborhood design complies with the California Fire Code and the Coastside Fire Protection District's standards for emergency vehicle access. Fire hydrants and water service will comply with the Coastside County Water District and Coastside Fire Protection District's requirements.

Evacuation Planning: The City's Emergency Preparation and Response Division is currently developing city-wide evacuation plans that cover various scenarios including tsunami, flooding, dam inundation, and wildfire events. The City will be working with the County to develop an emergency response and evacuation plan specific to the new neighborhood. Concurrently, the City will initiate emergency response planning for the Cypress Cove community and other potentially impacted areas. This will include planning for evacuation in the unlikely event of a catastrophic failure of the Pilarcitos Dam.

Additional Considerations: Following feasibility studies of this site for housing, it had been determined that the Workforce Housing Overlay should be applied to it as documented in the public draft Cycle 6 Housing Element submitted to the California Department of Housing and Community Development on May 31, 2023. Such a designation would make

affordable housing on the site available for a wide range of lower-income households. In the meantime, because agriculture is an allowed use in the Public Facilities land use designation, and because farmworker housing is an agricultural use, the use of the proposed housing by farmworker households is already consistent with the Public Facilities land use designation. The Workforce Housing Overlay designation could still be applied to the site at a future time, but is not required for the project as proposed.

In conclusion, the Director has determined that due to emergency conditions with respect to affordable housing generally, and farmworker housing specifically, the Stone Pine Cove neighborhood development is consistent with the LCP. The follow-up Coastal Development Permit will be in line with zoning amendments to implement both the Local Coastal Land Use Plan and the Housing Element.

ANALYSIS

Additional information about the analyses used to back the findings made for this Emergency Coastal Development Permit is presented in this section. Assessments of this site have been addressed through previous relevant studies, updates to previous studies, or through new information prepared to support this Emergency Coastal Development Permit.

Stone Pine Cove Site, comprising a portion of 880 Stone Pine Road, is highlighted in blue.



Biological Resources: A comprehensive biological resources evaluation of the entire 880 Stone Pine Road property was prepared for the Corporation Yard Improvement Project. The study was circulated to resource agencies including the U.S. Fish and Wildlife Services, the Army Corps of Engineers, the California Coastal Commission, the California Department of Fish and Wildlife, and the Regional Water Quality Control Board for a 45-day comment period specified by the Local Coastal Program per Municipal Code section 18.38.035.C. Comments received on that study were addressed and the study was incorporated into the IS/MND prepared for that development pursuant to CEQA. The IS/MND was adopted by the City and the Notice of Determination was posted with San Mateo County on March 30, 2022, and April 20, 2022. The biological resources assessment evaluated the wildlife conservation corridor designed for the Corporation Yard Improvement Project. The wildlife conservation corridor, which is now implemented, created the approximately 5-acre site for the Stone Pine Cove neighborhood such that the neighborhood will be located outside of all ESHAs and associated ESHA buffers. Some of the biological mitigation measures associated with the Corporation Yard project are fully executed and complete, others apply to the construction and/or operational phases of the Stone Pine Cove neighborhood and are included as Conditions of Approval.

Traffic: The City contracted with a qualified independent traffic engineering firm to prepare a traffic study to evaluate the potential impacts of vehicle trips associated with the proposed Stone Pine Cove neighborhood relative to service levels and vehicle miles traveled (VMT). The study evaluated impacts on intersections located near the project site that would be used by future residents leaving and returning to the neighborhood. The study also considered safety impacts on Stone Pine Road for various modes of circulation, including pedestrians. At the request of some residents of the Cypress Cove neighborhood, the study also evaluated the potential for site access to be taken from Highway 92 instead of and/or in addition to the access proposed via Stone Pine Road. The traffic study is provided in Attachment 9.

The study concluded that the Stone Pine Cove neighborhood would not require additional right-of-way or other transportation-related improvements/mitigation measures. The study did not find speed-related impacts. However, based on community concern, the County and City are including traffic calming measures on Stone Pine Road from West Patrick Way to the easterly terminus of Stone Pine Road, subject to review and approval of the City Engineer and the Coastside County Fire District. The traffic calming measures are included as conditions of approval and presented in Attachment 10. Traffic calming measures are anticipated to include the following:

- Crosswalk improvements at West Patrick Way, including the addition of pedestrian-activated flashing beacons to improve pedestrian safety and provide strong visual cues to drivers
- A new high-visibility crosswalk at East Patrick Way, including new curb ramps, signage, and striping to improve pedestrian and bicycle safety
- Speed feedback signs (eastbound and westbound) to increase driver awareness
- Lane striping to narrow travel lanes to reduce vehicle speeds

- Tree trimming near West Patrick Way, to improve intersection visibility

Parking and Site Circulation: The project includes on-site parking which meets City parking standards for the minimum number of required spaces. Parking spaces will be provided within the individual lease spaces as "private" parking for each home. Additionally, the project includes guest/non-designated parking spaces throughout the site. Each access drive will be signed or painted to preclude parking to ensure access by first responders, notably the Fire District and service providers like Republic Services (solid waste).

Only one of the displaced households has more than two vehicles. Six of the smallest households have no vehicles. It is anticipated that Stone Pine Cove's parking provisions will be fully adequate for future residents based on information about household size and automobile ownership for the 19 displaced households, as follows:

Household Size (Persons)	Number of Households	Number of Vehicles per Household
1	5	0
1	5	1
2	1	0
2	2	1
3	4	1
4	1	2
5	0	N/A
6	1	3

For additional guidance, the City also considered the parking demand of Moonridge, which is an established farmworker housing community located in unincorporated San Mateo County just south of the City limits. Over the years, it has become evident that on-site parking is inadequate for Moonridge's current resident population. Moonridge's unit characteristics by bedroom count and parking provisions are compared with those proposed for Stone Pine Cove in the following table:

Community/ # Parking Spaces by Unit Type	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom
Moonridge	N/A	1	1.5	2
Stone Pine Cove	2	2	2	N/A

On average, Stone Pine Cove will have smaller units and more parking per unit than Moonridge, with the following highlights explaining these factors:

- Moonridge does not have any one-bedroom units; Stone Pine Cove is proposed to have approximately 14 one-bedroom units.

- Moonridge has four-bedroom units, and Stone Pine Cove will not have any units that large.
- Stone Pine Cove will provide two parking spaces for each unit, whereas Moonridge provides one parking space for all its one- and two-bedroom units as well as one space for half of its three-bedroom units. Moonridge provides two spaces for half of its three-bedroom units and two spaces for all its four-bedroom units.

The new neighborhood will also include on-site property management and community policies addressing, among many things, parking. The City's approval includes a condition requiring on-site property management and rules and covenants in perpetuity regarding parking.

Stormwater Management: On-site detention areas will provide adequate capacity to handle stormwater runoff on site. Stormwater management plans are included in the project plan set in Attachment 2.

Construction Impacts: Construction is estimated to take approximately 8-12 months, dependent on weather and other site conditions. Most of the construction activities will be associated with site grading. Site grading includes the creation of the building pads, access drives, and underground utilities. Because the housing units are pre-manufactured, their installation will be relatively fast, and the normal impacts associated with site-built housing will not be present. Conditions of Approval provided in Attachment 1 include additional details determined by the City Engineer for ensuring safety before, during, and after construction.

Neighborhood Management and Support: A property management company will be contracted by San Mateo County, one of the co-applicants and the ultimate project owner. The company will provide an on-site manager who will live in the manager's unit. A small office and storage building for the maintenance and operations of the community are also included in the plans to support effective management. The management company will be responsible for ensuring that the manufactured homes are inspected at least annually and following earthquakes or other environmental conditions that could affect the structural integrity and/or safety of the homes.

As part of its oversight, the management company will also establish and enforce community policies that will be made a part of each space lease agreement. Examples of topics addressed in community policies include:

- Manufactured Home Standards and Maintenance
- Community Facilities/Shared Space Usage
- Code of Conduct
- Guests
- Parking
- Pets

In addition to on-site management and community policies, the farmworker households will find support from nearby facilities and agencies that are within walking distance of the site. Such resources include Coastside Hope (moving to Main Street in 2024), Ayudando Latinos A Soñar (ALAS), churches, the Half Moon Bay Library, schools, County Coastside Clinic, and the Ted Adcock Community Center.

Neighborhood Design: Renderings of the proposed neighborhood, as well as conceptual floor plans, are provided in Attachments 5 and 6. The homes will have pitched roofs, board and batten or equivalent quality siding, wood steps, covered entrances, and shutters. A warm and complimentary color palette with accent trim will be used for each home. Front yards will have irrigated landscaping. The open space area at the southwest corner of the neighborhood will be a City park and include active and passive spaces for public enjoyment, including a lawn area, play structure, and a hardscape court for flexible use (e.g., four square, hopscotch). The community garden at the northeast corner of the neighborhood will be an amenity for Stone Pine Cove residents. Tree plantings will enhance the neighborhood entrance and be included throughout the open space areas. Each home will have its own enclosure for solid waste bins (e.g., trash, recycling, and green waste) and storage sheds.

Conformance with the Local Coastal Land Use Plan/General Plan and the Zoning Code:
Plan conformance was presented in detail in finding #3, above.

ENVIRONMENTAL DETERMINATION

This emergency farmworker housing development is statutorily exempt pursuant to CEQA Statute Section 21080(b)(4) and CEQA Guidelines Section 15269 in that it consists of specific actions necessary to prevent or mitigate an emergency.

The IS/MND prepared for the Corporation Yard project addressed the entire site, especially concerning biological resources (Attachment 11). Additional studies have been prepared for Stone Pine Cove to evaluate the environmental impacts of the new neighborhood, including a traffic study and a site-specific archaeological resources evaluation. These studies concluded that there are no new impacts and that no new mitigation measures are needed. CEQA assessments will be updated for the follow-up Coastal Development Permit. Notably, some of the mitigation measures associated with the Corporation Yard project are fully executed and complete while others apply to the construction and/or operational phases of the Stone Pine Cove neighborhood. These measures are included as Conditions of Approval of the Emergency Coastal Development Permit.

CONCLUSION

The California Coastal Commission has been informed about this Emergency Coastal Development Permit issuance pursuant to Half Moon Bay Municipal Code 18.20.040 D. The Half Moon Bay City Council and Planning Commission have received regular updates about potential development of affordable housing on this site throughout the Housing Element update process

and review of the Corporation Yard Improvement Project over the past two years, and the City Council is further aware of the County's efforts to secure funding for development of affordable farmworker housing on this site. This report will be provided at a public meeting of the Half Moon Bay Planning Commission on December 12, 2023.

A follow-up Coastal Development Permit will be required per Municipal Code 18.20.040 E, and CEQA review will be conducted accordingly.

Based on the above analysis, the City concludes that an emergency condition constitutes the need for this project in an expedited fashion according to the allowances provided by the certified LCP for Emergency Coastal Development Permits. The project is also found to be consistent with the Zoning Ordinance and Local Coastal Program, is compatible with surrounding uses, and conforms to the requirements of the California Environmental Quality Act. The Community Development Director has approved the Emergency Coastal Development Permit based on the required findings as stated in this report and subject to Conditions of Approval in Attachment 1.

ATTACHMENTS

1. Conditions of Approval
2. Project Plans, November 2023
3. Application Supplemental Narrative
4. Tree Removal Plan Summary, October 2023
5. Renderings, November 2023
6. Conceptual Floor Plans, November 2023
7. Archaeological Email Memo, November 2023
8. Geotechnical Consultant Letter, October 2023
9. Final Traffic Study, November 2023
10. Traffic Calming Improvements, October 2023
11. Half Moon Bay Corporation Yard IS/MND (PDP 21-053), January 2022

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ATTACHMENT 1
CONDITIONS OF APPROVAL
PDP-23-090
ISSUANCE DATE: December 11, 2023

A. The following Conditions apply to this project:

1. CONFORMANCE WITH THE APPROVED PLANS. All plans shall substantially conform to the project plan set dated November 28, 2023, submitted with the application, as may be modified by the conditions of approval. The Community Development Director and the City Engineer shall review and may approve any deviations from the approved plans that are determined minor. Any other proposed change shall be processed as part of the Follow-Up Coastal Development Permit and shall be subject to Planning Commission Review as required by Title 18. (Engineering and Planning)

2. CONFORMANCE WITH CONDITIONS OF APPROVAL. The Community Development Director shall review and may approve any deviation from the Conditions of Approval that is determined minor. Any other change shall be included in the Follow-Up Coastal Development Permit and shall be subject to Planning Commission Review. (Planning)

3. CONFORMANCE WITH THE MUNICIPAL CODE. No part of this approval shall be construed to permit a violation of any part of the Half Moon Bay Municipal Code. (Engineering and Planning)

4. FOLLOW-UP COASTAL DEVELOPMENT PERMIT. The permittee shall submit a Coastal Development Permit application within 60 calendar days of the issuance date of the Emergency Coastal Development Permit. (Planning)

5. ON-SITE MANAGEMENT. The permittee shall obtain a qualified management company and provide on-site management in perpetuity for this community. The on-site management company shall be responsible for administering community policies and rules and for at least an annual inspection of each home to ensure safety and property maintenance. Inspections shall also be conducted following environmental occurrences such as earthquakes and extreme weather events to ensure structural integrity and safety. (Planning)

6. AFFORDABILITY. The project is subject to approval of an affordable housing agreement between the City and San Mateo County. (CMO)

7. FUTURE MODIFICATIONS TO HOMES. The manufactured homes must be maintained in accordance with original specifications. Routine maintenance is allowed but must be compliant with applicable codes. Additions are not permitted. Detached structures, such as arbors or sheds, may be permitted according to the community policies. (Planning)

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8. CONSERVATION CORRIDOR. To comply with Mitigation Measure BIO-2.f. from the Corporation Yard Initial Study/Mitigated Negative Declaration, the conservation corridor established for the Corporation Yard improvement project (PDP 21-053) shall be maintained by the City of Half Moon Bay. The wildlife tunnels and exclusionary fencing shall be inspected at least annually to ensure that the tunnels maintain open passage and the fencing maintains a complete barrier for passage of special status species including the California red-legged frog and the San Francisco garter snake. (Public Works)

9. LIGHTING. All exterior lighting shall be fully shielded so that no light source is visible from outside the property, except as otherwise expressly approved. The permittee shall install lighting per plans and submitted photometric lighting plan for all exterior light fixtures including lighting for parking lots, walkways, and open space areas. No floodlights are permitted on-site. (Planning)

10. SIDEWALK MAINTENANCE AND LIABILITY. It shall be the duty of the owner/operator to maintain all walkways within the project in a safe and non-dangerous condition. Walkway maintenance shall include removal and replacement of concrete to eliminate tripping hazards; and pruning and trimming of trees, shrubs, ground cover, and other landscaping impacting the safety of users. (Engineering and Planning)

B. The following Conditions shall be fulfilled prior to issuance of the grading permit and/or building permit:

1. SIGNED CONDITIONS OF APPROVAL. The permittee shall submit a signed copy of the conditions of approval to the Planning Department. (Planning)

2. CONSTRUCTION PLANS. File Number PDP-23-090 and the Conditions of Approval for this project shall be provided on the cover page of the engineering permit application plan submittal. All plans, specifications, engineering calculations, diagrams, reports, and other data for the construction of the building and required improvements shall be submitted with the appropriate permit application to the City's Building and Engineering Divisions for review and approval. Computations and backup data will be considered a part of the required plans. Structural calculations and engineering calculations shall be prepared, wet-stamped, and signed by an engineer or architect licensed by the State of California. (Planning and Engineering)

3. UNDERGROUND UTILITIES/SERVICES. Electric, telecommunication, and cable and utility service to the property shall be through underground service connections only. No overhead utility lines are allowed. Show locations of all service connections: sanitary sewer, storm drain (if applicable), water (domestic and fire), cable television, telephone, and electrical. (Engineering)

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4. WATER CONSERVATION IN LANDSCAPING. The permittee shall submit a final landscape and irrigation plan in substantial conformance with the Landscape Plan dated November 28, 2023 reflecting any revisions necessitated by the Conditions of Approval. The final irrigation plans shall be submitted and approved by the Community Development Director utilizing an Outdoor Water Efficiency Checklist that demonstrates compliance with the City's Water Conservation in Landscaping Ordinance (Chapter 13.04 of the Municipal Code). (Planning)

5. SURVEY REQUIRED. The permittee shall include a baseline elevation datum point on, or close to the construction site, indicating the grade as consistent with the survey and grading plan included in the November 28, 2023 application submittal. (Building and Public Works)

6. HOME DESIGN. Final elevations, floorplans, and a color board shall be submitted and approved by the Community Development Director prior to the issuance of the Building Permit and/or installation of any homes (compliance with this condition is not a prerequisite for issuance of the Grading Permit). Homes shall include architectural features including pitched roofs, quality siding such as board and batten, shutters, wood steps, covered entrances, and shutters. Home foundations shall comply with the recommendations of the project geotechnical review prepared by BAGG Engineers dated August 23, 2023. (Building and Planning)

7. EVIDENCE OF WATER CONNECTION CAPACITY. Prior to the issuance of the Grading Permit, the permittee shall submit a letter from Coastside County Water District certifying that the subject site has an adequately sized water connection for domestic and fire service for this project and that a sufficient number of priority connections have been allocated to the project. The City agrees to provide a letter in advance to CCWD indicating the allocation of affordable and coastal priority water connections. (Building and Fire)

8. EVIDENCE OF SEWER CONNECTION CAPACITY. Prior to the issuance of the first building permit, the permittee shall obtain a "will serve" letter from the City of Half Moon Bay designating and transferring sewer capacity/connections to the project. (Public Works and Building)

9. LOT GRADING. This project requires the issuance of a grading permit. No on-site grading or site preparation, storage, or placement of construction materials, equipment, or vehicles shall take place prior to the issuance of a grading permit. Lot grading includes, but is not limited to, leveling, scraping, clearing, stockpiling of materials, or removal of lot surface area. (Engineering)

10. DRAINAGE PLAN. On-site drainage shall conform with the Drainage Plan dated November 28, 2023. Prior to the issuance of a grading permit, the permittee shall demonstrate that the grading plan is in substantial conformance with the Drainage Plan. Plans shall include supporting calculations for stormwater detention on the site for the additional run-off from a ten-year frequency storm of two-hour duration.

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11. COPPER BUILDING ELEMENTS. The building plans shall specify that all copper building elements will be pre-patinated at the factory, or if patination will occur on the site, the plans shall identify best management practices in conformance with the *San Mateo Countywide Water Pollution Prevention Program Requirements for Architectural Copper,* to the satisfaction of the City Engineer. (Engineering)

12. EROSION AND SEDIMENT CONTROL. An erosion and sediment control plan shall be submitted in conjunction with the Grading Permit that shows effective Best Management Practices (BMP) and erosion and sediment control measures for the site. Construction plans shall also include the "construction best management practices" plan sheet. (Engineering)

13. FIRE PROTECTION REQUIREMENTS. The permittee shall comply with all applicable fire and building codes and standards as may be identified and recommended by the Coastside Fire Protection District and include such requirements in plans. (Fire)

14. COASTSIDE COUNTY WATER DISTRICT. The project shall comply with all applicable regulations and requirements of the Coastside County Water District including for fire flow and include such requirements in plans. Water service shall not be in the same trench as other utilities. (Water District)

15. TREE PROTECTION REQUIREMENTS. To protect the trees on the site and surrounding area (excluding the trees approved for removal), the project shall conform to the approved tree protection plan. The following tree protection measures shall be implemented during construction:
    a. Prior to commencement of construction, construction fencing shall be placed around the drip line of all trees proposed for preservation.
    b. No grading or other construction shall occur within the drip line of any tree proposed for preservation except in conformance with a tree protection plan approved by the Community Development Director.
    c. No vehicle, equipment or materials shall be parked or stored within the drip line of any tree proposed for preservation. (Planning/Building)

16. NATURAL GAS. There shall be no natural gas service to the project.

C. The following conditions shall be implemented to the satisfaction of the Community Development Director prior to and during grading and construction:

1. ARCHAEOLOGY-DISCOVERY OF HUMAN REMAINS. Pursuant to Section 7050.5 of the Health and Safety Code, and Section 5097.94 of the Public Resources Code of the State of California, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The County Coroner shall be notified and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are

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not subject to his authority, he shall notify the California Native American Heritage Commission who shall attempt to identify descendants of the deceased Native American(s). If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the permittee shall re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. (Planning)

2. ARCHAEOLOGY-DISCOVERY OF RESOURCES. If subsurface historic or archaeological resources are uncovered during construction, all work shall stop, the applicant shall notify the Community Development Director and retain a qualified archaeologist to perform an archaeological reconnaissance and identify any mitigation measures required to protect archaeological resources. Subsurface excavation shall not resume until expressly authorized by the Director. (Building)

3. STREET/PUBLIC RIGHT-OF-WAY CUTS FOR UTILITY CONNECTIONS. Any cuts for utility connections on Stone Pine Road that are less than twenty (20) feet apart shall be repaired with a single patch. Asphalt repair and overlay for public street cuts shall be by the City Standard Details. Three or more cuts in the pavement for utility connections will require a 2-inch thick asphalt concrete overlay on the existing pavement across the property frontage. (Engineering)

4. CONSTRUCTION TRAILER(S). Temporary construction trailers are permitted as accessory uses in conjunction with the development of this site, subject to the following conditions:
    a. Any construction trailer placed on-site shall be used as a temporary construction office only.
    b. Neither sanitation facilities nor plumbed water is permitted within the trailer.
    c. Overnight inhabitance of the construction trailer is not permitted.
    d. No construction trailers are permitted on site prior to issuance of the site grading permit.
    e. Construction trailer(s) shall be removed prior to issuance of a certificate of occupancy for the last unit in the project. (Planning)

5. PROJECT STAGING - EQUIPMENT AND MATERIALS STORAGE. Equipment and material storage shall be located on site, and laydown shall be limited to the designated areas shown on Plans dated November 28, 2023. Construction equipment and materials shall not be stored within Stone Pine Road or the driveway serving the City Corporation Yard. Temporary laydown and storage may be made available, as necessary, within the City Corporation Yard. (Planning and Public Works)

6. SITE ACCESS AND PARKING. Construction vehicles/equipment and workers shall access the project site via Stone Pine Road. Construction vehicles/equipment shall observe a 15-mile-per-hour speed limit on Stone Pine Road, and workers shall abide by the posted speed limit (25 miles per hour). Parking for construction vehicles/equipment and worker vehicles shall be limited to the designated areas identified on Plans dated November 28, 2023. Worker

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parking shall be limited to construction staff, inspectors, and consultants and may occur from 7:00 AM to 7:00 PM Monday through Saturday. Except as otherwise approved by the Public Works Director, there shall be no vehicle parking on Sundays or holidays. (Engineering)

7. AIR QUALITY BEST MANAGEMENT PRACTICES. The project shall implement the following standard BAAQMD dust control measures during all phases of construction on the project site:
    - All active construction areas shall be watered twice daily or more often if necessary. Increased watering frequency shall be required whenever wind speeds exceed 15 miles per hour.
    - Pave, apply water three times daily, or apply non-toxic soil stabilizers on all unpaved access roads and parking and staging areas at construction sites.
    - Cover stockpiles of debris, soil, sand, and any other materials that can be windblown. Trucks transporting these materials shall be covered.
    - All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day or as often as necessary to keep them free of dust and debris associated with site construction. The use of dry power sweeping is prohibited.
    - Subsequent to clearing, grading, or excavating, exposed portions of the site shall be watered, landscaped, treated with soil stabilizers, or covered as soon as possible. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas and previously graded areas inactive for 10 days or more.
    - Installation of sandbags or other erosion control measures to prevent silt runoff to public roadways.
    - Replanting of vegetation in disturbed areas as soon as possible after completion of construction.
    - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
    - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
    - Post a publicly visible sign with the telephone number and person to contact at the City of Half Moon Bay regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. (Building)

8. HAZARDOUS MATERIALS. Any materials deemed hazardous by the San Mateo County Department of Health that are uncovered or discovered during the course of work under this permit shall be disposed of in accordance with the regulations of San Mateo County Department of Health. (Building)

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9. COMPLIANCE WITH STATE AND FEDERAL CODES. All structures shall be constructed and/or installed in compliance with the standards of the current applicable State and federal Codes including current California Title 24 and California Title 25, as well as local amendments. (Building)

10. COMPLETION OF UTILITIES. Any public utilities requiring relocation as part of the construction of the project shall be relocated at the permittee's expense. (Building)

11. CONSTRUCTION HOURS. Construction activities on the site shall be limited to the hours of 8:00 AM to 6:00 PM. Monday through Saturday. Construction-related staging and mobilization may commence no earlier than 7:00 AM and cease no later than 7:00 PM. No construction is allowed on Sundays and holidays, except as expressly authorized by the City Engineer in conformance with Section 14.40.020 of the Half Moon Bay Municipal Code. (Engineering)

12. NOTICE OF DISRUPTION. The permittee shall provide written notice to affected property and business owners and a copy of such notice to the City Engineer a minimum of two business days prior to any planned disruption of pedestrian or vehicular traffic, parking, or public service facilities. (Engineering)

D. The mitigation measures from the Corporation Yard Initial Study/Mitigated Negative Declaration (PDP 21-053) are incorporated into the conditions of approval and shall be complied with prior to and during construction:

BIO-1 The following general mitigation measures shall be implemented during the project:

a. Prior to the start of the project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure describing special-status species, project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features shall be distributed to the crew members during the training. Trainees shall sign an environmental training attendance sheet. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act and the California Endangered Species Act. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site.
b. Disturbance to vegetation shall be kept to the minimum necessary to complete the project activities. To minimize impacts to vegetation, a qualified biologist shall work with the contractor to designate the work area and any staging areas as well as delineate areas that shall be avoided with signage and tape. Areas that shall be avoided include Pilarcitos Creek,

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the impoundment, riparian habitat, and the wildlife corridor. Specifically, the buffer shall be 50 feet outward from the limit of riparian vegetation along Pilarcitos Creek or 100 feet from the top of bank within Pilarcitos Creek (whichever is greater) and 100 feet outward from the impoundment. The identified buffer shall be clearly depicted on any construction plans. Work may occur within these buffer areas under the supervision of a qualified biologist, and shall be limited to removal of the existing materials enclosure and the existing fencing around the impoundment. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the impoundment, associated riparian habitat, and annual grassland to be avoided shall be flagged or fenced.

c. If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.
d. During project activities, all trash that may attract predators such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site. Following construction, trash/construction debris shall be removed from work areas.
e. The area of disturbance shall be limited to the minimum necessary to complete the project. Project boundaries shall be clearly demarcated, and these areas shall be outside of sensitive areas.
f. No firearms shall be allowed on the project site, except for federal, state, or local law enforcement, or security guards.
g. Project-related vehicles shall observe a 10 mile-per-hour speed limit in all project areas, except on City and County roads, and state highways; this is particularly important on rainy nights when California red-legged frogs are most active.
h. Nighttime construction shall be avoided.

BIO-2 Minimize impacts to special-status amphibians and reptiles:

NOTE: The requirements of Mitigation Measure BIO-2 are addressed in that the conservation corridor has been established. The measure is included here for reference.

a. The permittee will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.
b. A qualified biological monitor (or as required by project permits) shall be on-site during all project construction activities that may result in take of any special-status species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist exercises this authority, the USFWS and CDFW shall be notified by telephone and electronic mail within twenty-four (24) hours.

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c. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground for more than 24 hours shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the qualified biologist or construction foreman/manager, the protocol in Mitigation Measure BIO-2(h) shall be followed.

d. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the qualified biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the qualified biologist. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the qualified biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the qualified biologist or anyone else, the steps in Mitigation Measure BIO-2(h and i) shall be followed.

e. If a California red legged frog or San Francisco garter snake, or any animal that construction personnel believe may be either of these species, is encountered during project construction, the following shall be followed.
    i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease;
    ii. The foreman and qualified biologist shall be immediately notified; and
    iii. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO- 2(i) for San Francisco garter snake.

f. If any California red-legged frogs are found during implementation of Mitigation Measures BIO-2(a), BIO-2(b), BIO-2(c), BIO-2(d), BIO-2(e), BIO-2(f), or BIO-2(g) the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

g. The qualified biologist shall monitor any individual San Francisco garter snake encountered within the impact area, but allow it to leave the impact area on its own. If

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the qualified biologist determines that the snake cannot leave on its own then the USFWS and CDFW shall be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes shall be handled without explicit agency approval.

h. Planting of western mosquitofish (*Gambusia affinis*) within the impoundment shall be prohibited. Treatment of the impoundment for mosquito larvae by the Mosquito Abatement District will be conducted utilizing alternative treatments approved by the District (e.g., insect growth regulators).

i. The use of any pesticides in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the project area, and the depletion of food items on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. Furthermore, pesticide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.

j. The use of herbicides shall not be permitted unless approved by CDP amendment. Future approval of herbicide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.

k. The use of rodenticides (i.e., anticoagulants) for controlling rodents, such as rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*), shall be prohibited. If rodent control is required by the City, localized trapping efforts shall be conducted.

l. Construction activities (e.g., grubbing, grading) shall occur during dry weather conditions only, and to the extent feasible, during the dry season (June 1 to October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake.

m. Regardless of the season, construction shall adhere to SMCWPPP BMPs, and no construction shall occur during and within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any project activities.

n. A wildlife corridor shall be constructed as part of the Project and would funnel any potentially dispersing California red-legged frog or San Francisco garter snake into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact California red-legged frog or San Francisco garter snake. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual California red-legged frog and San

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Francisco garter snake would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent California red-legged frog or San Francisco garter snake from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both California red-legged frog and San Francisco garter snake to provide a safe and suitable movement corridor without any further management actions required.

o. The wildlife corridor fencing shall be maintained as a boundary to allow for safe wildlife movement between the impoundment and Pilarcitos Creek by funneling any dispersing wildlife through tunnels beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The wildlife fencing, tunnel, and corridor shall be maintained over the lifetime of its use, and any portion that is observed to be broken or not functioning property shall be repaired immediately by the City.

p. A temporary material may be used for the wildlife fencing, such as ERTEC or similar material, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing, it shall be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife fencing (e.g., chain-link fencing with vinyl slats) or reassessed for efficacy by a qualified biologist.

q. Installation of the wildlife corridor and associated fencing should take place during dry weather conditions to ensure that no dispersing California red-legged frogs or San Francisco garter snakes are trapped in upland areas.

r. The wildlife corridor shall be maintained and repaired annually or more frequently as needed. The tunnels beneath the access road shall be inspected to ensure that it is not blocked by vegetation or sediment. Vegetation fuels management within the wildlife corridor shall use low impact methods (such as goat grazing or using hand tools) on an annual basis. Any mechanical maintenance activities (including using hand tools for vegetation maintenance) within the wildlife corridor shall be closely monitored by an approved biologist.

BIO-3 Minimize impacts to Pilarcitos Creek and riparian habitat:

a. The project shall comply with the SMCWPPP, Municipal Regional Stormwater National Pollution Discharge Elimination System (NPDES) Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which shall prevent stream downcutting, riparian bank erosion, or other downstream impacts.

b. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during project activities shall be placed where they cannot enter any drainage ditch, culvert inlet, or nearby vernal marshes. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the work area and disposed of lawfully at an appropriate facility.

c. All exposed soils in the work area resulting from project activities shall be stabilized immediately following the completion of work to prevent erosion. Erosion and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water

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check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas.

d. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any drainages and other water features, including Pilarcitos Creek. Crew members shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the construction contractor shall prepare a plan to be approved by the City before construction begins to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.
e. All exposed surfaces shall be wetted periodically to prevent significant dust.
f. All stockpiled soil shall be covered during periods of rain.
g. The following BMPs shall be implemented to limit the spread of invasive species into sensitive habitats:
    iv. All ground-disturbing equipment used adjacent to the riparian habitat shall be washed (including weeks, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site;
    v. All applicable construction materials used on-site, such as straw wattles, mulch, and fill material, shall be certified weed free;
    vi. The project shall follow the SMCWPPP and a SWPPP as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable;
    vii. All disturbed soils shall be stabilized and planted with a native seed mix from a local source following construction;
    viii. If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) shall not be used in general soil stockpiles and shall not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil shall be disposed of off-site at a landfill.

BIO-4. Minimize impacts to nesting birds, as required by the Federal Migratory Bird Treaty Act:

a. If project activities, including, but not limited to, grubbing and grading, are conducted during nesting bird season (generally February 15 to September 15), preconstruction nest surveys shall be conducted in and near the project (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to be determined by the qualified project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.

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b. Construction activities shall not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project shall be removed prior to the start of the nesting season (e.g., prior to February 15), to the extent feasible. This shall preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.

BIO-5. Minimize impacts to heritage trees:

NOTE: The requirements of Mitigation Measure BIO-5 are replaced by the landscape and tree replacement plan. The measure is included here for reference.

a. During detailed design of the project, removal of trees protected by the City heritage tree ordinance shall be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the project area. Where removal of trees cannot be avoided, the City shall comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

BIO-6. Minimize impacts to roosting bats:

a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.

i. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal shall begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees shall be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.

BIO-7. Minimize impacts to dusky-footed woodrat:

a. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat shall be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation shall be warranted. If nests are found, then Mitigation Measures b and c shall be implemented.

b. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-foot buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat shall be avoided by the project, high-visibility

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fencing shall be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.

c. If avoidance of occupied nests is not feasible, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist shall disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks shall be relocated; these materials shall be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests shall not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.

CUL-1. Implement an environmental awareness training program:
Prior to the start of the project, all construction crew members will attend an environmental awareness training. This environmental awareness training will be conducted by a qualified archaeologist and will address cultural situations that may be encountered. An archaeologist will prepare an archaeological brochure to be distributed to the construction crew at the on-site environmental awareness training. The brochure will identify the types of cultural resources that may be encountered and the procedures to be followed in the event of accidental discovery.

CUL-2. Implement a cultural resources monitoring plan:
The project will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities. The CRMP shall include provisions for stop-work by the archaeologist, ownership and proper handling of archaeological resources upon and following discovery, reporting format and frequency, and a project specific communications plan will need to be completed prior to start of work.

GEO-1. Avoid and/or reduce impacts to unknown paleontological resources:
In the unlikely event that a paleontological resource is discovered, the project applicants shall comply with PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. To be consistent with these PRC Sections, in the event that paleontological resources are exposed during construction, work in the immediate vicinity of the find must stop until a qualified paleontologist can evaluate the significance of the find. Construction activities may continue in other areas. If the discovery proves significant under the provisions of CEQA, the paleontologist shall prescribe, and the project Applicants shall implement, additional measures such as testing or data recovery to avoid impacts to the resources.

E. The following conditions shall be implemented to the satisfaction of the Community Development Director prior to issuance of the first occupancy permit:

1. EXTERIOR COLORS AND MATERIALS. Exterior building colors and materials shall be in conformance with the approved architectural plans and color palette. (Planning)

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2. DISPLAY OF STREET ADDRESS. Prior to issuance of a Certificate of Occupancy, the residential dwelling shall display a street address (or unit number) per Fire District requirements. (Fire/Building)

3. COMMUNITY POLICIES. The permittee shall prepare community policies and rules for the ongoing operation of the project including, but not limited to parking, refuse pick-up/removal, on-site storage, and keeping of pets. The on-site manager will be responsible for education, administration, and enforcement. Covenants are subject to review and approval by the City Engineer and Community Development Director prior to occupancy of the first unit. (Planning)

4. EMERGENCY RESPONSE PLAN. The permittee shall, in conjunction with the City Emergency Response staff, prepare an emergency response plan covering evacuation planning for the residents of Stone Pine Cove in the unlikely failure of the Pilarcitos Dam as well as any other potential natural disaster which may affect the project site. (City Manager's Office)

5. LANDSCAPING AND TREE REPLACEMENTS. The landscape plan, including irrigation and planting, shall be installed per approved plans. Tree removals approved according to the approved plans shall be replaced by at least one 24-inch box specimen tree for every heritage tree removed. (Planning)

6. TRAFFIC CALMING. The permittee shall complete traffic calming improvements on Stone Pine Road. Traffic calming improvements shall include:
    A. Crosswalk improvements at West Patrick Way, including the addition of pedestrian-activated flashing beacons
    B. A new high visibility crosswalk at East Patrick Way, including new curb ramps, signage, and striping
    C. Speed feedback signs (eastbound and westbound)
    D. Lane striping to narrow travel lanes
    E. Tree trimming near West Patrick Way, to improve intersection visibility (Engineering)

F. Validity and Expiration of Permits

1. EFFECTIVE DATE. This Emergency Coastal Development Permit allows property development necessary to address an emergency and is effective immediately upon signature by the Half Moon Bay Community Development Director. The permit is not subject to appeal; however, per California Code of Regulations §13569 "Dispute Resolution for Local Permit Processing Procedures" parts C and D, an interested person may request the Coastal Commission executive director to review the local government permitting process and determinations. (Planning)

2. ACCURACY OF APPLICATION MATERIALS. The applicant shall be responsible for the completeness and accuracy of all forms and material submitted for this application. Any

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errors or discrepancies found therein may be grounds for the revocation or modification of this permit and/or any other City approvals. (Planning)

3. EXPIRATION/TERMINATION. The Emergency Coastal Development Permit shall become null and void upon the effective date of the follow-up Coastal Development Permit. (Planning)

4. HOLD HARMLESS. As set forth in paragraph 9 of the First Amended and Restated Memorandum of Understanding Between the County of San Mateo and the City of Half Moon Bay Regarding Affordable Housing Development at Portion of 880 Stone Pine Rd., Half Moon Bay, CA 94019 ("Pursuant to Government Code Section 895.4, each Party agrees to fully indemnify, defend, and hold the other Party (including its appointed and elected officials, officers, employees, and agents) harmless and free from any damage or liability imposed for injury (as defined by Government Code Section 810.8) occurring by reason of the negligent acts or omissions or willful misconduct of the indemnifying Party, its appointed or elected officials, officers, employees, or agents, under or in connection with any activities undertaken in connection with this MOU. No Party, nor any appointed or elected official, officer, employee, or agent thereof, shall be responsible for any damage or liability occurring by reason of the negligent acts or omissions or willful misconduct of any other Party, its appointed or elected officials, officers, employees, or agents, under or in connection, with any activities undertaken in connection with this MOU. For avoidance of doubt, the County shall not be required to defend, indemnify or hold the City harmless, nor shall the City be required to defend, indemnify or hold the County harmless, in connection with any and all liabilities arising from or related to the application for a Coastal Development Permit (emergency or otherwise) in connection with the Project (City Attorney)

OWNER'S/PERMITTEE'S CERTIFICATION:
I have read and understand and hereby accept and agree to implement the foregoing conditions of approval of the Coastal Development Permit.

APPLICANTS/PERMITTEES:

Mike Callagy _____ 12/11/2023

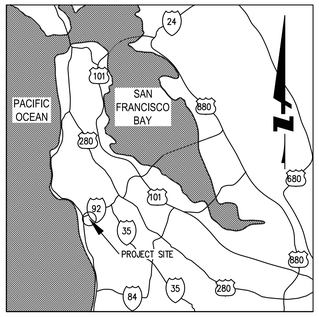
Mike Callagy, County Executive Officer

_____ 12/11/2023

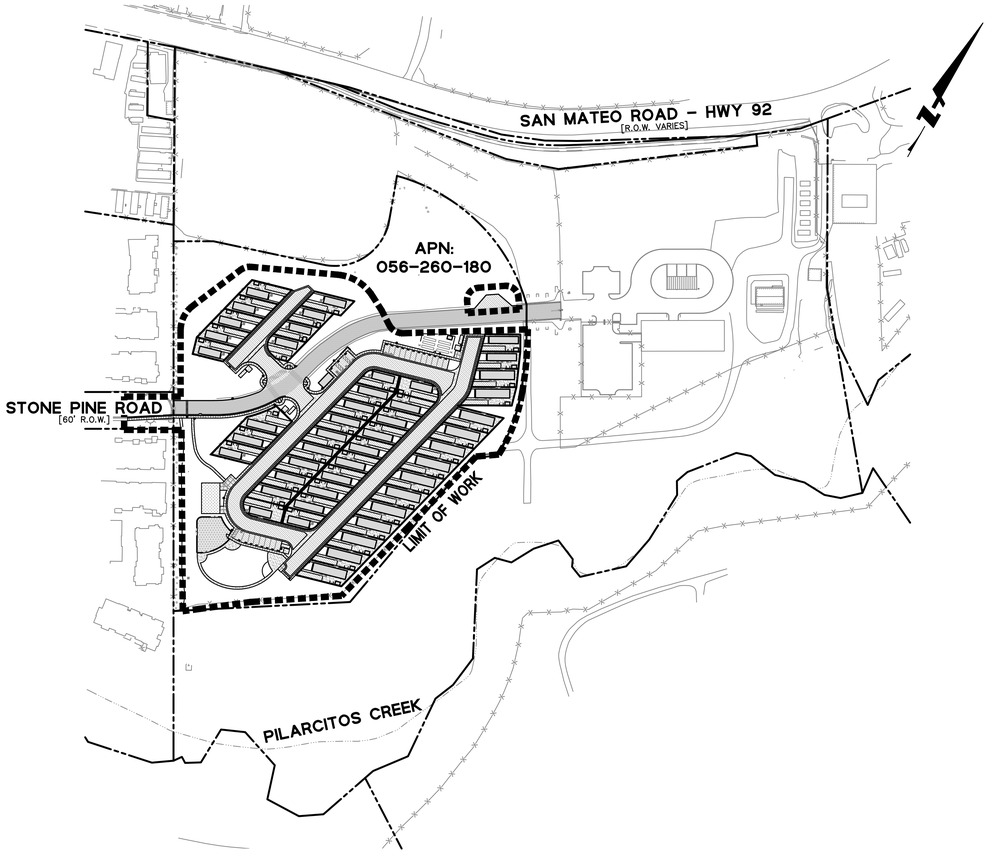
Matthew Chidester, City Manager

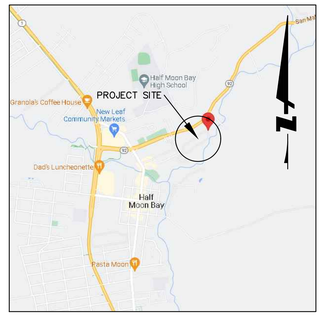
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY, CA

APN: 056-260-180



VICINITY MAP
N.T.S.





LOCATION MAP
N.T.S.

ABBREVIATIONS:

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
AL	AREA LIGHT
ARV	AIR RELEASE VALVE
ATD	ATRIUM DRAIN
BFPD	BACK FLOW PREVENTION DEVICE
BLDG	BUILDING
BO	BLOW OFF VALVE
BOT	BOTTOM OF TANK OR PIPE
BW	BOTTOM OF WALL ELEVATION
CATV	CABLE TELEVISION
CB	CATCH BASIN
CL	CENTER LINE
CIP	CAST IRON PIPE
CONC	CONCRETE
COR	CORNER
CUL	CULVERT
DDCV	DOUBLE DETECTOR CHECK VALVE
DI	DRAIN INLET
DIP	DUCTILE IRON PIPE
DN	DOCUMENT NUMBER
DS	ROOF DOWN SPOUT
DW	DOMESTIC WATER LINE
DWL	DRYWELL CATCH BASIN
DWY	DRIVEWAY
(E)	EXISTING
EG	EXISTING GRADE
ELEC	ELECTRICAL
EM	ELECTRICAL METER
EP	EDGE OF PAVEMENT
ESM	ELECTRIC SUB-METER
EV	ELECTRIC VAULT
EX. NO.	EXCEPTION NUMBER
FC	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR ELEVATION
FG	FINISHED GROUND ELEVATION
FH	FIRE HYDRANT
FL	FLOW LINE ELEVATION
FM	FORCE MAIN LINE
FNC	FENCE
FS	FINISHED SURFACE ELEVATION
FW	FIRE WATER LINE
GB	GRADE BREAK
GM	GAS METER
GR	GRATE ELEVATION
GV	GATE VALVE
HDB	HEADERBOARD
HP	HIGH POINT
INV	INVERT ELEVATION
JT	JOINT TRENCH
JP	JOINT POLE
LD	LANDSCAPE DRAIN
LF	LINEAR FEET
LP	LOW POINT
MSB	METERING SWITCHBOARD
MON	MONUMENT
(N)	NEW
OH	OVERHEAD
PIV	POST INDICATOR VALVE
PKG	PARKING
POB	POINT OF BEGINNING
POC	POINT OF CONNECTION
(R#)	DENOTES RECORD DEISTANCE
(R3: #m)	DENOTES DISTANCE MATCHING RECORD
RET	RETAINING WALL
RIM	RIM ELEVATION
R/W	RIGHT-OF-WAY
S	SLOPE
SAP	SEE ARCHITECTURAL PLANS
SBD	STORM SUB DRAIN
SBDCO	STORM SUB DRAIN CLEANOUT
SD	STORM DRAIN
SDCO	STORM DRAIN CLEANOUT
SGR	SEE GEOTECHNICAL REPORT
SICB	SIDE INLET CATCH BASIN
SLP	SEE LANDSCAPE PLANS
SPP	SEE PLUMBING PLANS
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSP	SEE STRUCTURAL PLANS
TOB	TOP OF BANK/SLOPE
TOP	TOP OF TANK OR PIPE
TPOB	TRUE POINT OF BEGINNING
TRAN	TRANSFORMER
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
UB	UTILITY BOX
VD	PIPE VERTICAL DROP
VG	VALLEY GUTTER
W	DOMESTIC WATER LINE
WM	WATER METER

LEGEND:

EXISTING	PROPOSED	
		BOUNDARY
		LIMIT OF WORK
X"_SS	X"_SS	SANITARY SEWER
X"_SD	X"_SD	SOLID STORM DRAIN
4"_SBD	4"_SBD	PERFORATED SUB DRAIN
FM	2"FM	FORCE MAIN
10" FW	10"FW	FIRE SERVICE
2" W	2"W	DOMESTIC WATER SERVICE
E	E	ELECTRIC
OH	OH	OVERHEAD WIRES
X	X	FENCE
○	○	CLEAN OUT TO GRADE
◉	◉	FOUND MONUMENT
◇◇◇	DDCV	DOUBLE DETECTOR CHECK VALVE
⋈	⋈	VALVE
●	●	BLOW OFF VALVE
◢	◢	AIR RELEASE VALVE
⊠	⊠	METER BOX
⊸☼	⊸☼	STREET LIGHT
•	•	DRAIN
■	■	ATRIUM DRAIN
▩	▩	CATCH BASIN
⊸	⊸	FIRE HYDRANT
⊸	⊸	FIRE DEPARTMENT CONNECTION
◆	◆	BENCHMARK
○	◉	MANHOLE
	⊸	SIGN
	⇨	SPLASH BLOCK
	2 / C5.1	DETAIL NUMBER / SHEET LOCATION

SHEET INDEX

CIVIL

SHEET NO.	DESCRIPTION
C0.0	TITLE SHEET
C0.1	NOTES
C0.2	EXISTING CONDITIONS
C1.1	CIVIL SITE PLAN
C1.2	GRADING PLAN
C2.1	UTILITY PLAN
C3.1	STORMWATER CONTROL PLAN
C4.1	FIRE ACCESS PLAN
C5.1	STAGING AND EROSION CONTROL PLAN
C5.2	STAGING AND EROSION CONTROL DETAILS
C5.3	BEST MANAGEMENT PRACTICES SHEET
C6.1	STONE PINE TRAFFIC CALMING IMPROVEMENTS
C6.2	STONE PINE TRAFFIC CALMING IMPROVEMENTS
C7.1	SITE SECTIONS
C8.1	CONCEPTUAL RENDERINGS

LANDSCAPE

SHEET NO.	DESCRIPTION
L1.0	LANDSCAPE SITE PLAN
L1.1	TREE REMOVAL PLAN
L1.2	LANDSCAPE IMAGERY
L2.0	SCHEMATIC PLANTING PLAN
L2.1	SCHEMATIC PLANT LIST
L2.2	SCHEMATIC PLANT IMAGES
L3.0	SCHEMATIC IRRIGATION PLAN
L4.0	SCHEMATIC PLANTING & IRRIGATION DETAILS

FLOOR PLANS

SHEET NO.	DESCRIPTION
MH1	CONCEPTUAL MANUFACTURED HOME FLOOR PLANS

LIGHTING

SHEET NO.	DESCRIPTION
SL1	STREET LIGHTING PLAN
SL2	STREET LIGHTING PLAN
SL3	STREET LIGHTING PHOTOMETRICS

PLANS HAVE BEEN REVIEWED AND APPROVED BY:

CITY ENGINEER DATE

PLANS HAVE BEEN REVIEWED AND APPROVED BY:

COASTSIDE FIRE PROTECTION DISTRICT DATE

PLANS HAVE BEEN REVIEWED AND APPROVED BY:

COASTSIDE COUNTY WATER DISTRICT DATE

DISTURBED AREA

ONSITE DISTURBED AREA	5.29 ACRES
OFFSITE DISTURBED AREA	0.10 ACRES
TOTAL	5.39 ACRES

WDID NO. _____

IMPERVIOUS AREAS

TOTAL PROPERTY AREA	297,155 SF (6.82 AC)
IMPERVIOUS AREAS:	
PRE-CONSTRUCTION	24,600 SF
POST-CONSTRUCTION	157,440 SF

EARTHWORK QUANTITIES

GROSS FIGURES	
CUT	3,470 CUBIC YARDS
FILL	3,510 CUBIC YARDS
TOTAL	6,980 CUBIC YARDS
BALANCE	40 CUBIC YARDS OF IMPORT

QUANTITY BREAKDOWN	
BIORETENTION AREA	
CUT	860 CUBIC YARDS
UTILITY TRENCHING	
CUT	1,160 CUBIC YARDS
SITE WORK AND LANDSCAPING	
CUT	1,450 CUBIC YARDS
FILL	3,510 CUBIC YARDS

EARTHWORK QUANTITIES SHOWN ARE FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL PERFORM THEIR OWN EARTHWORK QUANTITY CALCULATION, AND USE THEIR CALCULATION FOR BIDDING AND COST ESTIMATING PURPOSES.

SOILS REPORT NOTES:

1. A PROJECT SOILS REPORT WHICH INCLUDES EXPLORATION OF SUBSURFACE CONDITIONS HAS BEEN PREPARED BY BAGG ENGINEERS, DATED AUGUST 23, 2023.
2. GROUNDWATER WAS ENCOUNTERED AT A DEPTH OF 9 FT. THE HIGHEST ANTICIPATED GROUNDWATER DEPTH IS LESS THAN 10 FT BELOW THE EXISTING GROUND SURFACE.
3. REFER TO THE REPORT FOR MORE DETAILED ASSESSMENT OF SUBSURFACE CONDITIONS
4. ALL WORK ONSITE SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE PROJECT SOILS REPORT AND AS DIRECTED IN THE FIELD BY THE PROJECT GEOTECHNICAL ENGINEER.

FLOOD PLAIN NOTES:

1. 100-YEAR AND 500-YEAR FLOOD ELEVATIONS ARE SHOWN PER PILARCITOS CREEK FLOODPLAIN STUDY BY BKF ENGINEERS, DATED JUNE 29, 2023.

HAUL ROUTE:

CONTRACTOR SHALL UTILIZE THE FOLLOWING HAUL ROUTE FOR IMPORTING/EXPORTING SOILS AND OTHER CONSTRUCTION MATERIALS:

- FROM JOB SITE, HEAD WEST ON STONE PINE RD TOWARDS MAIN ST.
- TURN RIGHT ONTO MAIN ST HEADING NORTH TOWARDS HWY 92.
- TURN RIGHT ONTO HWY 92.

ENGINEER'S STATEMENT

THIS SITE IMPROVEMENT PLAN SUBMITTAL HAS BEEN PREPARED UNDER MY DIRECTION.

BRIAN K. SCOTT DATE
PRINCIPAL
P.E. #61034
BKF ENGINEERS

REGISTERED PROFESSIONAL ENGINEER BRIAN K. SCOTT C 61034 CIVIL STATE OF CALIFORNIA

ENGINEER OF WORK

I HEREBY DECLARE THAT I AM THE CIVIL ENGINEER OF WORK FOR THIS PROJECT AND THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THIS PROJECT AS DEFINED IN SECTION 6703 OF THE STATE OF CALIFORNIA, BUSINESS PROFESSIONAL CODES, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

DALE LEDA DATE
PROJECT MANAGER
P.E. #78436
BKF ENGINEERS

REGISTERED PROFESSIONAL ENGINEER DALE J. LEDA C 78436 CIVIL STATE OF CALIFORNIA

CONTACT INFORMATION:

PROJECT COORDINATOR:	CAPITAL PROGRAM MANAGEMENT, INC. 1851 HERITAGE LN, SUITE 210 SACRAMENTO, CA 95815 CONTACT: STEVEN MCGUCKIN STEVENM@CAPITALPM.COM (916) 553-4400
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STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
HALF MOON BAY

REGISTERED PROFESSIONAL ENGINEER DALE J. LEDA C 78436 CIVIL STATE OF CALIFORNIA
REVIEW ONLY
NOT FOR CONSTRUCTION

Date	No.	Revisions

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DEVELOPMENT STANDARDS NOTES:

REQUIREMENTS PER CITY OF HALF MOON BAY MUNICIPAL CODE CHAPTER 18.17 FOR MOBILE HOME PARK DISTRICT:

1. ALL MOBILE HOME SPACES SHALL BE SERVED FROM INTERNAL PRIVATE ROADWAYS AND THERE SHALL BE NO DIRECT VEHICULAR ACCESS FROM A MOBILE HOME SPACE TO A PUBLIC STREET OR ALLEY. INTERNAL ROADS SHALL HAVE A CLEAR AND UNOBSTRUCTED ACCESS TO A PUBLIC STREET OR HIGHWAY.
2. WALKWAYS SHALL BE PROVIDED THROUGHOUT THE MOBILE HOME PARK TO PROVIDE SAFE AND CONVENIENT PEDESTRIAN ACCESS TO AMENITIES, OPEN SPACE AREAS, AND PUBLIC ROADWAYS. WALKWAYS SHALL COMPLY WITH APPLICABLE ACCESSIBILITY STANDARDS BUT IN NO CASE SHALL BE LESS THAN THREE FEET IN WIDTH. WALKWAYS SHALL BE PAVED AND SEPARATE FROM ROADWAYS AND DRIVEWAYS FOR AUTOMOBILES.
2. A LANDSCAPING PLAN AND LANDSCAPE MAINTENANCE PLAN FOR THE SETBACK AREAS FROM THE PROPERTY PERIMETER OF THE MOBILE HOME PARK SHALL BE SUBMITTED FOR CONSIDERATION WITH EACH PERMIT APPLICATION FOR DEVELOPMENT OR EXPANSION OF A MOBILE HOME PARK. LANDSCAPING SHALL BE USED AS A BUFFER BETWEEN MOBILE HOME SPACES AND ADJACENT PROPERTIES. SERVICE AREAS AND OUTDOOR STORAGE AREAS SHALL BE SCREENED FROM VIEW FROM PUBLIC STREETS.
3. NO PLANT SPECIES LISTED AS PROBLEMATIC AND/OR INVASIVE BY THE CALIFORNIA NATIVE PLANT SOCIETY, THE CALIFORNIA INVASIVE PLANT COUNCIL, OR AS MAY BE IDENTIFIED FROM TIME TO TIME BY THE STATE OF CALIFORNIA SHALL BE EMPLOYED IN ANY LANDSCAPING IN THE MOBILE HOME PARK. NO PLANT SPECIES LISTED AS A NOXIOUS WEED BY THE STATE OF CALIFORNIA OR THE U.S. FEDERAL GOVERNMENT SHALL BE UTILIZED. ONLY NATIVE PLANTS OF LOCAL STOCK AND/OR DROUGHT-TOLERANT NONINVASIVE PLANTS SHALL BE USED FOR LANDSCAPING.
4. ONE NONILLUMINATED OR INDIRECTLY ILLUMINATED DETACHED MONUMENT SIGN, IDENTIFYING THE NAME OF THE MOBILE HOME PARK, SHALL BE PERMITTED. SUCH SIGN SHALL BE CONSTRUCTED OF NATURAL MATERIAL SUCH AS WOOD AND SHALL NOT EXCEED A HEIGHT OF FOUR FEET OR AN AREA OF SIXTEEN SQUARE FEET. ANY SUCH SIGN SHALL BE INTEGRATED INTO THE LANDSCAPE DESIGN.
6. MOBILE HOME PARKS SHALL BE REQUIRED TO USE GARBAGE COLLECTION AND RECYCLING SERVICES. CENTRAL COLLECTION CONTAINERS SHALL BE PROVIDED AT CONVENIENT LOCATIONS WITHIN DECORATIVE FENCED OR WALLED ENCLOSURES.
7. THE DEVELOPMENT, REDEVELOPMENT, OR MODIFICATION OF MOBILE HOME PARKS SHALL BE UNDERTAKEN PURSUANT TO THE WATER QUALITY PROTECTION STANDARDS SPECIFIED IN SECTION 18.38.121.
8. PRIOR TO ISSUANCE OF ANY COASTAL DEVELOPMENT PERMIT OR USE PERMIT, THE APPLICANT SHALL RECEIVE PRELIMINARY APPROVAL OF PLANS BY THE HALF MOON BAY FIRE PROTECTION DISTRICT.
9. LIGHTING SHALL BE THE MINIMUM NECESSARY TO ILLUMINATE THE INTERNAL ROADS WITHOUT ADVERSE IMPACT ON ADJACENT PROPERTIES. LIGHT FIXTURES SHALL BE THE MINIMUM HEIGHT NEEDED FOR PUBLIC SAFETY, BUT SHALL NOT EXCEED FIFTEEN FEET IN HEIGHT, AND SHALL BE SHIELDED TO DOWNCAST LIGHT TO PREVENT GLARE ON ADJACENT PROPERTIES.
10. IN DEVELOPMENT OF NEW AND EXPANSION OF EXISTING MOBILE HOME PARKS, ALL NEW ELECTRICAL, TELEPHONE, CABLE TV, AND SIMILAR DISTRIBUTION LINES PROVIDING DIRECT SERVICE TO THE DEVELOPMENT, INCLUDING INDIVIDUAL SPACES, SHALL BE INSTALLED UNDERGROUND.
11. MOBILE HOME UNITS WITHIN MOBILE HOME PARKS SHALL BE LIMITED TO USE AS PERMANENT RESIDENCES. NO MOBILE HOME SHALL BE RENTED TO OR OCCUPIED BY ANY INDIVIDUAL OR GROUP OF INDIVIDUALS FOR A TERM LESS THAN THIRTY CONSECUTIVE DAYS.

CAUTION:

1. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT FOR LOCATION OF UNDERGROUND UTILITIES AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION – PHONE (800) 642-2444. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY WORK ON THIS SITE.

GENERAL SITE NOTES:

1. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING ON THIS WORK AND CONSIDER THE EXISTING CONDITIONS AND SITE CONSTRAINTS IN THE BID. CONTRACTOR SHALL BE IN THE POSSESSION OF AND FAMILIAR WITH ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS AND SPECIFICATIONS PRIOR TO SUBMITTING A BID.
2. ALL WORK ON-SITE AND IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL APPLICABLE GOVERNING AGENCIES STANDARD DETAILS & SPECIFICATIONS.
3. PRIOR TO BEGINNING WORK, AND AFTER INITIAL HORIZONTAL CONTROL STAKING, CONTRACTOR SHALL FIELD CHECK ALL ELEVATIONS MARKED WITH (E) AND REPORT ANY DISCREPANCIES GREATER THAN 0.05' TO PROJECT MANAGER.
4. DAMAGE TO ANY EXISTING SITE IMPROVEMENTS, UTILITIES AND/OR SERVICES TO REMAIN, SHALL BE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
5. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE CLIENT, THE CONSULTING ENGINEER AND THE CITY/TOWN HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE CLIENT OR THE CONSULTING ENGINEER.
6. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY BAGG ENGINEERS, DATED AUGUST 23, 2023.

DEMOLITION NOTES :

1. CONTRACTOR IS TO COMPLY WITH ALL GENERAL AND STATE REQUIREMENTS INVOLVING THE REMOVAL AND DISPOSAL OF HAZARDOUS MATERIAL(S).
2. CONTRACTOR'S BID IS TO INCLUDE ALL VISIBLE SURFACE AND ALL SUBSURFACE FEATURES IDENTIFIED TO BE REMOVED OR ABANDONED IN THESE DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF THE DEMOLITION WORK.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND DISPOSAL OF SAID MATERIALS AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS. THE CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE DEMOLITION WORK.
5. BACKFILL ALL DEPRESSIONS AND TRENCHES FROM DEMOLITION TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
6. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIALS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
7. PRIOR TO BEGINNING DEMOLITION WORK ACTIVITIES, CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL PLAN & DETAILS.
8. THE CONTRACTOR SHALL MAINTAIN ALL SAFETY DEVICES, AND SHALL BE RESPONSIBLE FOR CONFORMANCE TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS LAWS AND REGULATIONS.
9. THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING IMPROVEMENTS FACILITIES AND STRUCTURES WHICH ARE TO REMAIN. ANY ITEMS DAMAGED BY THE CONTRACTOR OR HIS AGENTS OR ANY ITEMS REMOVED FOR HIS USE SHALL BE REPLACED IN EQUAL OR BETTER CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.
10. COORDINATE WITH ELECTRICAL, MECHANICAL, LANDSCAPING AND ARCHITECTURAL DRAWINGS FOR UTILITY SHUT-DOWN/DISCONNECT LOCATIONS. CONTRACTOR IS TO SHUT OFF ALL UTILITIES AS NECESSARY PRIOR TO DEMOLITION. CONTRACTOR IS TO COORDINATE SERVICE INTERRUPTIONS WITH THE CLIENT. DO NOT INTERRUPT SERVICES TO ADJACENT OFF-SITE OWNERS. ALSO SEE ARCHITECTURAL PLANS FOR ADDITIONAL DEMOLITION SCOPE OF WORK.
11. THE DEMOLITION PLAN IS NOT INTENDED TO BE A COMPLETE CATALOGUE OF ALL EXISTING STRUCTURES AND UTILITIES. THE PLAN INTENDS TO DISCLOSE GENERAL INFORMATION KNOWN BY THE ENGINEER AND TO SHADE THE AREA WHERE WORK WILL BE PERFORMED. THE PLAN SHOWS THE EXISTING FEATURES TAKEN FROM A FIELD SURVEY, FIELD INVESTIGATIONS AND AVAILABLE INFORMATION. THE PLAN MAY OR MAY NOT ACCURATELY REFLECT THE TYPE OR EXTENT OF THE ITEMS TO BE ENCOUNTERED AS THEY ACTUALLY EXIST. WHERE EXISTING FEATURES ARE NOT SHOWN, IT IS NOT IMPLIED THAT THEY ARE NOT TO BE DEMOLISHED OR REMOVED. THE CONTRACTOR SHALL PERFORM A THOROUGH FIELD INVESTIGATION AND REVIEW OF THE SITE WITHIN THE LIMIT OF WORK SHOWN IN THIS PLAN SET TO DETERMINE THE TYPE, QUANTITY AND EXTENT OF ANY AND ALL ITEMS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING STRUCTURES AND UTILITIES AND QUANTITY OF WORK INVOLVED IN REMOVING THESE ITEMS FROM THE SITE.

RECORD DRAWINGS:

1. THE CONTRACTOR SHALL KEEP UP-TO-DATE AND ACCURATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT FINAL LOCATION, ELEVATION, SIZES, MATERIALS, AND DESCRIPTION OF ALL WORK. RECORDS SHALL BE "REDLINED" ON A SET OF CONSTRUCTION PLAN DRAWINGS. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE CITY ENGINEER AND DEVELOPER'S CIVIL ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

STORM DRAIN MAINTENANCE NOTES:

PLEASE NOTE THAT REGULAR MAINTENANCE ON GRADING AND DRAINAGE STRUCTURES IS REQUIRED TO ENSURE FUNCTIONALITY THROUGHOUT THE LIFE OF THE PROPERTY. MAINTENANCE SHOULD INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE CLEARING OF DEBRIS FROM THE STORMWATER BIORETETION AREAS AND STORM DRAIN LINES.
2. ROOF GUTTERS AND DOWNSPOUTS SHOULD BE CLEARED BEFORE THE BEGINNING OF EACH RAINY SEASON AND AS NEEDED THROUGHOUT THE WINTER MONTHS.
3. SURFACE GRADING MAY ALSO REQUIRE CONTINUED REFINEMENT, INCLUDING THE CLEARING AND RE-FINISHING OF VEGETATED SWALES AND SLOPES TO MINIMIZE PONDING, MAINTAIN POSITIVE DRAINAGE AWAY FROM IMPROVEMENTS AND PROTECT AGAINST EROSION.
4. GRADED SLOPES SHOULD BE MONITORED AND RE-VEGETATED AS NEEDED.
5. FINALLY, DRAINAGE SWALES AND CONCRETE VALLEY GUTTERS SHOULD BE CONTINUOUSLY MONITORED AND CLEARED OF LEAVES AND DIRT DEBRIS.

TREE/PLANT PROTECTION NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON-SITE, CONTRACTOR SHALL IDENTIFY AND PROTECT EXISTING TREES AND PLANTS DESIGNATED AS TO REMAIN.
2. PROTECT EXISTING TREES TO REMAIN FROM SPILLED CHEMICALS, FUEL OIL, MOTOR OIL, GASOLINE AND ALL OTHER CHEMICALLY INJURIOUS MATERIAL; AS WELL AS FROM PUDDLING OR CONTINUOUSLY RUNNING WATER. SHOULD A SPILL OCCUR, STOP WORK IN THAT AREA AND CONTACT THE CITY/TOWN'S ENGINEER/INSPECTOR IMMEDIATELY. CONTRACTOR SHALL BE RESPONSIBLE TO MITIGATE DAMAGE FROM SPILLED MATERIAL AS WELL AS MATERIAL CLEAN UP.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ONGOING MAINTENANCE OF ALL TREES DESIGNATED TO REMAIN AND FOR MAINTENANCE OF RELOCATED TREES STOCKPILED DURING CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REPLACE TREES THAT DIE DUE TO LACK OF MAINTENANCE.
4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE ARBORIST REPORT BY WEST COAST ARBORISTS, INC., DATED AUGUST 21, 2023.

ARBORIST TREE PROTECTION NOTES:

THE FOLLOWING TREE PROTECTION MEASURES SHOULD BE APPLIED TO ALL TREES THAT ARE TO BE RETAINED:

1. PRE-CONSTRUCTION:
   - A. A PRE-CONSTRUCTION MEETING SHOULD BE HELD TO DISCUSS TREE PROTECTION MEASURES AND ENSURE ALL TREE PROTECTION MEASURES HAVE BEEN PROPERLY INSTALLED.
   - B. ANY CLEARANCE PRUNING THAT IS DEEMED NECESSARY FOR CONSTRUCTION SHALL BE COMPLETED USING THE MINIMAL DOSE NECESSARY AND SHALL BE APPROVED BY THE PROJECT ARBORIST PRIOR TO PRUNING.
   - C. TREE PROTECTION ZONES (TPZ) SHALL BE ESTABLISHED AND ENFORCED TO PREVENT SOIL COMPACTION, GRADE CHANGE, AND ROOT DAMAGE. TREE PROTECTION AREAS SHALL BE ESTABLISHED WITH FIVE-FOOT-HIGH CHAIN LINK FENCING MOUNTED ON 2-INCH DIAMETER GALVANIZED IRON POSTS, DRIVEN INTO THE GROUND TO A DEPTH OF AT LEAST 2-FEET, AT NO MORE THAN 10-FOOT SPACING.
     - C.1. THE DIAMETER OF THE TPZ SHALL BE DETERMINED BY THE TRUNK DIAMETER OF TREES TO BE PROTECTED. FOR EVERY 1 INCH OF TRUNK DIAMETER, THE TPZ SHALL EXTEND 1 FOOT. FOR EXAMPLE, A 10-INCH DIAMETER TREE SHALL HAVE A TPZ WITH A RADIUS OF 10-FEET AROUND THE TREE. IN AREAS WHERE THIS TPZ SIZE IS GREATER THAN WHAT CONSTRUCTION CAN ALLOW, THE CANOPY DRIPLINE SHALL BE THE MINIMUM RADIUS FOR THE TPZ
     - C.2. FOR TREES GROWING ALONG THE EAST PERIMETER OF THE PROPERTY, TPZS CAN BE COMBINED TO FORM ONE LARGE TPZ FOR TREES IN THIS AREA. ADDITIONALLY, FENCING IS NOT REQUIRED ON THE WEST SIDE OF THE TREES AS THE PROPERTY LINE FENCING IS ALREADY IN PLACE.
   - D. A "WARNING: DO NOT ENTER" SIGN SHALL BE PROMINENTLY DISPLAYED ON EACH TREE PROTECTIVE FENCE.
   - E. A 4-INCH LAYER OF CHIP BARK MULCH SHALL BE PLACED ON TOP OF THE TPZ AND ENCLOSED WITHIN THE TREE PROTECTIVE FENCING. THIS MULCH SHALL ONLY BE MOVED FOR LANDSCAPE PLANTS TO BE INSTALLED AFTER ALL EXCAVATION AND SOIL COMPACTION WORK HAS BEEN COMPLETED.
   - F. ESTABLISH AN AREA OUTSIDE OF THE TPZS OR ON PREEXISTING HARDSCAPE TO STORE SEDIMENT AND BACKFILL. ENSURE NO FLOW PATHS LEAD TO TPZS FROM SEDIMENT OR BACKFILL PILES IF PRESENT.
   - G. NO MATERIAL OR EQUIPMENT SHALL BE STORED OR PLACED WITHIN THE TPZ OF PRESERVED TREES.
2. CONSTRUCTION:
   - A. IN AREAS WHERE CONSTRUCTION ACTIVITY IS TO TAKE PLACE BENEATH THE CANOPY OF EXISTING TREES, SUCH AS THE WALKING PATH, THE TPZ SHALL BE MOVED TO THE GREATEST DISTANCE POSSIBLE FROM THE SUBJECT TREE WHILE ALSO ALLOWING FOR CONSTRUCTION TO PROCEED. ONCE CONSTRUCTION IN THE SUBJECT AREA HAS OCCURRED, THE TPZ SHALL BE MOVED BACK TO THE PREESTABLISHED BOUNDARY.
     - A.1. PROJECT ARBORIST SHALL CONDUCT SITE OBSERVATIONS DURING ANY CONSTRUCTION ACTIVITY THAT IS TO TAKE PLACE BENEATH THE CANOPY DRIPLINE OF TREES.
     - A.2. ANY EXCAVATION ACTIVITY THAT IS TO TAKE PLACE IN THESE AREAS IS PROHIBITED FROM USING BACKHOES, TREAD TRACTORS, OR ANY OTHER HEAVY VEHICLES. METHODS PERMITTED INCLUDE HAND DIGGING, HYDRAULIC OR PNEUMATIC AIR EXCAVATION.
   - B. DURING EXCAVATION ACTIVITY, SHOULD ANY ROOTS BE ENCOUNTERED, ROOT PRUNING SHALL BE DONE WITH HAND TOOLS IN ORDER TO MAKE CLEAN CUTS THAT FACE THE EXCAVATED AREA.
     - B.1. ROOTS LARGER THAN 2.5 INCHES SHALL NOT BE CUT WITHOUT PROJECT ARBORIST PRIOR APPROVAL.
     - B.2. ROOTS LARGER THAN 2.5 INCHES THAT ARE CUT SHALL IMMEDIATELY SHADED AND KEPT MOIST WITH WET BURLAP OR SIMILAR MATERIAL UNTIL THEY CAN BE RECOVERED.
   - C. NO PRUNING SHOULD BE PERFORMED ON TREES THAT HAVE ROOTS IMPACTED BY CONSTRUCTION ACTIVITY FOR AT LEAST ONE YEAR FOLLOWING THE COMPLETION OF THIS PROJECT OTHER THAN NECESSARY MAINTENANCE SUCH AS BUILDING CLEARANCE.
3. POST CONSTRUCTION:
   - A. PROJECT ARBORIST SHOULD CONDUCTING MONITORING TWCE A YEAR FROM THE DATE OF PROJECT COMPLETION FOR NO LESS THAN TWO YEARS TO ENSURE TREES ARE IN GOOD CONDITION.

HORIZONTAL CONTROL NOTES:

1. ALL DIMENSIONS ON THE PLANS ARE IN FEET OR DECIMALS THEREOF UNLESS SPECIFICALLY CALLED OUT AS FEET AND INCHES.

PAVEMENT SECTION:

1. SEE GEOTECHNICAL REPORT FOR ALL FLATWORK AND VEHICULAR PAVEMENT SECTIONS AND BASE REQUIREMENTS.
2. THE FINAL OR SURFACE LAYER OF ASPHALT CONCRETE SHALL NOT BE PLACED UNTIL ALL ON-SITE IMPROVEMENTS HAVE BEEN COMPLETED, INCLUDING ALL GRADING, AND ALL UNACCEPTABLE CONCRETE WORK HAS BEEN REMOVED AND REPLACED, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER AND/OR DEVELOPER'S CIVIL ENGINEER.
3. ALL PAVING SHALL BE IN CONFORMANCE WITH SECTION 26 "AGGREGATE BASE" AND SECTION 39 "ASPHALT CONCRETE" PER LATEST EDITION OF CALTRANS STANDARD SPECIFICATIONS.

SITE MAINTENANCE:

1. REMOVE ALL DIRT, GRAVEL, RUBBISH, REFUSE, AND GREEN WASTE FROM STREET PAVEMENT AND STORM DRAINS ADJOINING THE SITE. LIMIT CONSTRUCTION ACCESS POINTS FOR THE SITE AND PLACE STABILIZED CONSTRUCTION ENTRANCES AT THESE LOCATIONS. DO NOT DRIVE VEHICLES AND EQUIPMENT OFF THE PAVED OR GRAVELED AREAS DURING WET WEATHER.
2. SWEEP OR VACUUM THE STREET PAVEMENT AND SIDEWALKS ADJOINING THE PROJECT SITE AND THE ON-SITE PAVED AREAS ON A DAILY BASIS. SCRAPE CAKED-ON MUD AND DIRT FROM THESE AREAS BEFORE SWEEPING. CORNERS AND HARD TO REACH AREAS SHALL BE SWEPT MANUALLY.
3. CREATE A CONTAINED AND COVERED AREA ON THE SITE FOR THE STORAGE OF BAGS, CEMENT, PAINTS, OILS, FERTILIZERS, PESTICIDES, OR OTHER MATERIALS USED ON THE SITE THAT HAVE THE POTENTIAL OF BEING DISCHARGED INTO THE STORM DRAIN SYSTEM THROUGH EITHER BEING WIND-BLOWN OR IN THE EVENT OF A MATERIAL SPILL.
4. NEVER CLEAN MACHINERY, EQUIPMENT OR TOOLS INTO A STREET, GUTTER OR STORM DRAIN.
5. ENSURE THAT CEMENT TRUCKS, PAINTERS, OR STUCCO/PLASTER FINISHING CONTRACTORS DO NOT DISCHARGE WASH WATER FROM EQUIPMENT, TOOLS OR RINSE CONTAINERS INTO GUTTERS OR DRAINS.

NPDES REQUIREMENTS:

1. ALL CONSTRUCTION ON OFF-SITE OR ON-SITE IMPROVEMENTS SHALL ADHERE TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE CITY/TOWN OR COUNTY STORM DRAIN SYSTEMS.
2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC RIGHT-OF-WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT-OF-WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
9. CLEAN UP ALL SPILLS USING DRY METHODS.
10. SWEEP ALL GUTTERS AT THE END OF EACH WORKING DAY. GUTTERS SHALL BE KEPT CLEAN AFTER LEAVING CONSTRUCTION-SITE.
11. CALL 911 IN CASE OF A HAZARDOUS SPILL.
12. BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, CALIFORNIA STORM WATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA, JANUARY 2015, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT (ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY CITY/TOWN INSPECTORS).
13. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED BY THE CONTRACTOR AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE, RUBBISH, AND DEBRIS OF ANY NATURE.

EROSION AND SEDIMENTATION CONTROL NOTES:

1. CONTRACTOR SHALL ASSUME THE CONCEPTS ON THE EROSION CONTROL PLAN, IF PROVIDED, ARE SCHEMATIC MINIMUM REQUIREMENTS, THE FULL EXTENT OF WHICH ARE TO BE DETERMINED BY THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR THE EXACT DESIGN AND EXTENT OF THE EROSION CONTROL SYSTEM SO THAT IT WORKS WITH THE CONTRACTOR'S INTENDED USE AND MANAGEMENT OF THE CONSTRUCTION-SITE.
2. ALL EROSION CONTROL FACILITIES SHALL BE INSPECTED BY THE CONTRACTOR AND REPAIRED, AS REQUIRED, AT THE CONCLUSION OF EACH WORKING DAY. THE CONTRACTOR SHALL INSPECT THE EROSION CONTROL FACILITIES AND MAKE NECESSARY REPAIRS PRIOR TO ANTICIPATED STORMS AND AT REASONABLE INTERVALS DURING STORMS OF EXTENDED DURATION. REPAIRS TO DAMAGED FACILITIES SHALL BE MADE IMMEDIATELY UPON DISCOVERY.
3. AS SOON AS PRACTICAL FOLLOWING EACH STORM, THE CONTRACTOR SHALL REMOVE ANY ACCUMULATION OF SILT OR DEBRIS FROM THE EROSION CONTROL SEDIMENT BASINS AND SHALL CLEAR THE OUTLET PIPES OF ANY BLOCKAGE.
4. STOCKPILED MATERIAL SHALL BE COVERED WITH VISQUEEN OR A TARPAULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT MAY BE SEEDED OR PLANTED TO PROVIDE GROUND COVER.
5. PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING, OR EXCAVATION, THE CONTRACTOR SHALL VERIFY THAT THE CLIENT HAS SUBMITTED TO THE STATE WATER RESOURCES CONTROL BOARD A NOTICE OF INTENT (NOI) FOR COVERAGE UNDER THE STATE CONSTRUCTION STORM WATER GENERAL PERMIT, IF REQUIRED BY THE STATE. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE NOI ON THE CONSTRUCTION-SITE.
6. NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
7. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING OR OTHER MEASURES AS APPROPRIATE.
8. CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN, DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE CITY/TOWN INSPECTOR. THE ADJACENT STREET SHALL BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. DEVELOPER SHALL BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE CITY/TOWN'S RIGHT-OF-WAY IS PERMITTED.
9. ALL EROSION CONTROL MATERIALS SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.
10. PROTECT DOWN SLOPE DRAINAGE COURSES, STREAMS AND STORM DRAINS WITH ROCK FILLED SAND BAGS, TEMPORARY DRAINAGE SWALES, SILT FENCES, EARTH BERMS, STORM DRAIN INLET FILTERS AND/OR STRAW BALES USED ONLY IN CONJUNCTION WITH PROPERLY INSTALLED SILT FENCES.

SITE FENCE NOTES:

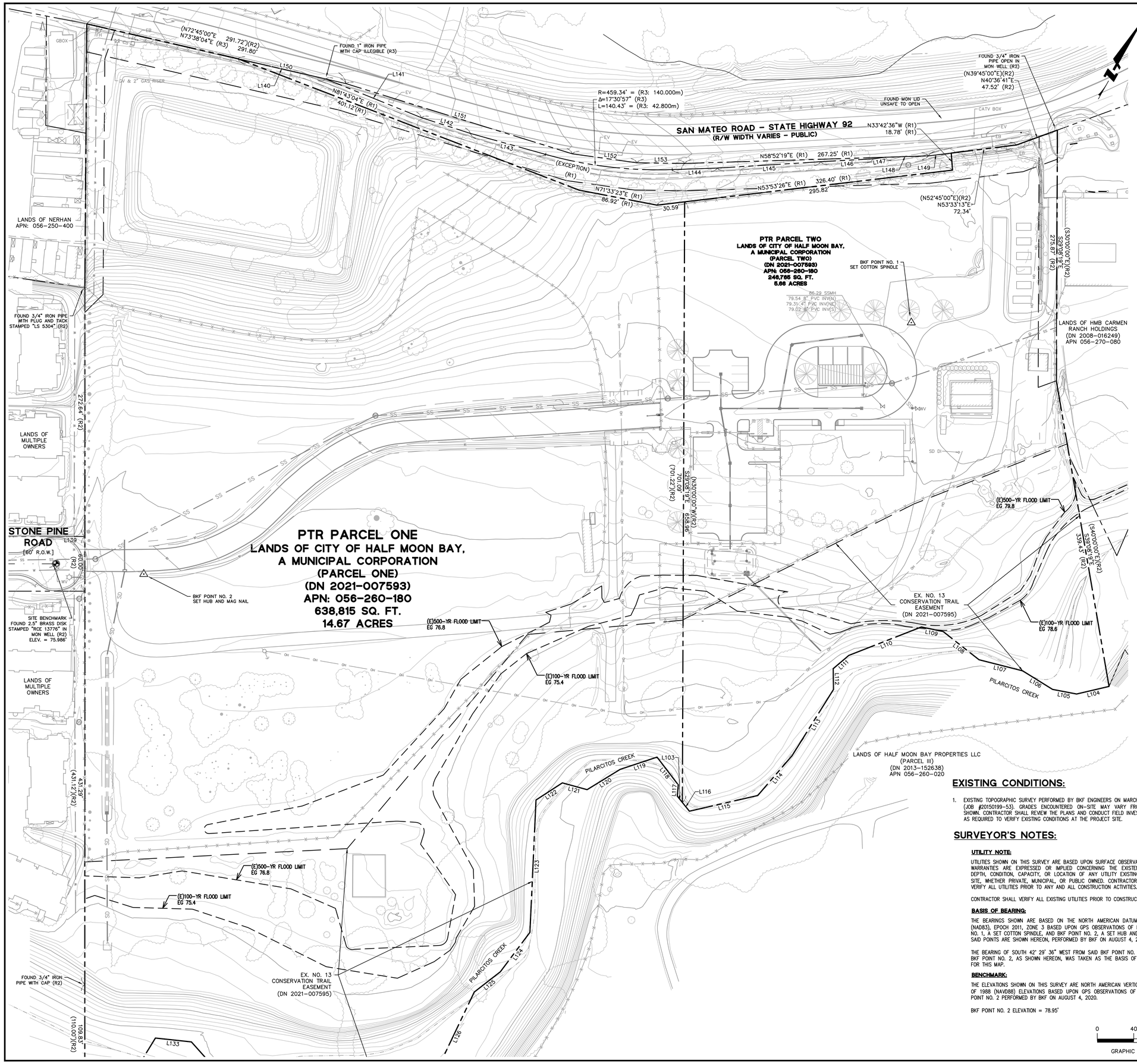
1. CONTRACTOR SHALL PROVIDE A CONSTRUCTION FENCE AROUND THE ENTIRE AREA OF DEMOLITION AND CONSTRUCTION, INCLUDING ALL STAGING, STORAGE, CONSTRUCTION OFFICE AND LAYDOWN AREAS.
2. CONSTRUCTION FENCE SHALL BE A MINIMUM OF A 6' HIGH GALVANIZED CHAIN LINK WITH GREEN WINDSCREEN FABRIC ON THE OUTSIDE OF THE FENCE.
3. CONSTRUCTION FENCE ADDRESSED IN THESE NOTES IS ONLY FOR VISUAL CONFORMANCE OF THIS CONSTRUCTION-SITE TO THE CITY/TOWN STANDARDS. CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL FENCING, BARRICADES OR OTHER SAFETY DEVICES TO KEEP THE SITE SECURE AND SAFE.

DUST CONTROL:

1. GRADING OR ANY OTHER OPERATIONS THAT CREATES DUST SHALL BE STOPPED IMMEDIATELY IF DUST AFFECTS ADJACENT PROPERTIES. THE CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROL FOR THE ENTIRE PROJECT SITE IN ACCORDANCE WITH THE PROJECT NPDES AT ALL TIMES. THE SITE SHALL BE WATERED (BY HAND OR TRUCK) AS NECESSARY TO PREVENT DUST NUISANCE. IN THE EVENT THAT THE CONTRACTOR NEGLECTS TO USE ADEQUATE MEASURES TO CONTROL DUST, THE CLIENT RESERVES THE RIGHT TO TAKE WHATEVER MEASURES ARE NECESSARY TO CONTROL DUST AND CHARGE THE COST TO THE CONTRACTOR.
2. ALL PUBLIC STREETS AND MEDIANS SOILED OR LITTERED DUE TO THIS CONSTRUCTION ACTIVITY SHALL BE CLEANED AND SWEPT ON A DAILY BASIS DURING THE WORK WEEK, OR AS OFTEN AS DEEMED NECESSARY BY THE CLIENT/INSPECTOR, OR TO THE SATISFACTION OF THE CITY/TOWN'S DEPARTMENT OF PUBLIC WORKS.
3. ALL TRUCKS HAULING SOIL, SAND, AND OTHER LOOSE MATERIALS SHALL BE COVERED WITH TARPAULINS OR OTHER EFFECTIVE COVERS.
4. WHEEL WASHERS SHALL BE INSTALLED AND USED TO CLEAN ALL TRUCKS AND EQUIPMENT LEAVING THE CONSTRUCTION SITE. IF WHEEL WASHERS CANNOT BE INSTALLED, TIRES OR TRACKS OF ALL TRUCKS AND EQUIPMENT SHALL BE WASHED OFF BEFORE LEAVING THE CONSTRUCTION SITE.

GENERAL UTILITY SYSTEM NOTES:

1. ALL TRENCHES SHALL BE BACKFILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
2. CLEAN OUTS, CATCH BASINS AND AREA DRAINS ARE TO BE ACCURATELY LOCATED BY THEIR RELATIONSHIP TO THE BUILDING, FLATWORK, ROOF DRAINS, AND/OR CURB LAYOUT, NOT BY THE LENGTH OF PIPE SPECIFIED IN THE DRAWINGS (WHICH IS APPROXIMATE).
3. CONTRACTOR SHALL STAKE LOCATION OF ABOVE GROUND UTILITY EQUIPMENT (BACKFLOW PREVENTOR, SATELLITE DISH, TRANSFORMER, GAS METER, ETC.) AND MEET WITH CLIENT TO REVIEW LOCATION PRIOR TO INSTALLATION. PLANNING DEPARTMENT MUST SPECIFICALLY AGREE WITH LOCATION PRIOR TO PROCE



LINE TABLE		
LINE NO.	DIRECTION	LENGTH
L103	N68°00'29"W	8.90'
L104	S47°25'02"W	36.52'
L105	S71°31'17"W	26.85'
L106	N87°28'52"W	38.62'
L107	S74°52'52"W	49.37'
L108	N81°09'28"W	50.08'
L109	S72°32'08"W	24.33'
L110	S39°14'12"W	85.57'
L111	S20°14'46"W	22.43'
L112	S30°07'13"E	22.83'
L113	S02°39'36"W	85.73'
L114	S11°24'28"W	57.62'
L115	S47°43'04"W	76.92'
L116	N68°00'29"W	12.29'
L117	N24°18'13"W	12.34'
L118	N66°42'59"W	38.40'
L119	S42°15'35"W	42.60'
L120	S29°04'36"W	42.58'
L121	S75°58'13"W	28.14'
L122	S27°39'47"W	34.46'
L123	S26°43'24"E	145.40'
L124	S07°30'40"W	54.02'
L125	S22°45'40"W	36.27'
L126	S03°51'49"E	104.20'
L127	S37°46'25"W	61.71'
L128	S19°33'41"W	107.45'
L129	S56°13'06"W	40.18'
L130	S88°49'22"W	58.28'
L131	N17°07'56"W	56.88'
L132	N71°05'20"W	72.28'
L133	S66°47'43"W	39.70'
L134	S02°07'42"W	62.88'
L135	S58°53'58"W	25.72'
L136	N57°38'51"W	11.15'
L137	S36°00'41"W	15.01'
L138	S29°20'59"E	30.00'
L139	N60°39'01"E	31.63'
L140	N73°38'04"E	98.77'
L141	N82°41'18"E	113.17'
L142	N78°26'58"E	56.56'
L143	N76°15'07"E	85.66'
L144	N58°44'09"E	49.57'
L145	N57°07'31"E	113.58'
L146	N57°32'14"E	57.76'
L147	N52°28'49"E	12.50'
L148	N58°52'19"E	47.99'
L149	N53°33'13"E	25.26'
L150	N73°38'04"E	121.87'
L151	N77°53'28"E	259.68'
L152	N68°33'21"E	71.61'
L153	N61°25'06"E	52.50'

RECORD LINE TABLE	
RECORD DIRECTION	RECORD LENGTH
(S46°33'28"W)(R2)	(36.53')(R2)
(S70°39'43"W)(R2)	(26.86')(R2)
(N88°20'26"W)(R2)	(38.63')(R2)
(S74°01'18"W)(R2)	(49.39')(R2)
(N82°01'02"W)(R2)	(50.10')(R2)
(S71°40'34"W)(R2)	(24.34')(R2)
(S38°22'38"W)(R2)	(85.60')(R2)
(S19°23'12"W)(R2)	(22.44')(R2)
(S30°58'47"E)(R2)	(22.84')(R2)
(S01°48'02"W)(R2)	(85.76')(R2)
(S10°32'54"W)(R2)	(57.64')(R2)
(S46°51'30"W)(R2)	(76.95')(R2)
(N68°52'03"W)(R2)	(12.22')(R2)
(N68°52'03"W)(R2)	(8.98')(R2)
(N25°09'47"W)(R2)	(12.34')(R2)
(N67°34'33"W)(R2)	(38.41')(R2)
(S41°24'01"W)(R2)	(42.61')(R2)
(S28°13'02"W)(R2)	(42.59')(R2)
(S75°06'39"W)(R2)	(28.15')(R2)
(S26°48'13"W)(R2)	(34.47')(R2)
(S27°34'58"E)(R2)	(145.45')(R2)
(S06°39'06"W)(R2)	(54.04')(R2)
(S21°54'06"W)(R2)	(36.28')(R2)
(S04°43'23"E)(R2)	(104.24')(R2)
(S36°54'51"W)(R2)	(61.73')(R2)
(S18°42'07"W)(R2)	(107.49')(R2)
(S55°21'32"W)(R2)	(40.19')(R2)
(S87°57'48"W)(R2)	(58.30')(R2)
(N17°59'30"W)(R2)	(56.90')(R2)
(N71°56'54"W)(R2)	(72.31')(R2)
(S65°56'09"W)(R2)	(39.71')(R2)
(S01°16'08"W)(R2)	(62.90')(R2)
(S58°02'24"W)(R2)	(25.73')(R2)
(N58°30'25"W)(R2)	(11.15')(R2)
(S35°09'07"W)(R2)	(15.02')(R2)
(S30°12'40"E)(R2)	(30.00')(R2)
(N59°47'20"E)(R2)	(31.50')(R2)
(N53°33'13"E)(R1)(R3)	(25.26')(R1)
(N58°52'19"E)(R1)(R3)	(R3: 14.628m) = 47.99'
(S52°28'49"W)(R3)	(R3: 3.811m) = 12.50'
(S57°32'14"W)(R3)	(R3: 17.604m) = 57.76'
(N57°07'31"E)(R3)	(R3: 34.616m) = 113.58'
(S58°44'09"W)(R3)	(R3: 15.108m) = 49.57'
(S76°15'07"W)(R3)	(R3: 26.108m) = 85.66'
(S78°26'58"W)(R3)	(R3: 17.237m) = 56.56'
(S82°41'18"W)(R3)	(R3: 34.491m) = 113.17'
(N73°38'04"E)(R3)	(R3: 30.104m) = 98.77'
(N73°38'04"E)(R1) (N72°45'00"E)(R2)	(121.88')(R1)
(N77°53'28"E)(R1) (N77°00'00"E)(R2)	(259.67')(R1) (260.04')(R2)
(N68°33'21"E)(R1)	(71.61')(R1)
(N67°45'00"E)(R2)	(71.28')(R2)
(N61°25'06"E)(R1) (N60°30'00"E)(R2)	(52.50')(R1) (52.80')(R1)

EXISTING CONDITIONS:

1. EXISTING TOPOGRAPHIC SURVEY PERFORMED BY BKF ENGINEERS ON MARCH 18, 2021 (JOB #20150199-53). GRADES ENCOUNTERED ON-SITE MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL REVIEW THE PLANS AND CONDUCT FIELD INVESTIGATIONS AS REQUIRED TO VERIFY EXISTING CONDITIONS AT THE PROJECT SITE.

SURVEYOR'S NOTES:

UTILITY NOTE:

UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON SURFACE OBSERVATIONS. NO WARRANTIES ARE EXPRESSED OR IMPLIED CONCERNING THE EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY EXISTING ON THE SITE, WHETHER PRIVATE, MUNICIPAL, OR PUBLIC OWNED. CONTRACTOR(S) SHALL VERIFY ALL UTILITIES PRIOR TO ANY AND ALL CONSTRUCTION ACTIVITIES.

CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

BASIS OF BEARING:

THE BEARINGS SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83), EPOCH 2011, ZONE 3 BASED UPON GPS OBSERVATIONS OF BKF POINT NO. 1, A SET COTTON SPINDLE, AND BKF POINT NO. 2, A SET HUB AND TACK AS SAID POINTS ARE SHOWN HEREON, PERFORMED BY BKF ON AUGUST 4, 2020.

THE BEARING OF SOUTH 42° 29' 36" WEST FROM SAID BKF POINT NO. 1 TO SAID BKF POINT NO. 2, AS SHOWN HEREON, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS MAP.

BENCHMARK:

THE ELEVATIONS SHOWN ON THIS SURVEY ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) ELEVATIONS BASED UPON GPS OBSERVATIONS OF SAID BKF POINT NO. 2 PERFORMED BY BKF ON AUGUST 4, 2020.

BKF POINT NO. 2 ELEVATION = 78.95'

RECORD REFERENCES

(R1) GRANT DEED RECORDED OCTOBER 1, 2009 AS DOCUMENT NUMBER 2009-131257, OFFICIAL RECORDS OF SAN MATEO COUNTY.
(R2) RECORD OF SURVEY RECORDED APRIL 5, 2005 IN BOOK 27 OF LLS MAPS AT PAGE 40, OFFICIAL RECORDS OF SAN MATEO COUNTY.
(R3) RECORD OF SURVEY NO. 2460 RECORDED OCTOBER 10, 2013 IN BOOK 38 OF LLS MAPS AT PAGES 99-102OFFICIAL RECORDS OF SAN MATEO COUNTY.

SURVEYOR'S NOTE

RECORD DISTANCES PER (R3) ARE GRID DISTANCES IN METERS. (R3: #m) DENOTES DISTANCE MATCHING RECORD CONVERTED FROM GRID METERS TO GROUND U.S. SURVEY FEET. TO OBTAIN GROUND DISTANCES IN METERS, MULTIPLY (R3) GRID DISTANCES BY 1.000059093, AS STATED ON (R3). TO OBTAIN GROUND DISTANCES IN U.S. SURVEY FEET, MULTIPLY GROUND DISTANCES IN METERS BY THE CONVERSION FACTOR OF (3937/1200).

0 40 80
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EXISTING CONDITIONS
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA
HALF MOON BAY

No.	Revisions	Date

Date 11/28/2023
Scale 1" = 40'
Design DJP
Drawn DLG
Approved DJL
Job No. 20211367-15

Drawing Number:
C0.2
OF

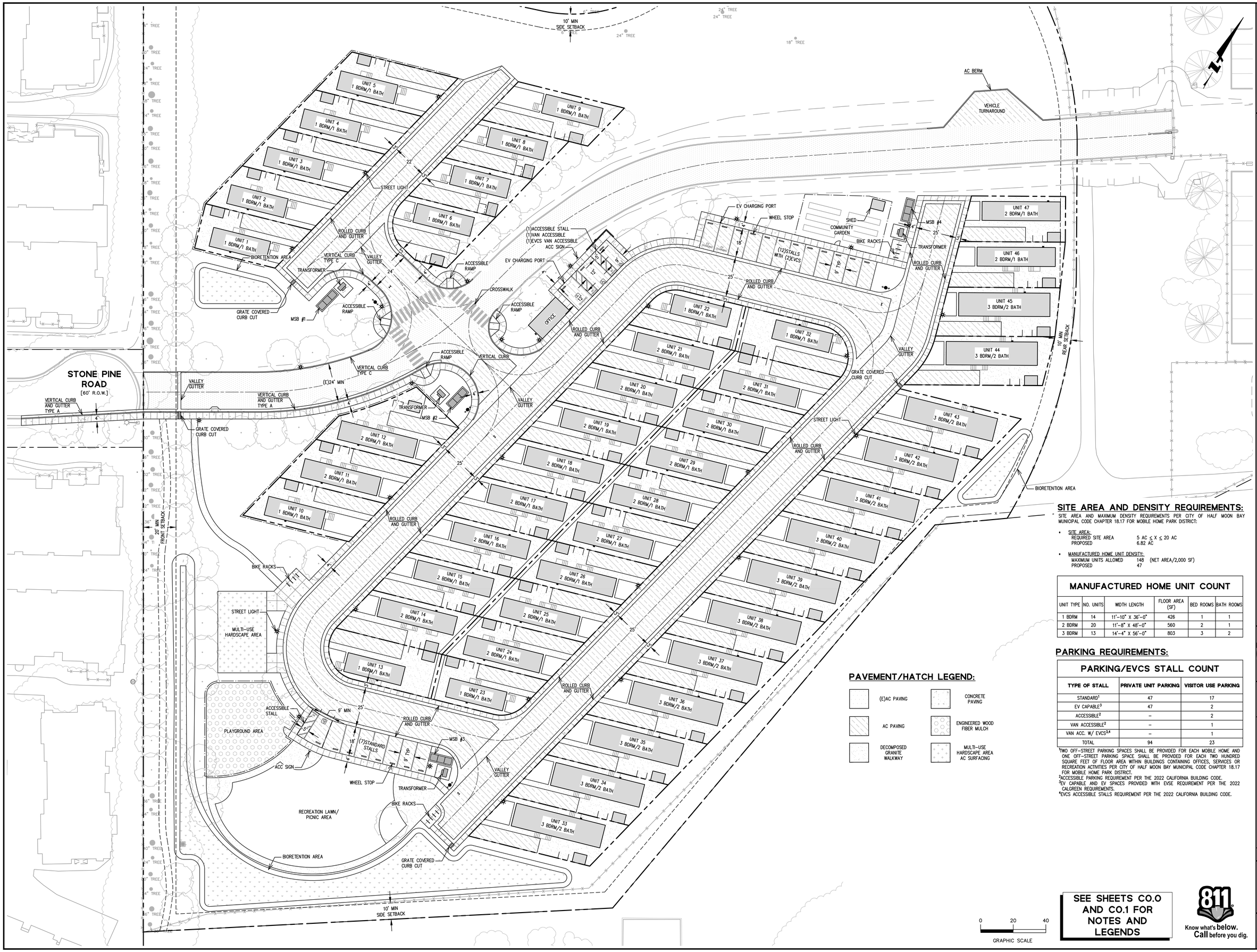
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PLOT DATE: 11-29-23 PLOTTED BY: gold

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CIVIL SITE PLAN
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CALIFORNIA

HALF MOON BAY



SITE AREA AND DENSITY REQUIREMENTS:

SITE AREA AND MAXIMUM DENSITY REQUIREMENTS PER CITY OF HALF MOON BAY MUNICIPAL CODE CHAPTER 18.17 FOR MOBILE HOME PARK DISTRICT:

- SITE AREA:
  - REQUIRED SITE AREA: 5 AC ≤ X ≤ 20 AC
  - PROPOSED: 6.82 AC
- MANUFACTURED HOME UNIT DENSITY:
  - MAXIMUM UNITS ALLOWED: 148 (NET AREA/2,000 SF)
  - PROPOSED: 47

MANUFACTURED HOME UNIT COUNT

UNIT TYPE	NO. UNITS	WIDTH LENGTH	FLOOR AREA (SF)	BED ROOMS	BATH ROOMS
1 BDRM	14	11'-10" X 36'-0"	426	1	1
2 BDRM	20	11'-8" X 48'-0"	560	2	1
3 BDRM	13	14'-4" X 56'-0"	803	3	2

PARKING REQUIREMENTS:

PARKING/EVCS STALL COUNT

TYPE OF STALL	PRIVATE UNIT PARKING	VISITOR USE PARKING
STANDARD[1]	47	17
EV CAPABLE[3]	47	2
ACCESSIBLE[2]	–	2
VAN ACCESSIBLE[2]	–	1
VAN ACC. W/ EVCS[3,4]	–	1
TOTAL	94	23

[1]TWO OFF-STREET PARKING SPACES SHALL BE PROVIDED FOR EACH MOBILE HOME AND ONE OFF-STREET PARKING SPACE SHALL BE PROVIDED FOR EACH TWO HUNDRED SQUARE FEET OF FLOOR AREA WITHIN BUILDINGS CONTAINING OFFICES, SERVICES OR RECREATION ACTIVITIES PER CITY OF HALF MOON BAY MUNICIPAL CODE CHAPTER 18.17 FOR MOBILE HOME PARK DISTRICT.
[2]ACCESSIBLE PARKING REQUIREMENT PER THE 2022 CALIFORNIA BUILDING CODE.
[3]EV CAPABLE AND EV SPACES PROVIDED WITH EVSE REQUIREMENT PER THE 2022 CALGREEN REQUIREMENTS.
[4]EVCS ACCESSIBLE STALLS REQUIREMENT PER THE 2022 CALIFORNIA BUILDING CODE.

PAVEMENT/HATCH LEGEND:

- (E)AC PAVING
- AC PAVING
- DECOMPOSED GRANITE WALKWAY
- CONCRETE PAVING
- ENGINEERED WOOD FIBER MULCH
- MULTI-USE HARDSCAPE AREA AC SURFACING

0 20 40
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SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

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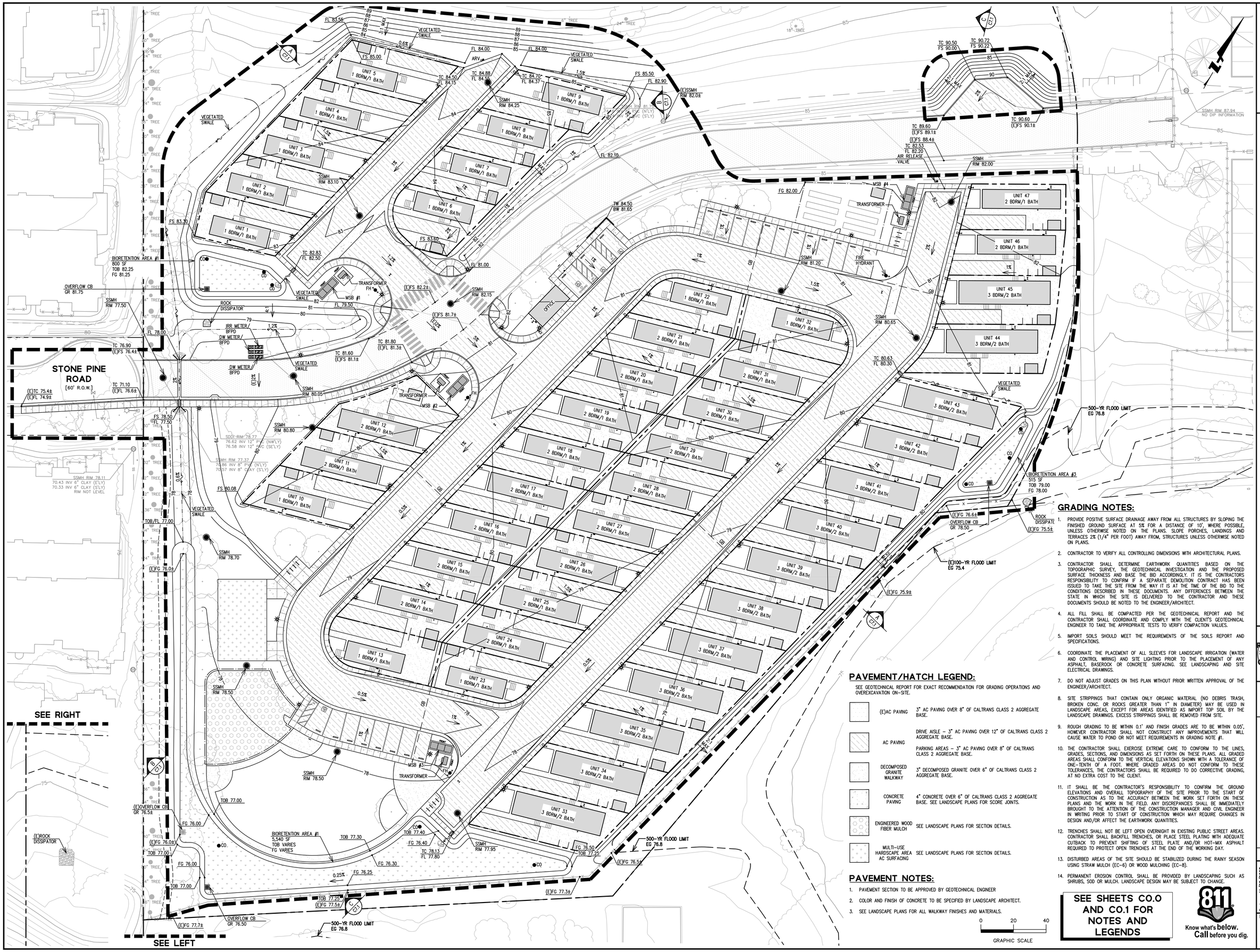
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No.	Revisions	Date

Date 11/28/2023
Scale 1" = 20'
Design DJP
Drawn DLG
Approved DJL
Job No. 20211367-15

Drawing Number:
C1.1
OF

DRAWING NAME: K:\2021\211367-15_HMB_Corpyard_Housing\ENG\vmbsheets.dwg
PLOT DATE: 11-29-23 PLOTTED BY: gold



GRADING NOTES:

1. PROVIDE POSITIVE SURFACE DRAINAGE AWAY FROM ALL STRUCTURES BY SLOPING THE FINISHED GROUND SURFACE AT 5% FOR A DISTANCE OF 10', WHERE POSSIBLE, UNLESS OTHERWISE NOTED ON THE PLANS. SLOPE PORCHES, LANDINGS AND TERRACES 2% (1/4" PER FOOT) AWAY FROM, STRUCTURES UNLESS OTHERWISE NOTED ON PLANS.
2. CONTRACTOR TO VERIFY ALL CONTROLLING DIMENSIONS WITH ARCHITECTURAL PLANS.
3. CONTRACTOR SHALL DETERMINE EARTHWORK QUANTITIES BASED ON THE TOPOGRAPHIC SURVEY, THE GEOTECHNICAL INVESTIGATION AND THE PROPOSED SURFACE THICKNESS AND BASE THE BID ACCORDINGLY. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM IF A SEPARATE DEMOLITION CONTRACT HAS BEEN ISSUED TO TAKE THE SITE FROM THE WAY IT IS AT THE TIME OF THE BID TO THE CONDITIONS DESCRIBED IN THESE DOCUMENTS. ANY DIFFERENCES BETWEEN THE STATE IN WHICH THE SITE IS DELIVERED TO THE CONTRACTOR AND THESE DOCUMENTS SHOULD BE NOTED TO THE ENGINEER/ARCHITECT.
4. ALL FILL SHALL BE COMPACTED PER THE GEOTECHNICAL REPORT AND THE CONTRACTOR SHALL COORDINATE AND COMPLY WITH THE CLIENT'S GEOTECHNICAL ENGINEER TO TAKE THE APPROPRIATE TESTS TO VERIFY COMPACTION VALUES.
5. IMPORT SOILS SHOULD MEET THE REQUIREMENTS OF THE SOILS REPORT AND SPECIFICATIONS.
6. COORDINATE THE PLACEMENT OF ALL SLEEVES FOR LANDSCAPE IRRIGATION (WATER AND CONTROL WIRING) AND SITE LIGHTING PRIOR TO THE PLACEMENT OF ANY ASPHALT, BASEROCK OR CONCRETE SURFACING. SEE LANDSCAPING AND SITE ELECTRICAL DRAWINGS.
7. DO NOT ADJUST GRADES ON THIS PLAN WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER/ARCHITECT.
8. SITE STRIPPINGS THAT CONTAIN ONLY ORGANIC MATERIAL (NO DEBRIS TRASH, BROKEN CONC. OR ROCKS GREATER THAN 1" IN DIAMETER) MAY BE USED IN LANDSCAPE AREAS, EXCEPT FOR AREAS IDENTIFIED AS IMPORT TOP SOIL BY THE LANDSCAPE DRAWINGS. EXCESS STRIPPINGS SHALL BE REMOVED FROM SITE.
9. ROUGH GRADING TO BE WITHIN 0.1' AND FINISH GRADES ARE TO BE WITHIN 0.05', HOWEVER CONTRACTOR SHALL NOT CONSTRUCT ANY IMPROVEMENTS THAT WILL CAUSE WATER TO POND OR NOT MEET REQUIREMENTS IN GRADING NOTE #1.
10. THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO CONFORM TO THE LINES, GRADES, SECTIONS, AND DIMENSIONS AS SET FORTH ON THESE PLANS. ALL GRADED AREAS SHALL CONFORM TO THE VERTICAL ELEVATIONS SHOWN WITH A TOLERANCE OF ONE-TENTH OF A FOOT. WHERE GRADED AREAS DO NOT CONFORM TO THESE TOLERANCES, THE CONTRACTORS SHALL BE REQUIRED TO DO CORRECTIVE GRADING, AT NO EXTRA COST TO THE CLIENT.
11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE GROUND ELEVATIONS AND OVERALL TOPOGRAPHY OF THE SITE PRIOR TO THE START OF CONSTRUCTION AS TO THE ACCURACY BETWEEN THE WORK SET FORTH ON THESE PLANS AND THE WORK IN THE FIELD. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND CIVIL ENGINEER IN WRITING PRIOR TO START OF CONSTRUCTION WHICH MAY REQUIRE CHANGES IN DESIGN AND/OR AFFECT THE EARTHWORK QUANTITIES.
12. TRENCHES SHALL NOT BE LEFT OPEN OVERNIGHT IN EXISTING PUBLIC STREET AREAS. CONTRACTOR SHALL BACKFILL TRENCHES, OR PLACE STEEL PLATING WITH ADEQUATE CUTBACK TO PREVENT SHIFTING OF STEEL PLATE AND/OR HOT-MIX ASPHALT REQUIRED TO PROTECT OPEN TRENCHES AT THE END OF THE WORKING DAY.
13. DISTURBED AREAS OF THE SITE SHOULD BE STABILIZED DURING THE RAINY SEASON USING STRAW MULCH (EC-6) OR WOOD MULCHING (EC-8).
14. PERMANENT EROSION CONTROL SHALL BE PROVIDED BY LANDSCAPING SUCH AS SHRUBS, SOD OR MULCH. LANDSCAPE DESIGN MAY BE SUBJECT TO CHANGE.

PAVEMENT/HATCH LEGEND:

SEE GEOTECHNICAL REPORT FOR EXACT RECOMMENDATION FOR GRADING OPERATIONS AND OVEREXCAVATION ON-SITE.

(E)AC PAVING	3" AC PAVING OVER 8" OF CALTRANS CLASS 2 AGGREGATE BASE.
AC PAVING	DRIVE AISLE – 3" AC PAVING OVER 12" OF CALTRANS CLASS 2 AGGREGATE BASE. PARKING AREAS – 3" AC PAVING OVER 8" OF CALTRANS CLASS 2 AGGREGATE BASE.
DECOMPOSED GRANITE WALKWAY	3" DECOMPOSED GRANITE OVER 6" OF CALTRANS CLASS 2 AGGREGATE BASE.
CONCRETE PAVING	4" CONCRETE OVER 6" OF CALTRANS CLASS 2 AGGREGATE BASE. SEE LANDSCAPE PLANS FOR SCORE JOINTS.
ENGINEERED WOOD FIBER MULCH	SEE LANDSCAPE PLANS FOR SECTION DETAILS.
MULTI-USE HARDSCAPE AREA AC SURFACING	SEE LANDSCAPE PLANS FOR SECTION DETAILS.

PAVEMENT NOTES:

1. PAVEMENT SECTION TO BE APPROVED BY GEOTECHNICAL ENGINEER
2. COLOR AND FINISH OF CONCRETE TO BE SPECIFIED BY LANDSCAPE ARCHITECT.
3. SEE LANDSCAPE PLANS FOR ALL WALKWAY FINISHES AND MATERIALS.

0 20 40
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SEE SHEETS CO.0 AND CO.1 FOR NOTES AND LEGENDS

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REGISTERED PROFESSIONAL ENGINEER
DAVID L. GOLD
No. 76127
CIVIL
STATE OF CALIFORNIA

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Approved DJL
Job No 20211367-15

Drawing Number:
C1.2
OF

DRAWING NAME: K:\2021\211367-15_HMB_Corpyard_Housing\ENG\hmbsheets.dwg
PLOT DATE: 11-29-23
PLOTTED BY: gold

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SANITARY SEWER NOTES:

1. ALL SEWER WORK SHALL BE IN CONFORMANCE WITH THE CITY.
2. PRIVATE SANITARY SEWER SERVICE LINE 4-INCH THROUGH 8-INCH SHALL BE POLYVINYL CHLORIDE (PVC) SDR 26 GREEN SEWER PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 3034-73 WITH GLUED JOINTS. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, 22.5° ELBOWS or 45° ELBOWS, 90° ELBOWS AND TEE's ARE PROHIBITED. PUBLIC SANITARY SEWER LINES AND MAINS SHALL BE PER CITY/TOWN STANDARDS.
3. ALL LATERALS SHALL HAVE A CLEANOUT AT FACE OF BUILDING AND AS SHOWN ON PLANS PER THE CITY STANDARD OR APPROPRIATE SANITARY SEWER DISTRICT.
4. IF (E) SEWER LATERAL IS TO BE USED, CONTRACTOR SHALL PERFORM PRESSURE TEST ON (E) SEWER LATERAL, AND SHALL PERFORM ANY NEEDED REPAIRS. EXTEND (N) OR (E) SEWER LINE AS SHOWN ON THE PLANS SLOPED AT 2% MINIMUM. INSTALL CLEANOUT AT FACE OF BUILDING AND AT PROPERTY LINE.
5. SANITARY SEWER SYSTEMS INCLUDING MAINS, MANHOLES, LATERALS AND SANITARY FORCE MAINS SHALL BE TESTED PER CITY'S STANDARD DESIGN GUIDELINES FOR PUBLIC WORKS CONSTRUCTION 2016.

GENERAL NOTES:

1. WATER LINES ARE SHOWN SCHEMATICALLY, CONTRACTOR SHALL IDENTIFY EACH ANGLE AND/OR BEND THAT MAY BE REQUIRED TO ACCOMPLISH THE INTENDED DESIGN.
2. CONTRACTOR SHALL SIZE AND INSTALL ALL NEW DESIGN BUILD DOMESTIC IRRIGATION AND FIRE WATER LINE(S) IN ACCORDANCE WITH THE LATEST EDITION OF THE UNIFORM/CALIFORNIA PLUMBING AND FIRE CODES.
3. ALL LANDSCAPE IRRIGATION SYSTEMS SHALL BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTURAL PLANS AND SPECIFICATIONS AND SHALL BE CONNECTED TO THE EXISTING AND/OR NEW WATER SYSTEM AND METERED ACCORDINGLY.

UTILITY LEGEND:

X" SD	STORM DRAIN LATL
X" SS	SANITARY SEWER LATL
X" DIP DW	DOMESTIC WATER LATL DUCTILE IRON PIPE
X" FW	FIRE WATER LATL
E	UNDERGROUND ELECTRICAL SERVICE LATL
	JOINT TRENCH

0 20 40
GRAPHIC SCALE

STORM DRAIN NOTES:

1. PRIVATE STORM DRAIN LINE 4-INCH THROUGH 12-INCH WITH A MINIMUM OF TWO (2) FEET OF COVER IN NON-TRAFFIC AREAS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 35 WHITE PIPE AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION D 3034-73 WITH GLUED JOINTS. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, 22.5° ELBOWS, 45° ELBOWS OR LONG SWEEP ELBOWS, 90° ELBOWS AND TEE's ARE PROHIBITED.
2. PRIVATE STORM DRAIN LINE 6-INCH THROUGH 12-INCH WITH LESS THAN THREE (3) FEET OF COVER IN VEHICULAR TRAFFIC AREAS SHALL BE POLYVINYL CHLORIDE (PVC) C900, RATED FOR 150 PSI CLASS PIPE. PROVIDE AND INSTALL "STORM DRAIN" MARKER TAPE FOR THE ENTIRE LENGTH OF PIPE TRENCH IN ACCORDANCE WITH CITY/TOWN STANDARDS. ALL DIRECTION CHANGES SHALL BE MADE WITH WYE CONNECTIONS, OBTUSE ELBOWS OR LONG SWEEP ELBOWS, 90° ELBOWS AND TEE's ARE PROHIBITED.
3. ALL AREA DRAINS AND CATCH BASINS GRATES WITHIN PEDESTRIAN ACCESSIBLE AREAS SHALL MEET ADA REQUIREMENTS.
4. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES.
5. FOR GRAVITY FLOW SYSTEMS CONTRACTOR SHALL VERIFY (POTHOLE IF NECESSARY) SIZE, MATERIAL, LOCATION AND DEPTH OF ALL SYSTEMS THAT ARE TO BE CONNECTED TO OR CROSSED PRIOR TO THE TRENCHING OR INSTALLATION OF ANY GRAVITY FLOW SYSTEM.
6. DRAINS SHOWN ON CIVIL PLANS ARE NOT INTENDED TO BE THE FINAL NUMBER AND LOCATION OF ALL DRAINS. PLACEMENT AND NUMBER OF LANDSCAPING DRAINS ARE HIGHLY DEPENDENT ON GROUND COVER TYPE AND PLANT MATERIAL. CONTRACTOR SHALL ADD ADDITIONAL AREA DRAINS AS NEEDED AND AS DIRECTED BY THE LANDSCAPE ARCHITECT OR CIVIL ENGINEER.
7. ALL DOWN SPOUTS SHALL DISCHARGE DIRECTLY ON TO ADJACENT IMPERVIOUS SURFACES OR SPLASH BLOCKS UNLESS OTHERWISE NOTED ON PLANS. SEE ARCHITECTURE PLANS FOR EXACT LOCATION OF THE DOWN SPOUTS.

DOMESTIC WATER SYSTEM NOTES:

1. WATER SYSTEM CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE COASTSIDE COUNTY WATER DISTRICT DOCUMENT TITLED "STANDARD SPECIFICATIONS AND STANDARD DRAWINGS, MAY 2018, LATEST REVISION."
2. INSTALLATION SHALL CONFORM TO THE CCWD STANDARD DRAWINGS INCLUDED IN THESE IMPROVEMENT PLANS AND OTHER CCWD STANDARD DRAWINGS.
3. WATER METER BOXES SHALL NOT BE LOCATED IN DRIVEWAY AREAS OR WITHIN 3 FEET HORIZONTAL AND 1 FOOT VERTICAL OF OTHER UTILITIES INCLUDING ELECTRICAL, GAS, TELEPHONED, AND CABLE TV.

SEE SHEETS CO.0 AND CO.1 FOR NOTES AND LEGENDS

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CALIFORNIA
HALF MOON BAY

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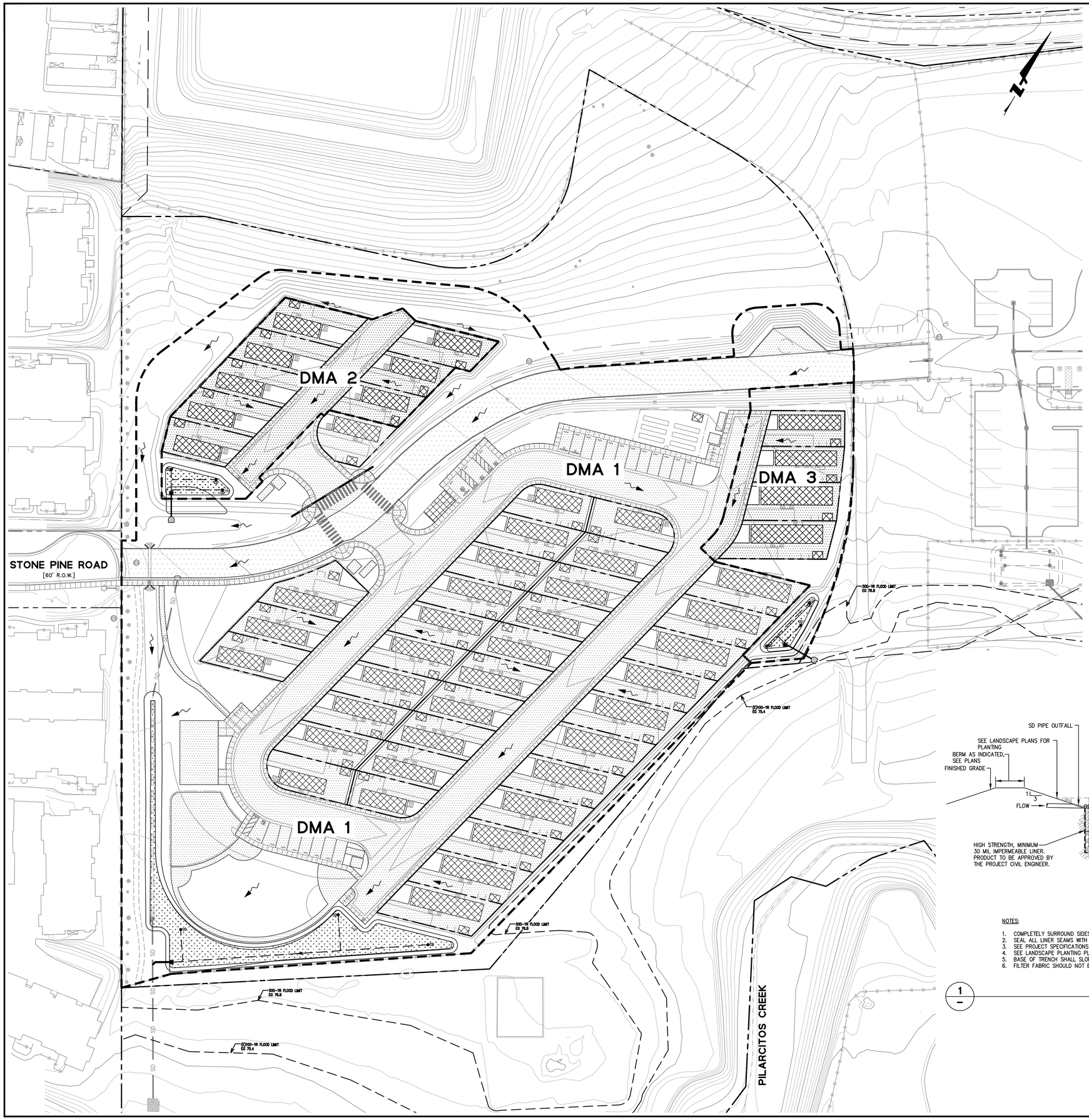
No.	Date	Revisions

Date 11/28/2023
Scale 1" = 20'
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Approved DJL
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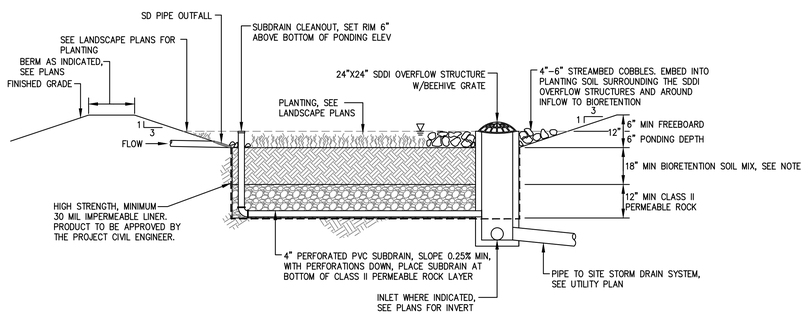
LEGEND:

- DMA BOUNDARY
- FLOW DIRECTION ARROW
- CREATED/REPLACED IMPERVIOUS HARDSCAPE
- CREATED/REPLACED IMPERVIOUS BUILDING
- EXISTING IMPERVIOUS HARDSCAPE RETAINED
- EXISTING IMPERVIOUS BUILDING RETAINED
- PROPOSED TREATMENT AREA

ONSITE TRIBUTARY AREA

DRAINAGE MANAGEMENT AREA (DMA)	IMPERVIOUS AREA	PERVIOUS AREA	EFFECTIVE IMPERVIOUS AREA	REQUIRED TREATMENT AREA	PROVIDED TREATMENT AREA
DMA 1	130,770	72,790	138,049	5,522	5,540
DMA 2	17,220	3,535	17,574	703	800
DMA 3	9,450	6,435	10,094	404	515
TOTAL	157,440	82,760	165,717	6,629	6,855

1. BIOTREATMENT AREAS ARE SIZED TO TREAT 4% OF EFFECTIVE IMPERVIOUS AREA IN DMA'S 1-3.
2. EFFECTIVE IMPERVIOUS AREA IS EQUAL TO THE TOTAL IMPERVIOUS AREA PLUS 0.1 TIMES THE TOTAL PERVIOUS AREA PER THE SAN MATEO COUNTY C.3 MANUAL.



NOTES:

1. COMPLETELY SURROUND SIDES AND BOTTOM OF BIORETENTION AREA WITH IMPERMEABLE LINER. NO INFILTRATION INTO SURROUNDING SOIL IS PERMITTED.
2. SEAL ALL LINER SEAMS WITH WATERPROOF TAPE AS RECOMMENDED BY LINER MANUFACTURER.
3. SEE PROJECT SPECIFICATIONS FOR BIOTREATMENT SOIL MIX.
4. SEE LANDSCAPE PLANTING PLAN FOR TREE LOCATIONS AND OTHER PLANT SPECIES IN BIORETENTION AREA.
5. BASE OF TRENCH SHALL SLOPE AT 0.25% TO PARALLEL UNDERDRAIN.
6. FILTER FABRIC SHOULD NOT BE USED IN OR AROUND THE UNDERDRAIN OR BETWEEN THE BSM AND CLASS II PERM.

1 — **BIORETENTION AREA**
NTS

0 30 60
GRAPHIC SCALE

SEE SHEETS CO.0 AND CO.1 FOR NOTES AND LEGENDS

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REGISTERED PROFESSIONAL ENGINEER — DANIEL J. LERA — No. 21367 — CIVIL — STATE OF CALIFORNIA

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FIRE ACCESS PLAN
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SAN MATEO COUNTY
CALIFORNIA
HALF MOON BAY

TIE INTO (E)2" WATER LINE TO SERVE CORPORATION YARD. CONTRACTOR TO VERIFY INVERT AND LOCATION PRIOR TO CONSTRUCTION.

TIE INTO (E)WATER LINE. CONTRACTOR TO VERIFY INVERT AND LOCATION PRIOR TO CONSTRUCTION.

STONE PINE ROAD
[60' R.O.W.]

IRR METER/ BFPD
DW METER/ BFPD
1" IRR
DW METER/ BFPD

AIR RELEASE VALVE

FIRE HYDRANT

OFFICE

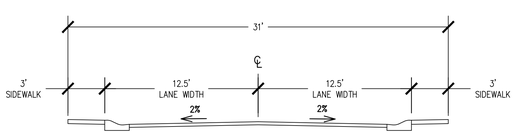
UNIT 1 1 BDRM/1 BATH
UNIT 2 1 BDRM/1 BATH
UNIT 3 1 BDRM/1 BATH
UNIT 4 1 BDRM/1 BATH
UNIT 5 1 BDRM/1 BATH
UNIT 6 1 BDRM/1 BATH
UNIT 7 1 BDRM/1 BATH
UNIT 8 1 BDRM/1 BATH
UNIT 9 1 BDRM/1 BATH
UNIT 10 1 BDRM/1 BATH
UNIT 11 2 BDRM/1 BATH
UNIT 12 2 BDRM/1 BATH
UNIT 13 1 BDRM/1 BATH
UNIT 14 2 BDRM/1 BATH
UNIT 15 2 BDRM/1 BATH
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UNIT 43 3 BDRM/2 BATH
UNIT 44 3 BDRM/2 BATH
UNIT 45 3 BDRM/2 BATH
UNIT 46 2 BDRM/1 BATH
UNIT 47 2 BDRM/1 BATH

LEGEND:

PROPOSED FIRE TRUCK ACCESS ROUTE (20' MIN WIDTH, 15'-6" MIN VERTICAL CLEARANCE)

NO PARKING IN FIRE LANE RED STRIPING

FIRE HYDRANT



PRIVATE ROAD SECTION
SCALE 1" = 5'

0 20 40
GRAPHIC SCALE

SEE SHEETS CO.0 AND CO.1 FOR NOTES AND LEGENDS

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REGISTERED PROFESSIONAL ENGINEER — DAVID L. GOLD — No. 61760 — CIVIL — STATE OF CALIFORNIA

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TREE PROTECTION (TYPICAL)

FIBER ROLLS (SE-5)

LOCATION OF PROPOSED ROAD

SEDIMENT BASIN (SE-2)
(LOCATED WHERE PROPOSED BIORETENTION AREAS ARE LOCATED)
800± SF
TOP OF BANK 82.3
BASE 81.3

FIBER ROLLS (SE-5)
(LOCATED AT TOP OF PROPOSED BIO AREA)

STABILIZED CONSTRUCTION ENTRANCE (TC-1)

VEHICLE/EQUIPMENT WASHOUT PIT (NS-8)

STONE PINE ROAD
[60' R.O.W.]

1 / C5.2 GRAVEL BAG BERM (SE-6)

7 / C5.2 STORM DRAIN INLET PROTECTION (SE-10)

GRAVEL BAG BERM (SE-6)

FIBER ROLLS (SE-5) 6 / C5.2

2 / C5.2 VEHICLE/EQUIPMENT WASHOUT PIT (NS-8)

STABILIZED CONSTRUCTION ENTRANCE (TC-1) 4 / C5.2

TREE PROTECTION (TYPICAL)

LOCATION OF PROPOSED ROAD

CONTRACTOR PARKING AREA

(3)JOB TRAILERS

TOILETS

GRAVEL BAG BERM (SE-6)

GRAVEL BAG BERM (SE-6)

FIBER ROLLS (SE-5)

3 / C5.2 STOCKPILE MANAGEMENT (WM-3)

SEDIMENT BASIN (SE-2)
(LOCATED WHERE PROPOSED BIORETENTION AREAS ARE LOCATED)
515± SF
TOP OF BANK 79.0
BASE 78.0

FIBER ROLLS (SE-5)
(LOCATED AT TOP OF PROPOSED SLOPE)

SILT FENCE (SE-1) 5 / C5.2

FIBER ROLLS (SE-5)
(LOCATED AT TOP OF PROPOSED BIO AREA)

SEDIMENT BASIN (SE-2)
(LOCATED WHERE PROPOSED BIORETENTION AREAS ARE LOCATED)
5,540± SF
TOP OF BANK 77.0
BASE 76.0

SILT FENCE (SE-1)

EROSION CONTROL LEGEND:

- TREE PROTECTION (TYP.) SEE ARBORIST NOTES
- STABILIZED CONSTRUCTION ENTRANCE/EXIT
- VEHICLE/EQUIPMENT WASHOUT PIT
- STOCKPILE COVERING
- CONTRACTOR PARKING AREA
- SEDIMENT BASIN
- GRAVEL BAG BERM
- FIBER ROLL
- SILT FENCE
- INLET PROTECTION

PERMANENT EROSION/SEDIMENT CONTROLS:

1. CONTRACTOR SHALL PROVIDE POST-CONSTRUCTION PERMANENT EROSION/SEDIMENT CONTROL THROUGHOUT THE SITE IN THE FORM OF FINISH LANDSCAPING.
2. PERMANENT EROSION CONTROLS SHOULD CONSIST OF VEGETATION OR OTHER MEANS OF STABILIZING ALL DISTURBED AREAS OF THE SITE. SUITABLE EROSION CONTROLS INCLUDE TURF, SHRUBS, ESTABLISHED HYDROSEEDING, MULCH, BARK, AND OTHER GROUNDCOVERS.
3. ALL DISTURBED GROUND SURFACES SHALL BE STABILIZED UPON COMPLETION OF CONSTRUCTION ACTIVITIES.
4. FINAL LANDSCAPING PLAN TO BE DEVELOPED IN COORDINATION WITH THE PROJECT ARCHITECT AND TO BE CONSISTENT WITH EXISTING LANDSCAPING AND TREES TO REMAIN, AND MEET THE APPROVAL OF THE PROJECT ARBORIST.
5. LANDSCAPING PROPOSED SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE.
6. DISTURBED AREAS OF THE SITE SHOULD BE STABILIZED DURING THE RAINY SEASON USING STRAW MULCH (EC-6) OR WOOD MULCHING (EC-8).
7. PERMANENT EROSION CONTROL SHALL BE PROVIDED BY LANDSCAPING SUCH AS SHRUBS, SOD OR MULCH. LANDSCAPE DESIGN MAY BE SUBJECT TO CHANGE.

0 20 40
GRAPHIC SCALE

SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

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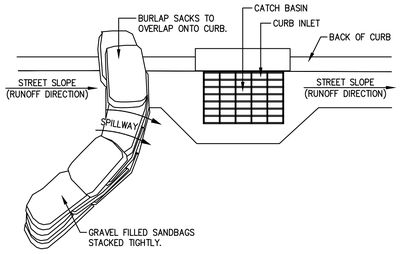
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OF

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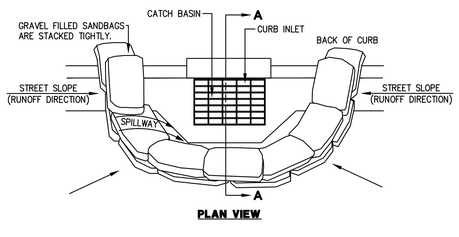


PLAN VIEW

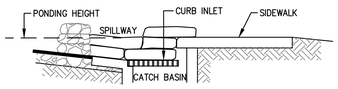
NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREETS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY OVERFLOW. TOP OF SPILLWAY SHALL BE LOWER THAN TOP OF CURB.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER - CONTINUOUS GRADE



PLAN VIEW



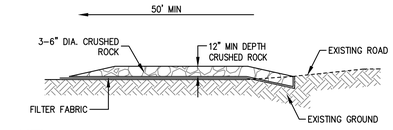
SECTION A-A

CURB INLET SEDIMENT BARRIER - SUMP

NOTES:

1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREETS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC, ARE FILLED WITH GRAVEL, LAYERED AND PACKED TIGHTLY.
3. LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY OVERFLOW.
4. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT, SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

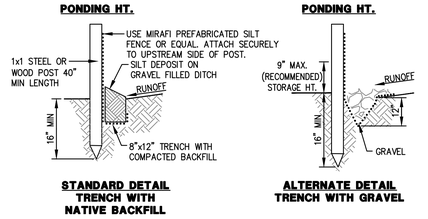
7 – INLET PROTECTION
NTS

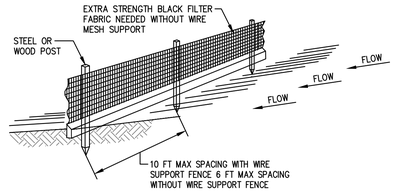


NOTES:

1. PROVIDE A FANNED STABILIZED CONSTRUCTION ENTRANCE TO ACCOMMODATE THE TURNING RADIUS OF CONSTRUCTION EQUIPMENT ON AND OFF THE PUBLIC STREET.
2. INSTALL ALONG NEW DWY CORRIDOR FOR THE FULL PROPOSED WIDTH.

4 – STABILIZED CONSTRUCTION ENTRANCE
NTS

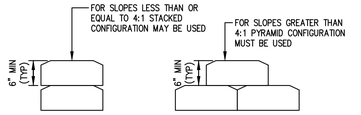




NOTES:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

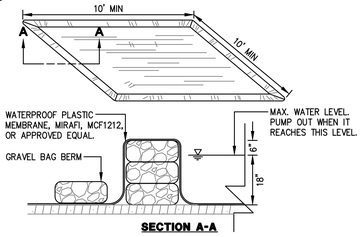
5 – SILT FENCE
NTS



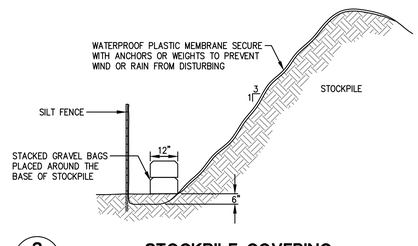
NOTES:

1. INSTALL AT LOCATIONS AS SHOWN ON EROSION CONTROL PLAN, AND IN ADDITION, PROTECT ALL EXISTING AND PROPOSED STORM DRAIN STRUCTURES WITH GRAVEL BAGS.

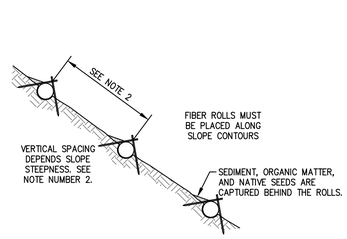
1 – GRAVEL BAG BERM
NTS

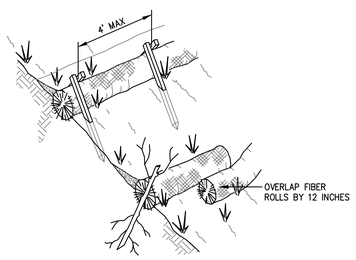


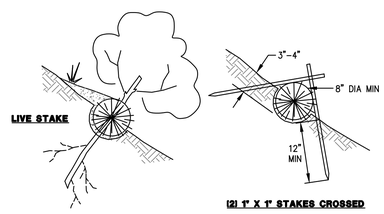
2 – VEHICLE/EQUIPMENT WASHOUT PIT
NTS



3 – STOCKPILE COVERING
NTS







NOTES:

1. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3" TO 4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
1. VERTICAL SPACING FOR SLOPE INSTALLATIONS:
   SLOPE OF 2:1 OR GREATER = 10 FEET APART
   SLOPE BETWEEN 4:1 AND 2:1 = 15 FEET APART
   SLOPE OF 4:1 OR FLATTER = 20 FEET APART
2. INSPECT AND REPAIR FIBER ROLLS AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

6 – FIBER ROLL
NTS

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C5.2
OF

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PLOT DATE: 11-29-23
PLOTTED BY: gold

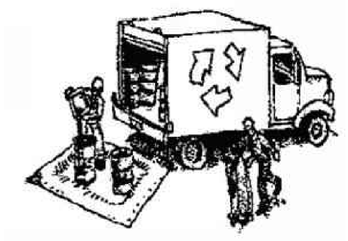
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SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management



Non-Hazardous Materials

- ❑ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- ❑ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ❑ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ❑ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ❑ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- ❑ Arrange for appropriate disposal of all hazardous wastes.

Waste Management

- ❑ Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ❑ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- ❑ Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- ❑ Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- ❑ Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- ❑ Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- ❑ Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



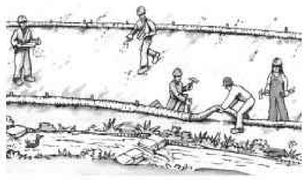
Maintenance and Parking

- ❑ Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ❑ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ❑ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ❑ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ❑ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- ❑ Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- ❑ Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- ❑ Clean up spills or leaks immediately and dispose of cleanup materials properly.
- ❑ Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- ❑ Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- ❑ Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- ❑ Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- ❑ Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ❑ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ❑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

Paving/Asphalt Work



- ❑ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ❑ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ❑ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ❑ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

- ❑ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ❑ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ❑ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar Application



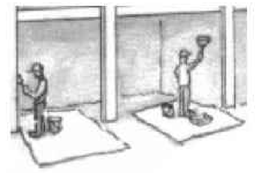
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ❑ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ❑ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ❑ Stack bagged material on pallets and under cover.
- ❑ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

Painting & Paint Removal



Painting Cleanup and Removal

- ❑ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ❑ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ❑ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ❑ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ❑ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

Dewatering



- ❑ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ❑ Divert run-on water from offsite away from all disturbed areas.
- ❑ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ❑ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to $10,000 per day!

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CALIFORNIA

BEST MANAGEMENT PRACTICES
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY

HALF MOON BAY

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No.	Revisions	Date

Date 11/28/2023
Scale AS SHOWN
Design DJP
Drawn DLG
Approved DJL
Job No 20211367-15

Drawing Number:
C5.3
OF

DRAWING NAME: K:\2021\211367-15_HMB_Corporate_Housing\ENG\hmbsheets.dwg
PLOT DATE: 11-29-23 PLOTTED BY: gold

PATRICK WAY

(E)3' SIDEWALK

(N)2-WAY ILLUMINATED CROSSWALK SIGN WITH RECTANGULAR RAPID FLASHING BEACONS

(N)VEGETATION TRIMMING

(E)CROSSWALK

(N)2-WAY ILLUMINATED CROSSWALK SIGN WITH RECTANGULAR RAPID FLASHING BEACONS

(E)CURB RAMP

(E)4' SIDEWALK

(E)DRIVEWAY

(N)4" THERMOPLASTIC WHITE STRIPE TRANSITION TO 10' LANE

(N)4" THERMOPLASTIC WHITE STRIPE TRANSITION TO 10' LANE

STONE PINE ROAD
(60' R/W - PUBLIC)

(N)SHARROW MARKING

(N)4" THERMOPLASTIC WHITE STRIPE 2' OFFSET FROM FACE OF CURB

10' LANE

10' LANE

24' CURB TO CURB

(E)DRIVEWAY

(N)4" THERMOPLASTIC WHITE STRIPE 2' OFFSET FROM FACE OF CURB

(E)DRIVEWAY

SEE SHEET C6.2

SIGNING AND STRIPING NOTES:

1. ALL SIGNING, STRIPING, AND MARKINGS SHALL CONFORM TO THE 2022 CALTRANS STANDARDS AND THE 2014 MUTCD UNLESS NOTED TO BE PER CITY STANDARDS.
2. ALL SIGNS SHALL BE INSTALLED 18" OFF THE FACE OF CURB OR EDGE OF TRAVELED PATH UNLESS OTHERWISE NOTED.
3. RECTANGULAR RAPID FLASHING BEACONS SHALL BE PROVIDED WITH POLERA IDETECT APS BUTTONS OR APPROVED EQUIVALENT.
4. WHERE THE FOLLOWING SYMBOLS OCCUR ON THE DRAWINGS PROVIDE THE SPECIFIED SIGNING AND/OR STRIPING:

——— 4" THERMOPLASTIC WHITE STRIPE 2' OFFSET FROM FACE OF CURB UNLESS OTHERWISE NOTED.

CROSSWALK STRIPING SHALL BE 2' WIDE AND 8' LONG THERMOPLASTIC WHITE STRIPES ALIGNED WITH CORRESPONDING CURB RAMPS. SPACE STRIPES 4' ON CENTER.

YIELD LINES SHALL BE ROW OF SOLID WHITE ISOSCELES TRIANGLES WITH 12"-24" BASE WIDTH AND HEIGHT EQUAL TO 1.5 TIMES THE BASE. SPACE BETWEEN TRIANGLES SHOULD BE 3"-12".

SHARROWS TO BE LOCATED AT LEAST 4' FROM FACE OF CURB, IMMEDIATELY AFTER AN INTERSECTION AND SPACED AT INTERVALS NOT GREATER THAN 250' THEREAFTER.

DETECTABLE WARNING SURFACE: 36" MIN. IN DIRECTION OF TRAVEL WHERE SHOWN.

SIGN PER CALTRANS AND MUTCD STANDARDS. SEE PLANS FOR DETAILS.

0 20 40

GRAPHIC SCALE

SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

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STONE PINE TRAFFIC CALMING IMPROVEMENTS
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY

CALIFORNIA

HALF MOON BAY

REGISTERED PROFESSIONAL ENGINEER DAVID J. LAU CIVIL STATE OF CALIFORNIA

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Approved DJL
Job No 20211367-15

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C6.1
OF

DRAWING NAME: K:\2021\211367-15_HMB_Corpyard_Housing\ENG\hmbsheets.dwg
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DRAWING NAME: K:\2021\211367-15_HMB_Corpyard_Housing\ENG\hmbsheets.dwg
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SEE SHEET C6.1



SEE SHEETS C0.0 AND C0.1 FOR NOTES AND LEGENDS

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GRAPHIC SCALE 0 20 40

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	Approved DJL			
	Job No 20211367-15			

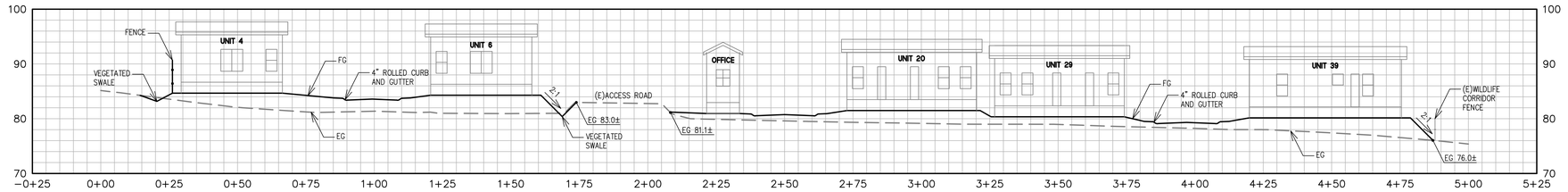
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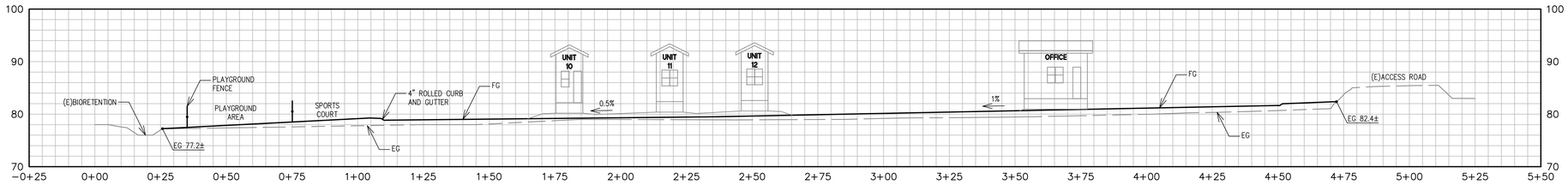
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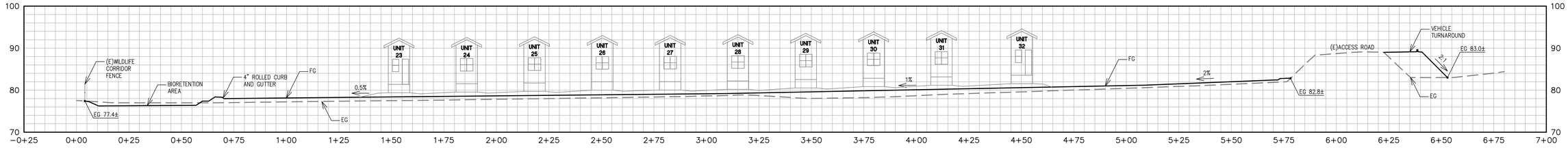
SECTION A–A

SCALE: 1:20 HORIZONTAL
1:10 VERTICAL



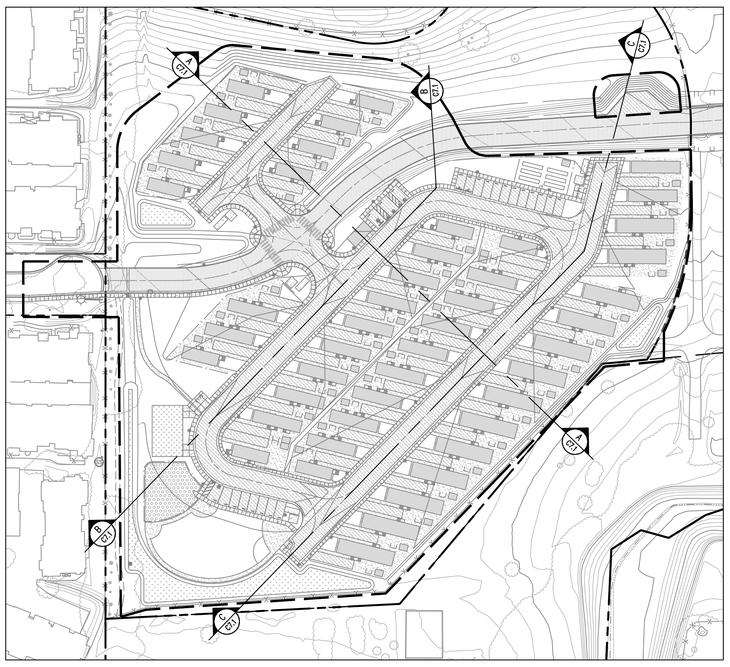
SECTION B–B

SCALE: 1:20 HORIZONTAL
1:10 VERTICAL



SECTION C–C

SCALE: 1:20 HORIZONTAL
1:10 VERTICAL



SITE SECTION KEYMAP

N.T.S.

0 20 40
GRAPHIC SCALE

SEE SHEETS CO.0 AND CO.1 FOR NOTES AND LEGENDS

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CALIFORNIA

SITE SECTIONS
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY

HALF MOON BAY

REGISTERED PROFESSIONAL ENGINEER — DAVID J. LAU — No. 73078 — CIVIL — STATE OF CALIFORNIA

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VIEW #1 – ENTRY POINT, LOOKING SOUTHEAST



VIEW #2 – MAIN INTERSECTION



VIEW #3 – MANAGERS UNIT, LOOKING SOUTHWEST



VIEW #4 – COMMUNITY PARK



VIEW #5 – COMMUNITY GARDEN, LOOKING SOUTH



VIEW #6 – STREET LEVEL, LOOKING SOUTH

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CONCEPTUAL RENDERINGS
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SITE PLAN LEGEND

ASPHALT DRIVE AISLE AND ROADWAY: w/ 2' ROLLED GUTTERS & 3' CONCRETE SIDEWALKS ON BOTH SIDES. SEE CIVIL DRAWINGS.

LANDSCAPE AREA: MIX OF NATIVE AND ADAPTED LOW WATER-USE SHRUBS, GROUNDCOVERS, AND GRASSES (±50,700 sf). SEE SCHEMATIC PLANTING PLAN & PLANT LISTS.

STORMWATER MANAGEMENT & BIORETENTION AREAS (±11,000 sf): SEE CIVIL DRAWINGS FOR BIORETENTION SPECIFICATIONS. SEE SCHEMATIC PLANTING PLAN FOR SPECIES LISTS.

SOFTSCAPE (±3,700 sf): PERVIOUS BARK MULCH SURFACING OR ENGINEERED WOOD FIBERS.

PERVIOUS PAVING (±40,000 sf): STABILIZED DECOMPOSED GRANITE.

OPEN SPACE

(PER HMBMC §18.17.030)

INDICATES APPROXIMATE LIMITS OF PROPOSED COMMUNITY OPEN SPACE.

A MINIMUM OF 300 sf FOR EACH UNIT DEVELOPED SHALL BE DEVOTED TO COMMUNITY OPEN SPACE AVAILABLE FOR THE USE OF ALL RESIDENTS.

UNITS PROPOSED:	47	
MIN. OPEN SPACE REQUIRED:	14,100 sf	(47 x 300 sf)
OPEN SPACE PROVIDED:	24,100 sf	(+10,000 sf ABOVE MIN. REQUIRED)

TREES

(PER HMBMC §7.40)

EXISTING HERITAGE TREES TO BE REMOVED:	12	SEE TREE PLAN, SHEET L1.1 FOR COMPLETE LIST OF TREES PROPOSED FOR REMOVAL.
REPLACEMENT TREES REQUIRED:	21	(24" BOX MINIMUM) SEE SCHEMATIC PLANTING PLAN & PLANT LISTS.
PROPOSED NEW TREES:	68	(24" BOX MINIMUM)

SEE SHEET L1.2 FOR SCHEMATIC IMAGERY OF TYPICAL AMENITY AREAS

PARKING

(PER HMBMC §18.17.030 & §18.36.050)

RESIDENT PARKING:

TWO OFF-STREET PARKING SPACES PROVIDED PER UNIT

GUEST PARKING:

OFF-STREET PARKING SHALL BE PROVIDED AT A RATIO OF ONE SPACE FOR EACH FOUR UNITS

UNITS PROPOSED:	47	
GUEST PARKING REQUIRED:	12 SPACES	(4:1 RATIO)
GUEST PARKING PROVIDED:	20 SPACES	(1 ADA)

OFFICE PARKING:

ONE OFF-STREET PARKING SPACE SHALL BE PROVIDED FOR EACH 200 sf OF OFFICE FLOOR AREA

PROPOSED OFFICE:	288 sf	
OFFICE PARKING REQUIRED:	2 SPACES	
OFFICE PARKING PROVIDED:	3 SPACES	(2 ADA)

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Landscape Architecture | Site Planning | Environmental Design

LANDSCAPE SITE PLAN

STONE PINE COVE
880 STONE PINE ROAD
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CALIFORNIA

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HALF MOON BAY

Date	Revisions	No.

Date 11/20/2023
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0 10' 20'
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Drawing Number:
L1.0

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TREES TO BE REMOVED

TOTAL TREES TO BE REMOVED: 106

TOTAL HERITAGE TREES TO BE REMOVED: 12

TOTAL # OF REPLACEMENT TREES REQUIRED: 21

ALL HERITAGE TREES = 1:1 REPLACEMENT RATIO
EXCEPT WILLOW = 10:1 REPLACEMENT RATIO

#	SCIENTIFIC NAME	DBH (INCHES)	HERITAGE? (Y/N)
47	SALIX LUCIDA	7	Y
48	EUCALYPTUS GUNNII	4	N
49	ALNUS RHOMBIFOLIA	5	N
50	PINUS RADIATA	10	N
51	PINUS RADIATA	10	N
52	PINUS RADIATA	10	N
53	EUCALYPTUS GLOBULUS	13	N
54	HESPEROCYPARIS MACROCARPA	15	Y
55	PINUS RADIATA	13	Y
56	PINUS RADIATA	15	Y
57	PINUS RADIATA	11	N
58	HESPEROCYPARIS MACROCARPA	9	N
59	HESPEROCYPARIS MACROCARPA	10	N
60	HESPEROCYPARIS MACROCARPA	7	N
61	HESPEROCYPARIS MACROCARPA	9	N
62	HESPEROCYPARIS MACROCARPA	8	N
63	HESPEROCYPARIS MACROCARPA	9	N
64	HESPEROCYPARIS MACROCARPA	8	N
65	HESPEROCYPARIS MACROCARPA	7	N
66	HESPEROCYPARIS MACROCARPA	7	N
67	HESPEROCYPARIS MACROCARPA	6	N
68	HESPEROCYPARIS MACROCARPA	11	N
69	HESPEROCYPARIS MACROCARPA	6	N
70	HESPEROCYPARIS MACROCARPA	12	Y
71	ACACIA MELANOXYLON	6	N
72	HESPEROCYPARIS MACROCARPA	5	N
73	EUCALYPTUS GLOBULUS	26	N
74	PINUS RADIATA	8	N
75	ACACIA MELANOXYLON	6	N
76	HESPEROCYPARIS MACROCARPA	13	Y
77	HESPEROCYPARIS MACROCARPA	8	N
78	HESPEROCYPARIS MACROCARPA	5	N
79	PINUS RADIATA	12	Y
80	HESPEROCYPARIS MACROCARPA	5	N
81	EUCALYPTUS GLOBULUS	13	N
82	EUCALYPTUS GLOBULUS	16	N
83	EUCALYPTUS GLOBULUS	15	N
84	HESPEROCYPARIS MACROCARPA	10	N
85	ACACIA MELANOXYLON	4	N
86	QUERCUS AGRIFOLIA	4	N
87	HESPEROCYPARIS MACROCARPA	8	N
88	PINUS RADIATA	12	Y
89	EUCALYPTUS GLOBULUS	6	N
90	PINUS RADIATA	11	N
91	PINUS RADIATA	14	Y
92	PINUS RADIATA	15	Y
93	EUCALYPTUS GLOBULUS	17	N
94	PINUS RADIATA	9	N
95	PINUS RADIATA	7	N
96	EUCALYPTUS GLOBULUS	26	N
97	EUCALYPTUS GLOBULUS	16	N
98	PINUS RADIATA	8	N
99	PINUS RADIATA	5	N
100	PINUS RADIATA	5	N
101	PINUS RADIATA	10	N
102	PINUS RADIATA	8	N
103	PINUS RADIATA	7	N
104	PINUS RADIATA	11	N
105	PINUS RADIATA	7	N
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107	PINUS RADIATA	8	N
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121	PINUS RADIATA	10	N
122	PINUS RADIATA	10	N
123	PINUS RADIATA	8	N
124	PINUS RADIATA	10	N
125	QUERCUS AGRIFOLIA	3	N
126	QUERCUS AGRIFOLIA	3	N
127	EUCALYPTUS GLOBULUS	11	N
128	EUCALYPTUS GLOBULUS	12	N
129	PINUS RADIATA	7	N
130	EUCALYPTUS GLOBULUS	14	N
131	PINUS RADIATA	8	N
132	EUCALYPTUS GLOBULUS	13	N
133	PINUS RADIATA	11	N
134	PINUS RADIATA	11	N
135	PINUS RADIATA	7	N
136	PINUS RADIATA	7	N
137	EUCALYPTUS GLOBULUS	10	N
138	EUCALYPTUS GLOBULUS	14	N
139	EUCALYPTUS GLOBULUS	12	N
140	HESPEROCYPARIS MACROCARPA	8	N
141	PINUS RADIATA	11	N
142	PINUS RADIATA	11	N
143	PINUS RADIATA	12	Y
144	HESPEROCYPARIS MACROCARPA	5	N
145	HESPEROCYPARIS MACROCARPA	6	N
146	HESPEROCYPARIS MACROCARPA	5	N
147	PINUS RADIATA	14	Y
148	HESPEROCYPARIS MACROCARPA	11	N
149	PINUS RADIATA	9	N
150	HESPEROCYPARIS MACROCARPA	5	N
151	HESPEROCYPARIS MACROCARPA	5	N
152	HESPEROCYPARIS MACROCARPA	6	N
153	HESPEROCYPARIS MACROCARPA	2	N
154	HESPEROCYPARIS MACROCARPA	2	N
155	ALNUS RHOMBIFOLIA	3	N
156	ALNUS RHOMBIFOLIA	3	N
157	ALNUS RHOMBIFOLIA	4	N
158	ALNUS RHOMBIFOLIA	4	N

TREE REMOVAL LEGEND

EXISTING HERITAGE TREE TO BE REMOVED	>12" DBH, VARIES PER PLAN
EXISTING TREE TO BE REMOVED	<12" DBH, VARIES PER PLAN
EXISTING TREE TO REMAIN	DBH VARIES PER PLAN
TREE PROTECTION FENCING	

TREE PROTECTION NOTES

THE FOLLOWING TREE PROTECTION MEASURES SHOULD BE APPLIED TO ALL TREES THAT ARE TO BE RETAINED:

1. PRE-CONSTRUCTION:
   - A PRE-CONSTRUCTION MEETING SHALL BE HELD TO DISCUSS TREE PROTECTION MEASURES AND ENSURE ALL TREE PROTECTION MEASURES HAVE BEEN PROPERLY INSTALLED.
   - ANY CLEARANCE PRUNING THAT IS DEEMED NECESSARY FOR CONSTRUCTION SHALL BE COMPLETED USING THE MINIMAL DOSE NECESSARY AND SHALL BE APPROVED BY THE PROJECT ARBORIST PRIOR TO PRUNING.
   - TREE PROTECTION ZONES SHALL BE ESTABLISHED AND ENFORCED TO PREVENT SOIL COMPACTION, GRADE CHANGE, AND ROOT DAMAGE. TREE PROTECTION AREAS SHALL BE ESTABLISHED WITH FIVE-FOOT HIGH CHAIN LINK FENCING MOUNTED ON 2" DIAMETER GALVANIZED IRON POSTS, DRIVEN INTO THE GROUND TO A DEPTH OF AT LEAST 2', AT NO MORE THAN 10' SPACING.
     -- THE DIAMETER OF THE TPZ SHALL BE DETERMINED BY THE TRUNK DIAMETER OF TREES TO BE PROTECTED. FOR EVERY 1" OF TRUNK DIAMETER, THE TPZ SHALL EXTEND 1'. FOR EXAMPLE, A 10" DIAMETER TREE SHALL HAVE A TPZ WITH A RADIUS OF 10' AROUND THE TREE.
        --- IN AREAS WHERE THIS TPZ SIZE IS GREATER THAN WHAT CONSTRUCTION CAN ALLOW, THE CANOPY DRIPLINE SHALL BE THE MINIMUM RADIUS FOR THE TPZ.
     -- FOR TREES GROWING ALONG THE EAST PERIMETER OF THE PROPERTY, TPZs CAN BE COMBINED TO FORM ONE LARGE TPZ FOR TREES IN THIS AREA. ADDTIONALLY, FENCING IS NOT REQUIRED ON THE WEST SIDE OF THE TREES AS THE PROPERTY LINE FENCING IS ALREADY IN PLACE.
   - A "WARNING: DO NOT ENTER" SIGN SHALL BE PROMINENTLY DISPLAYED ON EACH TREE PROTECTIVE FENCE.
   - A 4" LAYER OF CHIP BARK MULCH SHALL BE PLACED ON TOP OF THE TPZ AND ENCLOSED WITHIN THE TREE PROTECTIVE FENCING. THIS MULCH SHALL ONLY BE MOVED FOR LANDSCAPE PLANTS TO BE INSTALLED AFTER ALL EXCAVATION AND SOIL COMPACTION WORK HAS BEEN COMPLETED.
   - ESTABLISH AN AREA OUTSIDE OF ALL THE TPZs OR ON PREEXISTING HARDSCAPE TO STORE SEDIMENT AND BACKFILL. ENSURE NO FLOW PATHS LEAD TO TPZs FROM SEDIMENT OR BACKFILL PILES IF PRESENT.
   - NO MATERIAL OR EQUIPMENT SHALL BE STORED OR PLACED WITHIN THE TPZ OF PRESERVED TREES.
2. CONSTRUCTION:
   - IN AREAS WHERE CONSTRUCTION ACTIVITY IS TO TAKE PLACE BENEATH THE CANOPY OF EXISTING TREES, SUCH AS THE WALKING PATH, THE TPZ SHALL BE MOVED TO THE GREATEST DISTANCE POSSIBLE FROM THE SUBJECT TREE WHILE ALSO ALLOWING FOR CONSTRUCTION TO PROCEED. ONCE CONSTRUCTION IN THE SUBJECT AREA HAS OCCURRED, THE TPZ SHALL BE MOVED BACK TO BE PREESTABLISHED BOUNDARY.
     -- PROJECT ARBORIST SHALL CONDUCT SITE OBSERVATIONS DURING ANY CONSTRUCTION ACTIVITY THAT IS TO TAKE PLACE BENEATH THE CANOPY DRIPLINE OF TREE.
     -- ANY EXCAVATION ACTIVITY THAT IS TO TAKE PLACE IN THESE AREAS IS PROHIBITED FROM USING BACKHOES, TREAD TRACTORS, OR ANY OTHER HEAVY VEHICLES.
        --- METHODS PERMITTED INCLUDE HAND-DIGGING, HYDRAULIC OR PNEUMATIC AIR EXCAVATION.
   - DURING EXCAVATION ACTIVITY, SHOULD ANY ROOTS BE ENCOUNTERED, ROOT PRUNING SHALL BE DONE WITH HAND TOOLS IN ORDER TO MAKE CLEAN CUTS THAT FACE THE EXCAVATED AREA.
     -- ROOTS LARGER THAN 2.5" SHALL NOT BE CUT WITHOUT PROJECT ARBORIST PRIOR APPROVAL.
     -- ROOTS LARGER THAN 2.5" THAT ARE CUT SHALL IMMEDIATELY BE SHADED AND KEPT MOIST WITH WET BURLAP OR SIMILAR MATERIAL UNTIL THEY CAN BE RECOVERED.
   - NO PRUNING SHALL BE PERFORMED ON TREES THAT HAVE ROOTS IMPACTED BY CONSTRUCTION ACTIVITY FOR AT LEAST ONE YEAR FOLLOWING THE COMPLETION OF THE PROJECT OTHER THAN NECESSARY MAINTENANCE SUCH AS BUILDING CLEARANCE.
3. POST-CONSTRUCTION:
   -- - PROJECT ARBORIST SHALL CONDUCT MONITORING TWICE A YEAR FROM THE DATE OF PROJECT COMPLETION FOR NO LESS THAN TWO YEARS TO ENSURE TREES ARE IN GOOD CONDITION.

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TREE REMOVAL PLAN
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA

NOT FOR CONSTRUCTION
HALF MOON BAY

Date
Revisions
No.

Date 11/20/2023
Scale 1/20" = 1'-0"
0 10' 20'
Drawn JG
Approved TVC

Drawing Number:
L1.1

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PICNIC AREAS







PLAY AREAS







BIKE RACKS







BIOTREATMENT AREAS









NEIGHBORHOOD GARDEN







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LANDSCAPE IMAGERY
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SAN MATEO COUNTY
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No.	Revisions	Date

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Scale AS NOTED
Drawn JG
Approved TKC

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SCHEMATIC PLANTING LEGEND

	TREES: NATIVE OR ADAPTED MODERATE TO LARGE TREES FOR SHADE AND/OR SCREENING	
	EXISTING TREE TO REMAIN. SEE TREE PLAN, SHEET L2.1, AND PROJECT ARBORIST'S REPORT FOR TREE HEALTH & DISPOSITION AND ADDITIONAL INFORMATION.	
	HIGH & MODERATE DENSITY PLANTING: MIX OF NATIVE AND ADAPTED SHRUBS, GROUNDCOVERS, AND HERBACEOUS PLANTS FOR SCREENING AND SEASONAL INTEREST	±9,400 S.F.
	LOW DENSITY PLANTING: MIX OF NATIVE AND ADAPTED SHRUBS, GROUNDCOVERS, AND HERBACEOUS PLANTS FOR SCREENING AND SEASONAL INTEREST	±13,300 S.F.
	SCREENING & BANK STABILIZATION PLANTING: NATIVE SHRUBS & GROUNDCOVERS INTENDED TO PROVIDE STRUCTURE TO RECENTLY GRADED AREAS AND PROVIDE PRIVACY SCREENING.	±12,100 S.F.
	EROSION CONTROL NATIVE SEED MIX: BLEND OF NATIVE GRASSES AND FORBS TO STABILIZE RECENTLY GRADED AREAS.	±15,200 S.F.
	BIOTREATMENT AREA PLANTING MIX: BLEND OF NATIVE SHRUBS, GRASSES, AND FORBS SUITABLE FOR STORMWATER TREATMENT AREAS	±10,900 S.F.
	RECREATION LAWN: DWARF FESCUE BLEND	±5,400 S.F.
	RESIDENTIAL LANDSCAPE AREAS: ADAPTED SHRUBS, GROUNDCOVER, AND SMALL TREES FOR SCREENING AND SEASONAL INTEREST.	±7,200 S.F. ±150 S.F. PER LOT
	VEGETABLE PLANTERS: DEDICATED AREAS FOR RESIDENT GARDENS; PLANT TYPES VARY AS SELECTED.	±400 S.F.
	PROPOSED HARDSCAPE (PERVIOUS OR IMPERVIOUS): SURFACE VARIES BY LOCATION. SEE SITE PLAN, SHEET L1.0.	±130,600 S.F.
	PROPOSED SOFTSCAPE: SURFACES COVERED WITH BARK MULCH (VEGETABLE GARDEN) OR ENGINEERED WOOD FIBERS (PLAY AREA). PERVIOUS. SEE SITE PLAN, SHEET L1.0.	±4,300 S.F.

SCHEMATIC PLANTING NOTES

- PERMANENT & TEMPORARY IRRIGATION ZONES SHALL BE PROVIDED FOR PLANTING AREAS AS SHOWN ON THE SCHEMATIC IRRIGATION PLAN, SHEET L3.0.
- SEEDED AREAS SHALL BE INSTALLED JUST PRIOR TO OR DURING THE RAINY SEASON (NOVEMBER-FEBRUARY). WHEN THIS IS NOT POSSIBLE, A TEMPORARY SYSTEM SHALL BE INSTALLED TO PROVIDE IRRIGATION THROUGH THE PLANT ESTABLISHMENT PERIOD ONLY (TYPICAL, NO MORE THAN TWO GROWING SEASONS)
- SEE CIVIL DRAWINGS FOR LIMITS & DISPOSITION OF ALL STRUCTURES, HARDSCAPE, WALLS, AND UTILITIES.
- CONTRACTOR SHALL TAKE THE UTMOST CARE WHEN PERFORMING PLANTING ACTIVITIES UNDER THE DRIPLINES OR TREE PROTECTION ZONES (TPZs) OF EXISTING SITE TREES. SEE TREE PLAN, SHEET L2.1 & PROJECT ARBORIST'S REPORT FOR ADDITIONAL INFORMATION.
- PRIOR TO PLANTING, CONTRACTOR SHALL OBTAIN A COMPLETE SOIL ANALYSIS FROM AT LEAST THREE (3) LOCATIONS IDENTIFIED BY THE PROJECT LANDSCAPE ARCHITECT TO DETERMINE SOIL AMENDMENT REQUIREMENTS. A COPY OF THE FERTILITY ANALYSIS SHALL BE PROVIDED TO THE OWNER & CITY OF HALF MOON BAY FOR REVIEW PRIOR TO THE COMMENCEMENT OF PLANTING ACTIVITIES.
- ALL NEW PLANTING AREAS SHALL RECEIVE A 3" LAYER OF MULCH EXCEPT SEEDED AREAS.
- FINAL PLANT PIT LOCATIONS SHALL BE REVIEWED & APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATION.
- ADDITIONAL DETAILS PER SHEET L4.0.

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SCHEMATIC PLANTING PLAN

STONE PINE COVE

880 STONE PINE ROAD

SAN MATEO COUNTY CALIFORNIA

NOT FOR CONSTRUCTION

HALF MOON BAY

Date	Revisions	No.

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TREES

SCIENTIFIC NAME	COMMON NAME	EVERGREEN OR DECIDUOUS?	CA or SMCo NATIVE? (1)	WATER USE (WUCOLS IV)	SUMMER IRRIG. FREQUENCY (2)	BEE/POLLINATOR FRIENDLY (2,3)	FIRE SAFE (4,5,6)
HESPEROCYPARIS MACROCARPA	(Monterey Cypress)	Evergreen	CA	MEDIUM	-	-	-
LYONOTHAMNUS FLORIBUNDUS	(Catalina Ironwood)	Evergreen	CA	LOW	1X/MO	YES (2)	YES (4)
METROSIDEROS EXCELSA	(Pohutukawa)	Evergreen	-	LOW	-	-	-
ULMUS PARVIFOLIA 'TRUE GREEN'	(Chinese Elm)	Deciduous	-	MEDIUM	-	-	-

TYPICAL HIGH, MODERATE, & LOW DENSITY PLANTINGS

SCIENTIFIC NAME	COMMON NAME	SHRUB, GRASS, OR FORB?	CA or SMCo NATIVE? (1)	WATER USE (WUCOLS IV)	SUMMER IRRIG. FREQUENCY (2)	BEE/POLLINATOR FRIENDLY (2,3)	FIRE SAFE (4,5,6)
ARCTOSTAPHYLOS UVA-URSI	(Southern Kinnikinnick)	Shrub	CA	LOW	2X/MO MAX	YES (2,3)	YES (4,6)
ARTEMESIA CALIFORNICA	(California Sagebrush)	Shrub	SMCo	LOW	-	YES (2)	-
BACCHARIS PILULARIS 'PIGEON POINT'	(Coyote Bush)	Forb	SMCo	LOW	1X/WK MAX	YES (2,3)	YES (5)
BOUTELOUA GRACILIS 'BLONDE AMBITION'	(Blue Grama Grass)	Grass	CA	LOW	2X/MO MAX	YES (2)	-
CAREX DENSA	(Dense Sedge)	Grass	SMCo	MEDIUM	-	-	-
CEANOTHUS GRISEUS HORIZONTALIS	(Diamond Heights Carmel Creeper)	Shrub	-	LOW	-	YES (2)	YES (6)
CEANOTHUS THYRSIFLORUS	(California Lilac)	Shrub	SMCo	LOW	1X/MO MAX	YES (2,3)	YES (4,6)
DIETES BICOLOR	(African Iris)	Forb	-	MEDIUM	-	-	YES (5)
DIPLACUS AURANTIACUS	(Sticky Monkeyflower)	Forb	SMCo	LOW	1X/MO MAX	YES (2,3)	YES (4)
EPILOBIUM CANUM	(California Fuchsia)	Shrub	SMCo	LOW	1X/MO MAX	YES (2)	YES (4,6)
ERIGERON GLAUCUS	(Seaside Fleabane)	Forb	SMCo	LOW	2X/MO MAX	YES (2)	YES (5)
ERIOGONUM LATIFOLIUM	(Coast Buckwheat)	Forb	SMCo	LOW	1X/MO MAX	YES (2)	YES (5)
FRANGULA CALIFORNICA 'MOUND SAN BRUNO'	(Coffeeberry)	Shrub	SMCo	LOW	-	YES (2,3)	(YES 4,5)
GRINDELIA STRICTA	(Coastal Wild Gum)	Forb	SMCo	MEDIUM	3X/MO MAX	YES (2)	YES (5)
HETEROMELES ARBUTIFOLIA	(Toyon)	Shrub	SMCo	LOW	2X/MO MAX	YES (2,3)	YES (4,6)
IRIS DOUGLASIANA	(Douglas Iris)	Forb	SMCo	LOW	1X/MO MAX	-	YES (4,5,6)
LAVANDULA STOECHAS	(Lavender)	Forb	-	LOW	1X/WK MAX	-	YES (5,6)
LOMANDRA LONGIFOLIA	(Dwarf Mat Rush)	Grass	-	LOW	-	-	-
MORELLA CALIFORNICA	(Pacific Wax Myrtle)	Shrub	SMCo	MEDIUM	1X/WK MAX	-	YES (5,6)
MUHLENBERGIA RIGENS	(Deer Grass)	Grass	CA	LOW	1X/MO MAX	YES (2)	YES (4,6)
POLYSTICHUM MUNITUM	(Western Sword Fern)	Forb	SMCo	LOW	2X/MO MAX	YES (2)	YES (4,5,6)
ROSA RUGOSA	(Beach Rose)	Shrub	-	MEDIUM	-	-	-
SALVIA CLEVELANDII	(Cleveland Sage)	Shrub	CA	LOW	-	YES (2)	-
STIPA PULCHRA	(Purple Needlegrass)	Grass	SMCo	LOW	1X/MO MAX	YES (2)	-

SCREENING & BANK STABILIZATION PLANTING

SCIENTIFIC NAME	COMMON NAME	SHRUB, GRASS, OR FORB?	CA or SMCo NATIVE? (1)	WATER USE (WUCOLS IV)	SUMMER IRRIG. FREQUENCY (2)	BEE/POLLINATOR FRIENDLY (2,3)	FIRE SAFE (4,5,6)
ARTEMESIA CALIFORNICA	(California Sagebrush)	Shrub	SMCo	LOW	-	YES (2)	-
BACCHARIS PILULARIS 'PIGEON POINT'	(Coyote Bush)	Forb	SMCo	LOW	1X/WK MAX	YES (2,3)	YES (5)
CEANOTHUS THYRSIFLORUS	(California Lilac)	Shrub	SMCo	LOW	1X/MO MAX	YES (2,3)	YES (4,6)
ERIOGONUM LATIFOLIUM	(Coast Buckwheat)	Forb	SMCo	LOW	1X/MO MAX	YES (2)	YES (5)
FRANGULA CALIFORNICA 'MOUND SAN BRUNO'	(Coffeeberry)	Shrub	SMCo	LOW	-	-	YES (4,5)
HETEROMELES ARBUTIFOLIA	(Toyon)	Shrub	SMCo	LOW	2X/MO MAX	YES (2,3)	YES (4,6)
MORELLA CALIFORNICA	(Pacific Wax Myrtle)	Shrub	SMCo	MEDIUM	1X/WK MAX	-	YES (5,6)
SALVIA MELLIFERA	(Black Sage)	Shrub	SMCo	LOW	1X/MO MAX	YES (2,3)	-

SEE SHEET L2.2 FOR REPRESENTATIVE PLANT IMAGES

BIOTREATMENT AREA SHRUB & SEED MIX

SCIENTIFIC NAME	COMMON NAME	SHRUB, GRASS, OR FORB?	CA or SMCo NATIVE? (1)	WATER USE (WUCOLS IV)	SUMMER IRRIG. FREQUENCY (2)	BEE/POLLINATOR FRIENDLY (2,3)	FIRE SAFE (4,5,6)
ACHILLEA MILLEFOLIUM CALIFORNICA	(Western Yarrow)	Forb	SMCo	LOW	1X/WK MAX	YES (2,3)	YES (4,5,6)
ARTEMESIA CALIFORNICA	(California Sagebrush)	Shrub	SMCo	LOW	-	YES (2)	-
BACCHARIS GLUTINOSA	(Saltmarsh Baccharis)	Forb	SMCo	MEDIUM	-	YES (2)	-
BOUTELOUA GRACILIS 'BLONDE AMBITION'	(Blue Grama Grass)	Grass	CA	LOW	2X/MO MAX	YES (2)	-
CAREX DENSA	(Dense Sedge)	Grass	SMCo	MEDIUM	-	-	YES (6)
CERCIS OCCIDENTALIS	(Western Redbud)	Shrub	SMCo	LOW	1X/WK MAX	YES (2)	YES (4,5,6)
CORNUS SERICEA	(Red Osier Dogwood)	Shrub	SMCo	MEDIUM	1X/WK MAX	YES (2)	-
ERIOGONUM FASCICULATUM	(Coast Buckwheat)	Forb	SMCo	LOW	1X/MO MAX	YES (2)	-
HORDEUM BRACHYANTHERUM	(Meadow Barley)	Grass	SMCo	LOW	2X/MO MAX	YES (2)	-
IRIS DOUGLASIANA	(Douglas Iris)	Forb	SMCo	LOW	1X/MO MAX	-	YES (4,5,6)
JUNCUS EFFUSUS	(Soft Rush)	Grass	SMCo	MEDIUM	1X/WK MAX	YES (2)	-
JUNCUS PATENS	(Common Rush)	Grass	SMCo	LOW	1X/MO MAX	-	YES (4)
KOELERIA MACRANTHA	(Prairie Junegrass)	Grass	SMCo	LOW	-	-	-
LASTHENIA CALIFORNICA	(California Goldfields)	Forb	SMCo	LOW	2X/MO MAX	YES (2)	-
MIMULUS CARDINALIS	(Scarlet Monkeyflower)	Forb	SMCo	MEDIUM	KEEP MOIST	YES (2,3)	YES (5,6)
MUHLENBERGIA RIGENS	(Deer Grass)	Grass	CA	LOW	1X/MO MAX	YES (2)	YES (4,6)
NEMOPHILA MENZIESII	(Baby Blue Eyes)	Forb	SMCo	LOW	2X/MO MAX	YES (2)	-
POTENTILLA ANSERINA	(Silver Weed)	Forb	SMCo	LOW	-	YES (2)	-
RIBES SANGUINEUM GLUTINOSUM	(Pink-flowering Currant)	Shrub	SMCo	LOW	3X/MO MAX	YES (2)	YES (4,6)
RUBUS URSINUS	(California Blackberry)	Shrub	SMCo	MEDIUM	1X/MO MAX	YES (2)	-
SAMBUCUS NIGRA	(Black Elderberry)	Shrub	SMCo	LOW	2X/MO MAX	YES (2)	-
STACHYS BULLATA	(California Hedgenettle)	Forb	SMCo	MEDIUM	1X/WK MAX	YES (2)	-
SYMPHYOTRICHUM CHILENSE	(California Aster)	Forb	SMCo	LOW	1X/MO MAX	YES (2)	YES (5)
VACCINIUM OVATUM	(Evergreen Huckleberry)	Shrub	SMCo	LOW	3X/MO MAX	YES (2)	YES (5)

EROSION CONTROL NATIVE SEED MIX

SHALL BE A 50/50 BLEND OF:

CALIFORNIA HABITAT MIX:
- BROMUS CARINATUS (California Brome)
- ELYMUS GLAUCUS (Blue Wildrye)
- HORDEUM CALIFORNICUM (California Barley)
- FESTUCA IDAHOENSIS (Idaho Fescue)
- STIPA PULCHRA (Purple Needlegrass)
- POA SECUNDA (One-sided Bluegrass)

CALIFORNIA COASTAL NATIVE WILDFLOWER MIX:
- CAMISSONIOPSIS CHEIRANTHIFOLIA (Beach Evening Primrose)
- CLARKIA AMOENA SEMI-DWARF (Farewell-to-spring)
- CLARKIA UNGUICULATA (Mountain Garland)
- COLLINSIA HETEROPHYLLA (Chinese Houses)
- ESCHSCHOLZIA CALIFORNICA (California Poppy)
- GILIA CAPITATA (Globe Gilia)
- GILIA TRICOLOR (Bird's Eye)
- LASTHENIA CALIFORNICA (Dwarf Goldfields)
- LAYIA PLATYGLOSSA (Tidy Tips)
- LUPINUS MICROCARPUS ED GEDLING (Ed Gedling's Golden Lupine)
- LUPINUS SUCCULENTUS (Arroyo Lupine)
- DIPLACUS AURANTIACUS (Sticky Monkeyflower)
- NEMOPHILIA MENZIESII (Baby Blue Eyes)
- PENSTEMON SPECTABILIS (Showy Penstemon)
- SISYRINCHIUM BELLUM (Blue-eyed Grass)

MIX RATE SHALL BE 20 LBS./ACRE. INSTALL VIA HYDROSEED. DO NOT TILL.

SEED MIXES AVAILABLE VIA NATURESSEED.COM.

SOURCES:

1. CALFLORA (calflora.org)
2. CALIFORNIA NATIVE PLANT SOCIETY (calscape.org)
3. SELECTING PLANTS FOR POLLINATORS: A REGIONAL GUIDE FOR FARMERS, LAND MANAGERS, AND GARDENERS IN THE CALIFORNIA COASTAL CHAPARRAL FOREST SHRUB PROVINCE, PUBLISHED BY THE NORTH AMERICAN POLLINATOR PROTECTION CAMPAIGN(nappc.org) AND THE POLLINATOR PARTNERSHIP (pollinator.org)
4. "FIRESCAPING WITH NATIVE PLANTS: SAN MATEO COUNTY"; FIRESAFE SAN MATEO COUNTY (firesafesanmateo.org)
5. "FIRE-RESISTANT PLANTS COMMON TO MARIN COUNTY" FIRESAFE MARIN (firesafemarin.org/plants)
6. "CENTRAL COUNTY FIRE DEPARTMENT VEGETATION MANAGEMENT PLANT LIST"; CENTRAL COUNTY FIRE

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TREES


HESPEROCYPARIS MACROCARPA


LYONOTHAMNUS FLORIBUNDUS


METEROSIDEROS EXCELSA


ULMUS PARVIFOLIA 'TRUE GREEN'

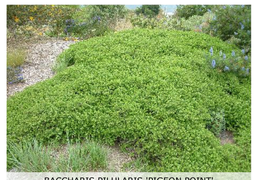
SHRUBS, FORBS, & GRASSES


ACHILLEA MILLEFOLIUM CALIFORNICA


ARCTOSTAPHYLOS UVA-URSI

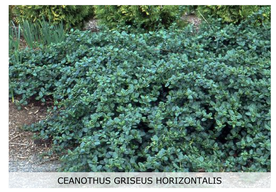

ARTEMESIA CALIFORNICA


BACCHARIS GLUTINOSA


BACCHARIS PILULARIS 'PIGEON POINT'


BOUTELOUA GRACILIS 'BLONDE AMBITION'


CAREX DENSA


CEANOTHUS GRISEUS HORIZONTALIS


CEANOTHUS THYRSIFLORUS


CERCIS OCCIDENTALIS


CORNUS SERICEA


DIETES BICOLOR


DIPLACUS AURANTIACUS


EPILOBIUM CANUM


ERIGERON GLAUCUS


ERIOGONUM FASCICULATUM


ERIOGONUM LATIFOLIUM


FRANGULA CALIFORNICA


GRINDELIA STRICTA


HETEROMELES ARBUTIFOLIA


HORDEUM BRACHYANTHERUM


IRIS DOUGLASIANA


JUNCUS EFFUSUS


JUNCUS PATENS


KOELERIA MACRANTHA


LASTHENIA CALIFORNICA


LAVANDULA STOECHAS


LOMANDRA LONGIFOLIA


MIMULUS CARDINALIS


MORELLA CALIFORNICA


MUHLENBERGIA RIGENS

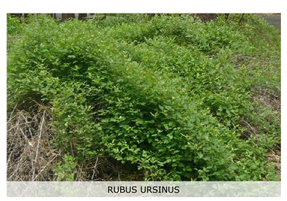

NEMOPHILIA MENZIESII


POLYSTICHUM MUNITUM


POTENTILLA ANSERINA

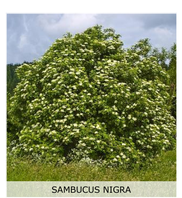

RIBES SANGUINEUM VAR. GLUTINOSUM


ROSA RUGOSA


RUBUS URSINUS


SALVIA CLEVELANDII


SALVIA MELLIFERA


SAMBUCUS NIGRA


STACHYS BULLATA


STIPA PULCHRA


SYMPHOTRICHUM CHILENSE


VACCINUM OVATUM

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Landscape Architecture | Site Planning | Environmental Design

SCHEMATIC PLANT IMAGES

STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA

NOT FOR CONSTRUCTION

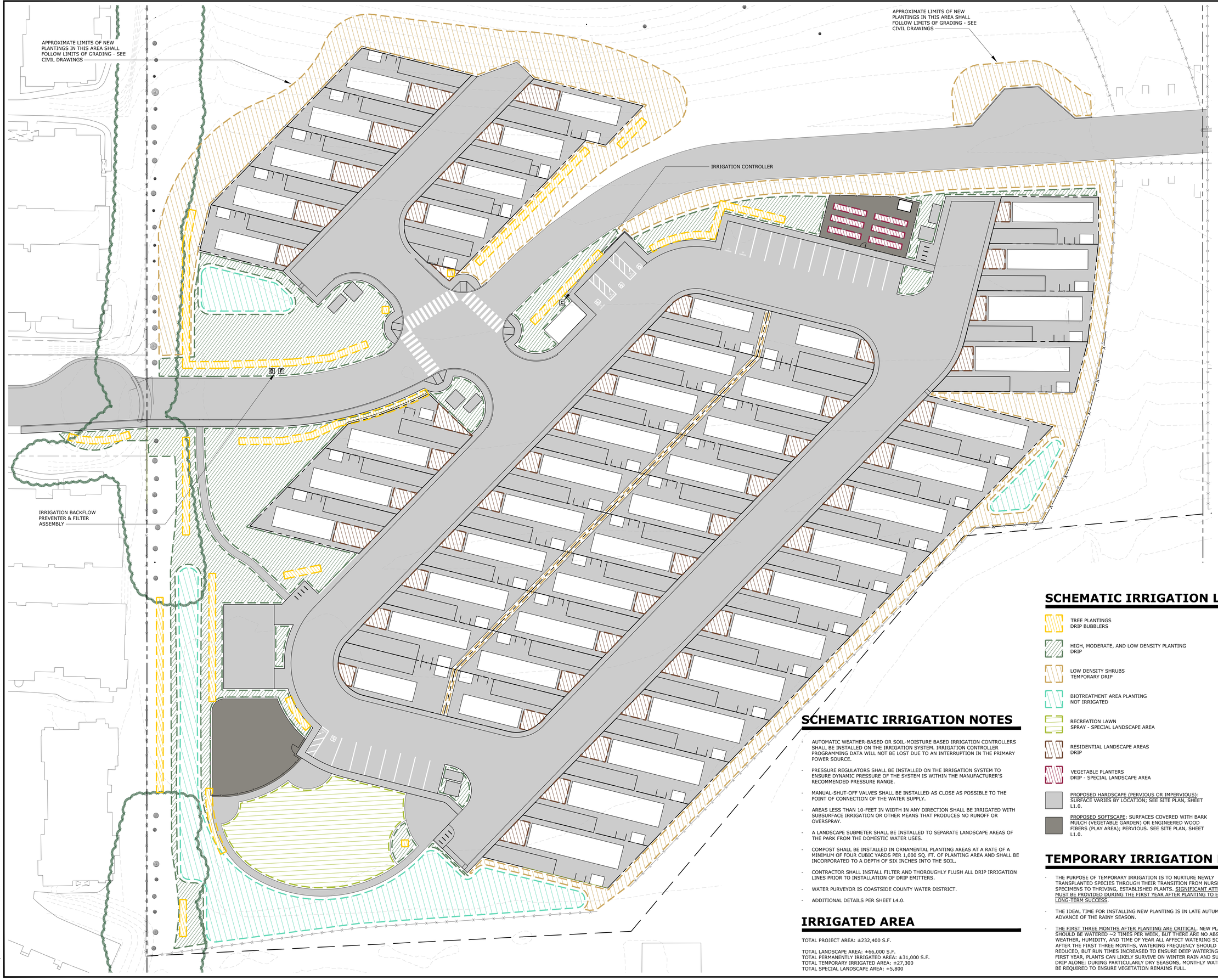
HALF MOON BAY

Date	No.	Revisions

Date 11/25/2025
Scale AS NOTED
Drawn JS
Approved TYC

Drawing Number:
L2.2

XX% SUBMITTAL - NOT FOR CONSTRUCTION



SCHEMATIC IRRIGATION LEGEND

TREE PLANTINGS DRIP BUBBLERS	±1,100 S.F.
HIGH, MODERATE, AND LOW DENSITY PLANTING DRIP	±22,700 S.F.
LOW DENSITY SHRUBS TEMPORARY DRIP	±27,300 S.F.
BIOTREATMENT AREA PLANTING NOT IRRIGATED	±10,900 S.F.
RECREATION LAWN SPRAY - SPECIAL LANDSCAPE AREA	±5,400 S.F.
RESIDENTIAL LANDSCAPE AREAS DRIP	±7,200 S.F. ±150 S.F. PER LOT
VEGETABLE PLANTERS DRIP - SPECIAL LANDSCAPE AREA	±400 S.F.
PROPOSED HARDSCAPE (PERVIOUS OR IMPERVIOUS): SURFACE VARIES BY LOCATION; SEE SITE PLAN, SHEET L1.0.	±130,600 S.F.
PROPOSED SOFTSCAPE: SURFACES COVERED WITH BARK MULCH (VEGETABLE GARDEN) OR ENGINEERED WOOD FIBERS (PLAY AREA); PERVIOUS. SEE SITE PLAN, SHEET L1.0.	±4,300 S.F.

SCHEMATIC IRRIGATION NOTES

- AUTOMATIC WEATHER-BASED OR SOIL-MOISTURE BASED IRRIGATION CONTROLLERS SHALL BE INSTALLED ON THE IRRIGATION SYSTEM. IRRIGATION CONTROLLER PROGRAMMING DATA WILL NOT BE LOST DUE TO AN INTERRUPTION IN THE PRIMARY POWER SOURCE.
- PRESSURE REGULATORS SHALL BE INSTALLED ON THE IRRIGATION SYSTEM TO ENSURE DYNAMIC PRESSURE OF THE SYSTEM IS WITHIN THE MANUFACTURER'S RECOMMENDED PRESSURE RANGE.
- MANUAL-SHUT-OFF VALVES SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE POINT OF CONNECTION OF THE WATER SUPPLY.
- AREAS LESS THAN 10-FEET IN WIDTH IN ANY DIRECTION SHALL BE IRRIGATED WITH SUBSURFACE IRRIGATION OR OTHER MEANS THAT PRODUCES NO RUNOFF OR OVERSPRAY.
- A LANDSCAPE SUBMETER SHALL BE INSTALLED TO SEPARATE LANDSCAPE AREAS OF THE PARK FROM THE DOMESTIC WATER USES.
- COMPOST SHALL BE INSTALLED IN ORNAMENTAL PLANTING AREAS AT A RATE OF A MINIMUM OF FOUR CUBIC YARDS PER 1,000 SQ. FT. OF PLANTING AREA AND SHALL BE INCORPORATED TO A DEPTH OF SIX INCHES INTO THE SOIL.
- CONTRACTOR SHALL INSTALL FILTER AND THOROUGHLY FLUSH ALL DRIP IRRIGATION LINES PRIOR TO INSTALLATION OF DRIP EMITTERS.
- WATER PURVEYOR IS COASTSIDE COUNTY WATER DISTRICT.
- ADDITIONAL DETAILS PER SHEET L4.0.

IRRIGATED AREA

TOTAL PROJECT AREA: ±232,400 S.F.

TOTAL LANDSCAPE AREA: ±66,000 S.F.
TOTAL PERMANENTLY IRRIGATED AREA: ±31,000 S.F.
TOTAL TEMPORARY IRRIGATED AREA: ±27,300
TOTAL SPECIAL LANDSCAPE AREA: ±5,800

TEMPORARY IRRIGATION NOTES

- THE PURPOSE OF TEMPORARY IRRIGATION IS TO NURTURE NEWLY TRANSPLANTED SPECIES THROUGH THEIR TRANSITION FROM NURSERY SPECIMENS TO THRIVING, ESTABLISHED PLANTS. SIGNIFICANT ATTENTION MUST BE PROVIDED DURING THE FIRST YEAR AFTER PLANTING TO ENSURE LONG-TERM SUCCESS.
- THE IDEAL TIME FOR INSTALLING NEW PLANTING IS IN LATE AUTUMN IN ADVANCE OF THE RAINY SEASON.
- THE FIRST THREE MONTHS AFTER PLANTING ARE CRITICAL. NEW PLANTINGS SHOULD BE WATERED ~2 TIMES PER WEEK, BUT THERE ARE NO ABSOLUTES -- WEATHER, HUMIDITY, AND TIME OF YEAR ALL AFFECT WATERING SCHEDULES. AFTER THE FIRST THREE MONTHS, WATERING FREQUENCY SHOULD BE REDUCED, BUT RUN TIMES INCREASED TO ENSURE DEEP WATERING. AFTER THE FIRST YEAR, PLANTS CAN LIKELY SURVIVE ON WINTER RAIN AND SUMMER FOG DRIP ALONE; DURING PARTICULARLY DRY SEASONS, MONTHLY WATERING MAY BE REQUIRED TO ENSURE VEGETATION REMAINS FULL.

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SCHEMATIC IRRIGATION PLAN
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY CALIFORNIA

NOT FOR CONSTRUCTION

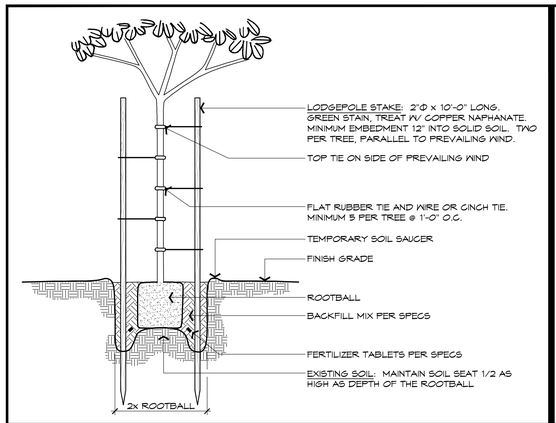
HALF MOON BAY

Date
Revisions
No.

Date 11/20/2023
Scale 1/20" = 1'-0"
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Drawn MS
Approved TKC

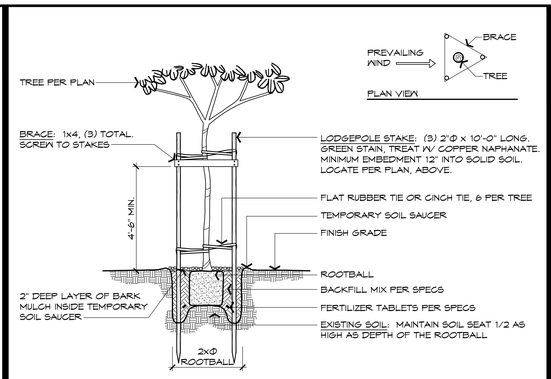
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XX% SUBMITTAL - NOT FOR CONSTRUCTION



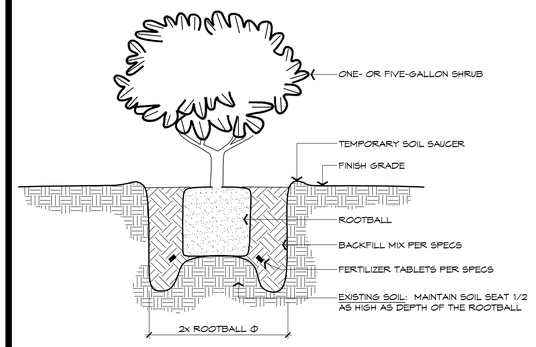
(A) 24B BOX TREE PLANTING

SCALE: 1/2" = 1'-0"



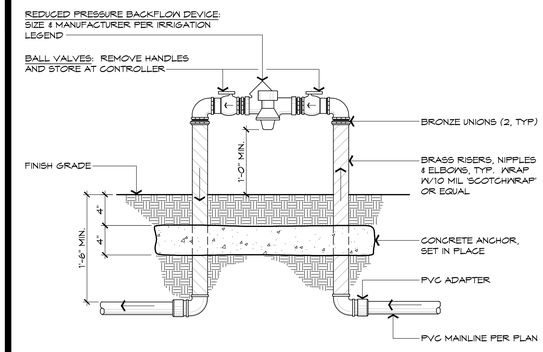
(B) 15G BOX TREE PLANTING

SCALE: 3/8" = 1'-0"



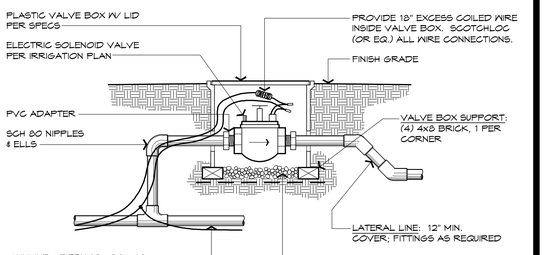
(C) SHRUB PLANTING

SCALE: 1" = 1'-0"



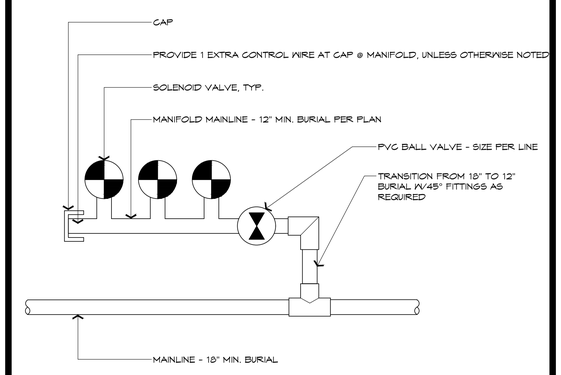
(D) BACKFLOW PREVENTER

SCALE: 1 1/2" = 1'-0"



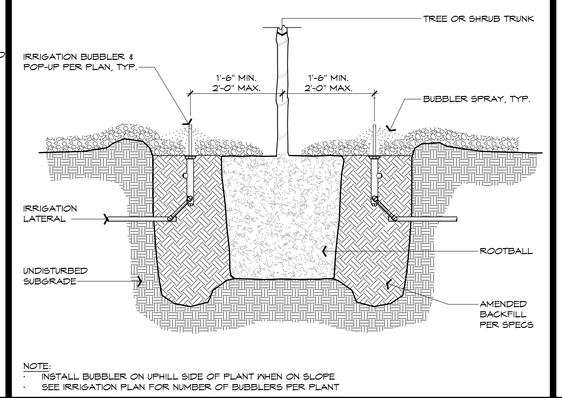
(E) SOLENOID VALVE SECTION

SCALE: 1" = 1'-0"



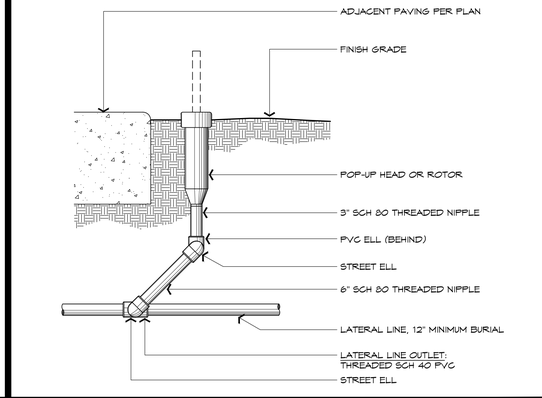
(F) VALVE MANIFOLD DETAIL

SCALE: 1 1/2" = 1'-0"



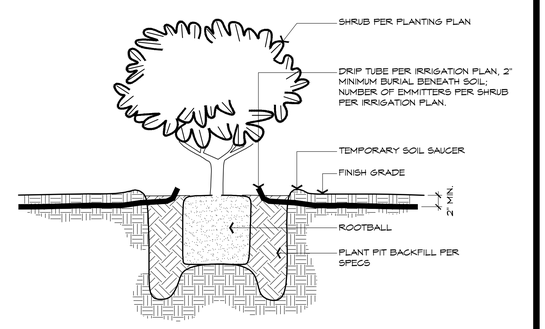
(G) TREE BUBBLERS DETAIL

SCALE: 1" = 1'-0"



(H) POP-UP SPRAY

SCALE: 3" = 1'-0"



(I) SHRUB DRIP IRRIGATION

SCALE: 1" = 1'-0"

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SCHEMATIC PLANTING & IRRIGATION DETAILS

STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA

NOT FOR CONSTRUCTION

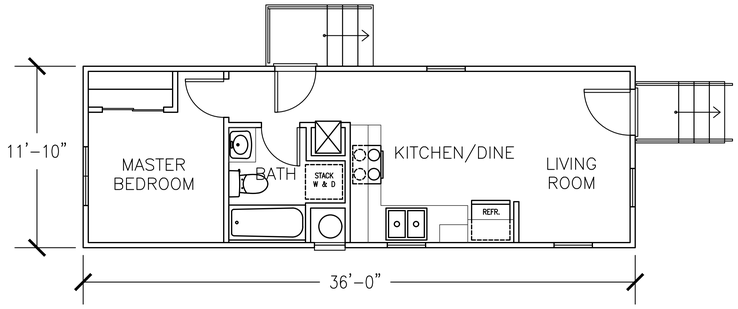
HALF MOON BAY

No.	Revisions	Date

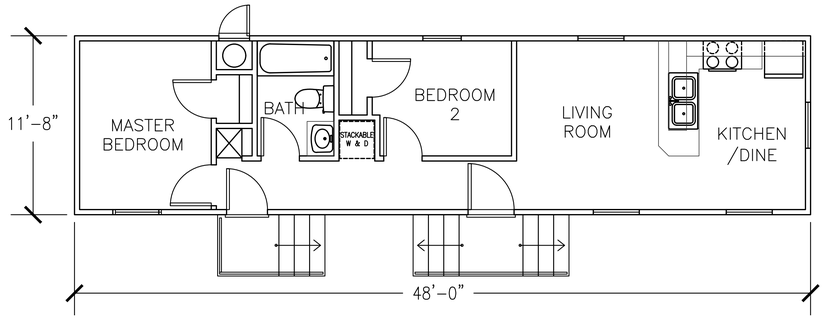
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Drawn: JG
Approved: TKC

Drawing Number:
L4.0

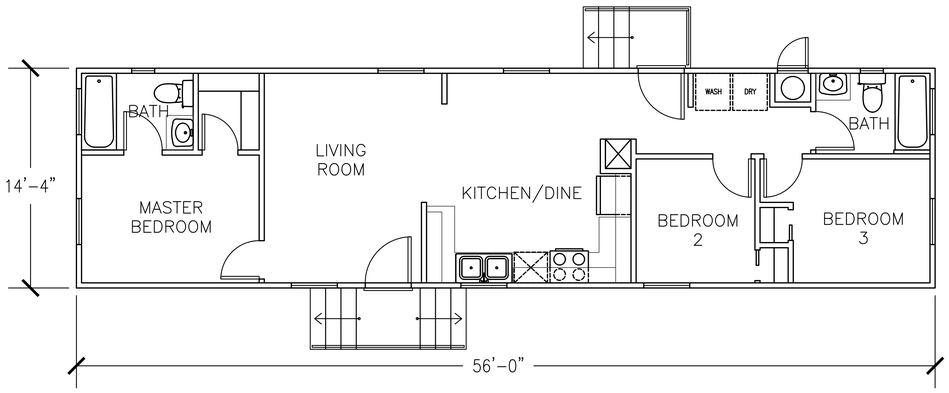
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1-BEDROOM MANUFACTURED HOME



2-BEDROOM MANUFACTURED HOME



3-BEDROOM MANUFACTURED HOME

EXTERNAL MATERIALS:

- COMPOSITION SHINGLES
- FIBER CONCRETE SIDING/TRIM WITH HORIZONTAL OR BOARD & BATTEN PATTERN (PAINTED)
- SKIRTING TO MATCH SIDING (PAINTED)

0 4 8

1/4" = 1 FT

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

CONCEPTUAL MANUFACTURED HOME FLOOR PLANS

STONE PINE COVE

880 STONE PINE ROAD

SAN MATEO COUNTY CALIFORNIA

HALF MOON BAY

No.	Revisions	Date

Date 11/28/2023
Scale AS NOTED
Design XXX
Drawn D. B.
Approved XXX
Job No XXX

Drawing Number:
MH1
1 OF 1

ELECTROLIER NOTES:

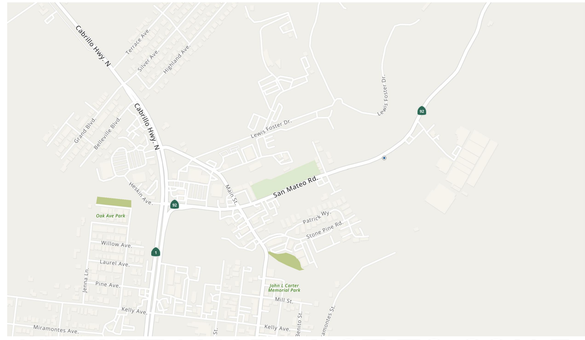
1. ALL MATERIAL AND WORKMANSHIP SHALL FULLY CONFORM WITH THE SPECIFICATIONS OF THE CITY OF HALF MOON BAY.
2. ELECTROLIERS ARE TO BE LOCATED NO CLOSER THAN 3' FROM THE EDGE OF DRIVEWAYS OR 5' FROM HYDRANTS.
3. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO INSTALL UNDERGROUND SERVICE FROM THE ELECTROLIER TO P.G. & E. SERVICE BOX AND TERMINATE CONDUIT AND WIRE IN BOX AS DIRECTED BY P.G. & E.
4. CONDUIT AND FITTINGS SHALL BE U.L. APPROVED. CONDUIT BELOW GRADE SHALL BE MINIMUM 1–1/2" SCHEDULE 40 P.V.C. U.O.N. MIN. RADIUS BENDS SHALL BE 18". USE RIGID STEEL METALLIC CONDUIT FOR ABOVE GROUND INSTALLATIONS AND FOUNDATIONS. (FOR CONDUIT DEPTH SEE DETAIL.)
5. CABLE TO BE A.W.G. NUMBER 8, (OR LARGER AS NOTED) 7 – STRAND COPPER, TYPE THHN OR APPROVED EQUAL.
6. CIRCUITS WITH TWO OR MORE ELECTROLIERS SHALL BE WIRED TO BALANCE THE LOAD. (SEE WIRING DIAGRAM.)
7. JUNCTION BOXES SHALL MEET THE REQUIREMENTS FOR STATE NUMBER 3 1/2 PULL BOX WITH COVERS. COVERS TO BE MARKED, "STREET LIGHTING" AND SECURED WITH BRASS HOLD DOWN BOLTS.
8. FUSE EACH POLE WITH WATER PROOF IN–LINE BREAK AWAY FUSE HOLDERS AND AT EACH ADJACENT JUNCTION BOX.
9. ALL SPLICES SHALL BE MADE IN HANDHOLES OR JUNCTION BOXES ONLY. ALL SPLICES MUST BE PER CAL–TRANS SECTION 86.
10. CONTRACTOR TO PLACE POLE NUMBERS ON ALL STREET LIGHT STANDARDS. ALL NUMBERS ARE TO BE IN ACCORDANCE WITH P.G. & E. STANDARDS.

SYMBOL LIST

✷	DECORATIVE ELECTROLIER ON 12' POLE (DETAIL THIS PAGE) FIXTURE CAT#PROV2–36L–525–3K7–3–BLS–STANDARD_MOUNT–UNV
– – – – – –	1 1/2" PVC SCHED 40 W/3#8 CU & GRND U.O.N
□	#3 1/2 SPLICE BOX
◪	#3 1/2 SPLICE BOX W/ GROUND ROD
■	#3 1/2 SPLICE BOX PULL THRU
	FIRE HYDRANT
U.O.N.	UNLESS OTHERWISE NOTED

NOTE:
-PRELIMINARY PLANS-
NOT FOR CONSTRUCTION

NOTE:
PLEASE VERIFY THE SERVICE POINTS ON THIS PLAN MATCH YOUR CURRENT DESIGN. IF THERE ARE DISCREPANCIES, PLEASE CONTACT THE PROJECT MANAGER IN OUR OFFICE @ 925-820-8502



VICINITY MAP - NOT TO SCALE

architectural area lighting

PROV2
ARCHITECTURAL AREA/SITE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

PROVIDENCE®



Providence Medium

FEATURES

- Reliable, uniform, glare free illumination
- Types 1, 2, 3, 4W, 5Q, and 5W distributions
- Amber, 3000K, 4000K, 5000K CCT
- 0-10V dimming ready
- Integral Surge protection: 10k in parallel, 20k in series
- Upgrade Kits

3000K and warmer CCTs only

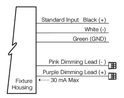
SPECIFICATIONS

CONSTRUCTION
- All housing components aluminum 360 alloy, sealed with continuous silicone rubber gaskets
- Standard configurations do not require a flat lens, optional lenses are tempered glass
- All internal and external hardware is stainless steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- Optical bezel finish to match the luminaire housing

LED/OPTICS
- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
- Optics are held in place without the use of adhesives
- Molded silicone gasket ensures a weather-proof seal around each individual LED.
- Features individual LED optical control based on high performance TIR optical designs
- House Side Shield is available on Standard and Clear Lens options except any Type 5 distribution. House Side Shield is not available for any distribution using a Diffused Lens

INSTALLATION
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

ELECTRICAL
- Luminaires have UL recognized integral surge protection, and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J
- Drivers are UL recognized with an inrush current maximum of <20.0 Amps maximum at 230VAC
- 100%-1% dimming range. Fixture will be wired for low voltage 0-10V dimming control



- Driver and surge suppressor are mounted to a prewired tray with quick disconnects that may be removed from the gear compartment
- Surge protection: 10,000k in parallel, 20,000k in series

CONTROLS
- Egress adapter(s) will slip over a 4"/100mm DIA. pole with the luminaire or arm slipping over the adapter to add a total of 4.5"/114mm to the overall height. Adapter(s) are prewired, independently rotatable 359°, and have a cast access cover with an integral lens and lanyard

CONTROLS (CONTINUED)
- Egress adapter will require an auxiliary 120 volt supply for operation of an integral MR16 lamp in the event of emergency. The lamp may be aimed and locked into position with an adjustment range of 15°-45°. Adapter will have a socket that accepts miniature bi-pin MR16 lamps up to 50 watts, lamp by others
- Photocell adapter includes a 7-Pin internal twist lock receptacle. Photocell by others

CERTIFICATIONS
- ETL listed under UL 1598 and CSA C22.2 No. 250.0-08 for wet locations
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 5/29/2020

WARRANTY
- 5 year warranty

KEY DATA	
LUMEN RANGE	1,81–9,336
WATTAGE RANGE	31.52–71.6
EFFICACY RANGE (LPW)	44.9–118.9
INPUT CURRENT RANGE (mA)	295–615 mA
WEIGHT	29 lbs / 13.15 kg
EPA	1.33

Current

currentlighting.com/aal

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architectural area lighting

RSA-A Series
ROUND STRAIGHT ALUMINUM POLE

DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

AAL Poles



SPECIFICATIONS

APPLICATIONS
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION
- SHAFT: One-piece straight aluminum with round cross section; Extruded shafts of 6061-T6 aluminum in 1/8", 3/16", or 1/4" thickness. Base plate of 356 cast aluminum.
- BOLT COVERS: Four (4) individual bolt covers provided, painted to match pole and base finish.
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 aluminum hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for levelingwarnings

FINISH
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint finish coat available in multiple standard colors; Custom colors available; RAL number preferable

ORDERING GUIDE

Example: PR4-4R12-125-PCR-GFI-SBC-PTF-BLT

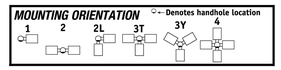
CATALOG #

POLE

Series	Pole	Shaft	Thickness	Mounting	Finish	VM2
RSA-A Round Straight Aluminum Pole	Reference page 2 Ordering matrix	Reference page 2 Ordering matrix	Reference page 2 Ordering matrix	**TA** Tenon (2.375" OD) **TB** Tenon (2.875" OD) **OT** Open Top (includes pole cap)	**BLS** Black Gloss Smooth **BLT** Black Matte Textured **DBS** Dark Bronze Gloss Smooth **DBT** Dark Bronze Matte Textured **GTT** Graphite Matte Textured **LGS** Light Grey Gloss Smooth **LGT** Light Grey Matte Textured **PSS** Platinum Silver Gloss Smooth **VGT** Verde Green Matte Textured **WHS** White Gloss Smooth **WHT** White Matte Textured **Color Option** **CC**[1] Custom Color	**GFI** 20 Amp GFCI Receptacle and Cover **EHH** Extra Handhole **C05** 5" Coupling **C07** 7.5" Coupling **C20** 2" Coupling **VM2** 2nd mode vibration damper **LAB** Less Anchor Bolts **UL** UL Certified

Accessories	
VM2SXX	2nd mode vibration damper, ordered separately

MOUNTING ORIENTATION ○← Denotes handhole location



Notes:
1 Consult factory for custom color, merine and corrosive finish

Current

currentlighting.com/aal

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MILLENNIUM DESIGN & CONSULTING, INC.
JOINT TRENCH UTILITY DESIGN & CONSULTING
PROJECT MANAGEMENT & ESTIMATING
P.O. BOX 737 ALAMO, CA 94507
PHONE: 925 820 8502 FAX: 925 820 8507

STREET LIGHTING PLAN
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA
HALF MOON BAY

Date	Revisions	No.

Date 11/28/2023
Scale
Design CK
Drawn CK
Approved
Job No 23-1668

Drawing Number:
SL1



NOTE:

-PRELIMINARY PLANS-
NOT FOR CONSTRUCTION

millennium
design & consulting, inc.
JOINT TRENCH UTILITY DESIGN & CONSULTING
PG&E PRIMARY & SECONDARY DESIGNER
P.O. BOX 737 ALAMO, CA 94507
PHONE: 925-588-0924 / FAX: 925-588-0997

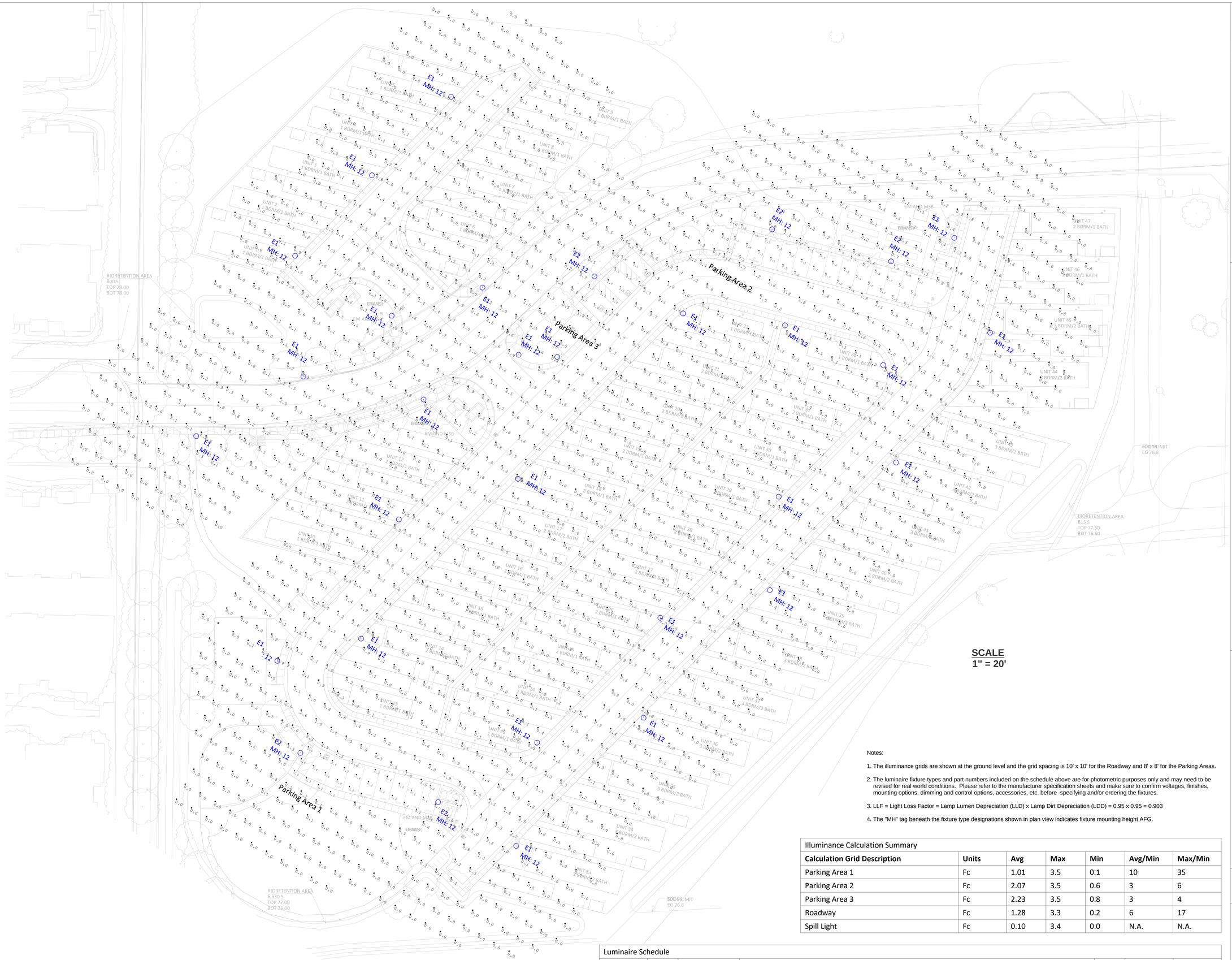
STREET LIGHTING PLAN
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA

HALF MOON BAY

No.	Revisions	Date

Date 11/28/2023
Scale 1"=20'
Design CK
Drawn CK
Approved
Job No 23-1668

Drawing Number:
SL2



Notes:

1. The illuminance grids are shown at the ground level and the grid spacing is 10' x 10' for the Roadway and 8' x 8' for the Parking Areas.
2. The luminaire fixture types and part numbers included on the schedule above are for photometric purposes only and may need to be revised for real world conditions. Please refer to the manufacturer specification sheets and make sure to confirm voltages, finishes, mounting options, dimming and control options, accessories, etc. before specifying and/or ordering the fixtures.
3. LLF = Light Loss Factor = Lamp Lumen Depreciation (LLD) x Lamp Dirt Depreciation (LDD) = 0.95 x 0.95 = 0.903
4. The "MH" tag beneath the fixture type designations shown in plan view indicates fixture mounting height AFG.

Illuminance Calculation Summary

Calculation Grid Description	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Area 1	Fc	1.01	3.5	0.1	10	35
Parking Area 2	Fc	2.07	3.5	0.6	3	6
Parking Area 3	Fc	2.23	3.5	0.8	3	4
Roadway	Fc	1.28	3.3	0.2	6	17
Spill Light	Fc	0.10	3.4	0.0	N.A.	N.A.

Luminaire Schedule

Symbol	Qty	Fixture Type	Manufacturer and Part Number	LLF	Lumens	Watts
	26	E1	Architectural Area Lighting - PROV2-36L-510-3K7-4W-CL-HS (mounted on 12ft pole)	0.903	2780	58.41
	5	E2	Architectural Area Lighting - PROV2-36L-510-3K7-4W-CL (mounted on 12ft pole)	0.903	4763	58.41

LIGHTING SYSTEMS

www.ltgsys.com

510-982-3900
2322 6th Street
Berkeley, CA 94710

916-772-5800
1310 Blue Oaks Blvd
Suite 400
Roseville, CA, 95678

STREET LIGHTING PHOTOMETRICS

Customer:
Chris Kellner
Millenium Design
chris@jointutility.com
925-301-5477

Filename: Stone Pine Cove Streetlighting_102423 - REV02.AGI

DISCLAIMER:

This lighting calculation report attempts to approximate the maintained light levels and is based on the information provided to LightingSystems. Please verify the information provided (space dimensions, fixture mounting heights, surface reflectances, etc.) to ensure the accuracy of the report. Many factors that can affect field-measured lighting levels cannot be anticipated when using the calculation software and as such Lighting Systems cannot guarantee lighting levels.

Date: 11/28/2023

Calcs by: Brian Franco
Phone: (510)-982-3938
brianf@ltgsys.com

SL3

Stone Pine Cove - 880 Stone Pine Road
Application for Emergency Coastal Development Permit
Supplemental Narrative – November 2023

The County of San Mateo and City of Half Moon Bay are co-applicants for a Coastal Development Permit to entitle development of a new neighborhood comprised of 46 manufactured homes affordable to farmworker households and one manager's unit at 880 Stone Pine Road. As of November 2023, the co-applicants are seeking an Emergency Coastal Development Permit in advance of a follow-up Coastal Development Permit and associated environmental review pursuant to the California Environmental Quality Act (CEQA). This narrative supplements the application and plans submitted for the Emergency Coastal Development Permit. It addresses the City of Half Moon Bay's Local Coastal Program requirements for emergency permitting as established in Municipal Code §18.20.040.

1. **The nature of the emergency:**

   The need for immediate housing for low-income farmworkers displaced by unsafe, unpermitted, and dilapidated housing conditions.

2. **The cause of the emergency, insofar as this can be established.**

   After the tragic events of the mass shooting in Half Moon Bay on January 23, 2023 exposed substandard housing conditions at the two impacted farms, the San Mateo County Board of Supervisors (Board) allocated funds to provide long-term temporary housing for those 19 households displaced by unsafe housing conditions at the two farm sites in Half Moon Bay. The events also prompted the Board to create a task force dedicated to inspecting farm worker housing on farms to ensure that minimum habitability standards are met.

   In addition to the need for longer-term housing for those households impacted by the mass shootings, the County continues to identify additional unpermitted, substandard farmworker housing through the work of the task force. As of November 2023, the task force has examined approximately 50% of the properties to be evaluated and has so far inspected 90 farmworker housing units occupied by 268 farmworkers. The task force has determined that units housing 68 farmworkers did not meet the task force's minimum safety standards and will require corrective actions.

   We anticipate that the County will continue to identify housing units that are deemed unsafe, unpermitted, and/or otherwise unable to be legalized in the future, creating an emergency need for additional affordable housing units. While it is difficult to know the result of ongoing inspections, if the trend continues, at the end of the task force's inspections, we may have as many as 130 farmworkers residing in substandard housing, in addition to the 19 households displaced by the shooting.

   Given the magnitude of low-income households that are at high risk of becoming homeless at the conclusion of these inspections, housing solutions are critical to mitigate this emergency.

3. The location of the emergency

   Half Moon Bay and neighboring coastside communities that are facing an acute affordable housing shortage due to recently identified unsafe and unpermitted housing conditions.

4. The remedial, protective, or preventive work required to deal with the emergency.

The County requests an emergency permit to place up to 47 manufactured homes and its associated infrastructure and amenities at the 880 Stone Pine Road property. These manufactured homes will provide the opportunity for lower initial construction costs and quicker construction to address the emergency need for housing opportunities for those who have been displaced by dilapidated housing conditions. At least 28 of the homes will be prioritized for homeownership opportunities for low-income farmworker households.

5. The circumstances during the emergency that appeared to justify the course of action taken, including the probable consequences of failing to take action.

A 2016 Agricultural Workforce Housing Needs Assessment conducted by the County found that the median income for farmworkers for farmworkers that live on farms was $21,000 a year, which falls well within the County's extremely low-income category. The report also identified that 1,020 to 1,140 housing units for the agricultural workforce are presently needed. The lack of turnover at affordable housing developments in the Half Moon Bay area and the overall dearth of units set aside for both the general low-income population and farmworkers in the area highlight the undersupply of housing for the low-income populations targeted by this proposed program.

Identified households living in unpermitted substandard conditions will add to the high need for affordable housing needed in the region. The emergency permit will allow the County to work toward creating up to 50 safe, affordable units of housing for displaced low-income families on the coast and avoid more households falling into homelessness. Without local housing options like this proposed development, families will be forced to relocate out of the county and away from the communities in which many have lived for decades.

Kikuchi + Kankel
Design Group

Landscape Architecture
Environmental Design
Site Planning

October 12, 2023

Jill Ekas
Community Development Director
City of Half Moon Bay
501 Main Street
Half Moon Bay, CA 94019

RE: Stone Pine Cove (880 Stone Pine Road)
Heritage Tree Removals

Dear Jill:

On behalf of the project team we have prepared the following narrative to describe the disposition of trees potentially impacted by the construction of the proposed housing development at 880 Stone Pine Road. Please note: where referenced, tree species, sizes (d.b.h.), locations, and numbers, are sourced from the project's arborist report prepared by West Coast Arborists, dated August 21, 2023.

The arborist's report describes 152 existing trees on the property.[1] Trees #1-40 comprise an existing hedge row along the western property boundary; trees #41-46 are scattered along the south-facing slope on the northern edge of the proposed development. All of these trees will remain and be protected for the duration of construction per the recommendations in the arborist's report.

The remaining 106 trees, #47-158, are generally located in dense clusters in the southwestern corner of the site, and will be removed. These trees are typically small, volunteer saplings of undesirable or invasive species. Of these, only 12 specimens meet the definition of a "heritage trees" per the City's Municipal Code (§7.40.020).

Eight of the heritage trees are Monterey pines (*Pinus radiata*), ranging in size from 12-15 inches d.b.h., with an average size of 13.4 inches; three of the heritage trees are Monterey cypress (*Hesperocyparis macrocarpa*), ranging in size from 12-15 inches d.b.h. with an average size of 13.3 inches; the remaining heritage tree is a shining willow (*Salix lucida*). This tree has numerous leaders

[1] Existing trees are numbered 1-158 in the arborist's report, but numbers 109-114 are omitted. Only 152 trees are specifically identified, measured, and located in the report.

730 Mill Street, Half Moon Bay
Steven T. Kikuchi, ASLA Principal
Thomas W. Conroy, Senior Associate
Jeanette T. Hill, ASLA Associate

61 East Main Street, Suite C, Los Gatos
Christopher Kankel, ASLA Principal
Nathan Rose, RLA Senior Associate
Robert J. Dietz, ASLA Associate

emerging from its base with a range of 2 to 7 inches d.b.h. and has the appearance of a large shrub. Due to the numerous basal leaders, we are considering this a heritage tree per typical arboriculture conventions, but we note that the City's code is ambiguous on this matter.

Heritage Tree Removal Table

Tree #	Species	Size (d.b.h. in inches)
47	Salix lucida	7
54	Hesperocyparis macrocarpa	15
55	Pinus radiata	13
56	Pinus radiata	15
70	Hesperocyparis macrocarpa	12
76	Hesperocyparis macrocarpa	13
79	Pinus radiata	12
88	Pinus radiata	12
91	Pinus radiata	14
92	Pinus radiata	15
143	Pinus radiata	12
147	Pinus radiata	14

Tree numbers per project arborist's report.

The removal of these 12 heritage trees is necessary for the successful development of the project. Significant site grading and site preparation, mobile home installation, and utility installation all provide good cause for the proposed removal; no reasonable or feasible alternatives exist for alternative site development that would allow these trees to be preserved. We would also note that the trees proposed for removal have limited landscape value in residential settings; Monterey pines are particularly shallow-rooted and susceptible to numerous pests and diseases, including pitch canker.

Per City code, heritage trees shall be replaced "on a one-for-one basis with a minimum size twenty-four-inch box specimen tree" (§7.40.060). The current Landscape Site Plan and Schematic Planting Plan proposes approximately 69 new 24" box trees to be installed throughout the new development, a ratio of nearly 6:1. Proposed replacement species may include Monterey cypress (as infill for portions of the existing hedge row), Catalina ironwood (*Lyonothamnus floribundus*), New Zealand Christmas tree (*Metrosideros excelsus*), and Chinese elm (*Ulmus parvifolia* 'True Green'), though final species and locations are still to be determined. The ultimate goal for all the proposed new plantings is for species and locations to be optimized for long-term success.

Please don't hesitate to contact my office with any questions or concerns.

Sincerely,



Tom Conroy
Partner, Senior Associate



TREES TO BE REMOVED

TOTAL TREES TO BE REMOVED: 106

TOTAL HERITAGE TREES TO BE REMOVED: 12

TOTAL # OF REPLACEMENT TREES REQUIRED: 21

ALL HERITAGE TREES = 1:1 REPLACEMENT RATIO
EXCEPT WILLOW = 10:1 REPLACEMENT RATIO

#	SCIENTIFIC NAME	DBH (INCHES)	HERITAGE? (Y/N)
47	SALIX LUCIDA	7	Y
48	EUCALYPTUS GUNNII	4	N
49	ALNUS RHOMBIFOLIA	5	N
50	PINUS RADIATA	10	N
51	PINUS RADIATA	10	N
52	PINUS RADIATA	10	N
53	EUCALYPTUS GLOBULUS	13	N
54	HESPEROCYPARIS MACROCARPA	15	Y
55	PINUS RADIATA	13	Y
56	PINUS RADIATA	15	Y
57	PINUS RADIATA	11	N
58	HESPEROCYPARIS MACROCARPA	9	N
59	HESPEROCYPARIS MACROCARPA	10	N
60	HESPEROCYPARIS MACROCARPA	7	N
61	HESPEROCYPARIS MACROCARPA	9	N
62	HESPEROCYPARIS MACROCARPA	8	N
63	HESPEROCYPARIS MACROCARPA	9	N
64	HESPEROCYPARIS MACROCARPA	8	N
65	HESPEROCYPARIS MACROCARPA	7	N
66	HESPEROCYPARIS MACROCARPA	7	N
67	HESPEROCYPARIS MACROCARPA	6	N
68	HESPEROCYPARIS MACROCARPA	11	N
69	HESPEROCYPARIS MACROCARPA	6	N
70	HESPEROCYPARIS MACROCARPA	12	Y
71	ACACIA MELANOXYLON	6	N
72	HESPEROCYPARIS MACROCARPA	5	N
73	EUCALYPTUS GLOBULUS	26	N
74	PINUS RADIATA	8	N
75	ACACIA MELANOXYLON	6	N
76	HESPEROCYPARIS MACROCARPA	13	Y
77	HESPEROCYPARIS MACROCARPA	8	N
78	HESPEROCYPARIS MACROCARPA	5	N
79	PINUS RADIATA	12	Y
80	HESPEROCYPARIS MACROCARPA	5	N
81	EUCALYPTUS GLOBULUS	13	N
82	EUCALYPTUS GLOBULUS	16	N
83	EUCALYPTUS GLOBULUS	15	N
84	HESPEROCYPARIS MACROCARPA	10	N
85	ACACIA MELANOXYLON	4	N
86	QUERCUS AGRIFOLIA	4	N
87	HESPEROCYPARIS MACROCARPA	8	N
88	PINUS RADIATA	12	Y
89	EUCALYPTUS GLOBULUS	6	N
90	PINUS RADIATA	11	N
91	PINUS RADIATA	14	Y
92	PINUS RADIATA	15	Y
93	EUCALYPTUS GLOBULUS	17	N
94	PINUS RADIATA	9	N
95	PINUS RADIATA	7	N
96	EUCALYPTUS GLOBULUS	26	N
97	EUCALYPTUS GLOBULUS	16	N
98	PINUS RADIATA	8	N
99	PINUS RADIATA	5	N
100	PINUS RADIATA	5	N
101	PINUS RADIATA	10	N
102	PINUS RADIATA	8	N
103	PINUS RADIATA	7	N
104	PINUS RADIATA	11	N
105	PINUS RADIATA	7	N
106	PINUS RADIATA	8	N
107	PINUS RADIATA	8	N
108	PINUS RADIATA	8	N
115	PINUS RADIATA	8	N
116	PINUS RADIATA	8	N
117	PINUS RADIATA	7	N
118	PINUS RADIATA	4	N
119	PINUS RADIATA	10	N
120	PINUS RADIATA	8	N
121	PINUS RADIATA	10	N
122	PINUS RADIATA	10	N
123	PINUS RADIATA	8	N
124	PINUS RADIATA	10	N
125	QUERCUS AGRIFOLIA	3	N
126	QUERCUS AGRIFOLIA	3	N
127	EUCALYPTUS GLOBULUS	11	N
128	EUCALYPTUS GLOBULUS	12	N
129	PINUS RADIATA	7	N
130	EUCALYPTUS GLOBULUS	14	N
131	PINUS RADIATA	8	N
132	EUCALYPTUS GLOBULUS	13	N
133	PINUS RADIATA	11	N
134	PINUS RADIATA	11	N
135	PINUS RADIATA	7	N
136	PINUS RADIATA	7	N
137	EUCALYPTUS GLOBULUS	10	N
138	EUCALYPTUS GLOBULUS	14	N
139	EUCALYPTUS GLOBULUS	12	N
140	HESPEROCYPARIS MACROCARPA	8	N
141	PINUS RADIATA	11	N
142	PINUS RADIATA	11	N
143	PINUS RADIATA	12	Y
144	HESPEROCYPARIS MACROCARPA	5	N
145	HESPEROCYPARIS MACROCARPA	6	N
146	HESPEROCYPARIS MACROCARPA	5	N
147	PINUS RADIATA	14	Y
148	HESPEROCYPARIS MACROCARPA	11	N
149	PINUS RADIATA	9	N
150	HESPEROCYPARIS MACROCARPA	5	N
151	HESPEROCYPARIS MACROCARPA	5	N
152	HESPEROCYPARIS MACROCARPA	6	N
153	HESPEROCYPARIS MACROCARPA	2	N
154	HESPEROCYPARIS MACROCARPA	2	N
155	ALNUS RHOMBIFOLIA	3	N
156	ALNUS RHOMBIFOLIA	3	N
157	ALNUS RHOMBIFOLIA	4	N
158	ALNUS RHOMBIFOLIA	4	N

TREE REMOVAL LEGEND

EXISTING HERITAGE TREE TO BE REMOVED	>12" DBH, VARIES PER PLAN
EXISTING TREE TO BE REMOVED	<12" DBH, VARIES PER PLAN
EXISTING TREE TO REMAIN	DBH VARIES PER PLAN
TREE PROTECTION FENCING	

TREE PROTECTION NOTES

THE FOLLOWING TREE PROTECTION MEASURES SHOULD BE APPLIED TO ALL TREES THAT ARE TO BE RETAINED:

1. PRE-CONSTRUCTION:
   - A PRE-CONSTRUCTION MEETING SHALL BE HELD TO DISCUSS TREE PROTECTION MEASURES AND ENSURE ALL TREE PROTECTION MEASURES HAVE BEEN PROPERLY INSTALLED.
   - ANY CLEARANCE PRUNING THAT IS DEEMED NECESSARY FOR CONSTRUCTION SHALL BE COMPLETED USING THE MINIMAL DOSE NECESSARY AND SHALL BE APPROVED BY THE PROJECT ARBORIST PRIOR TO PRUNING.
   - TREE PROTECTION ZONES SHALL BE ESTABLISHED AND ENFORCED TO PREVENT SOIL COMPACTION, GRADE CHANGE, AND ROOT DAMAGE. TREE PROTECTION AREAS SHALL BE ESTABLISHED WITH FIVE-FOOT HIGH CHAIN LINK FENCING MOUNTED ON 2" DIAMETER GALVANIZED IRON POSTS, DRIVEN INTO THE GROUND TO A DEPTH OF AT LEAST 2', AT NO MORE THAN 10' SPACING.
     -- THE DIAMETER OF THE TPZ SHALL BE DETERMINED BY THE TRUNK DIAMETER OF TREES TO BE PROTECTED. FOR EVERY 1" OF TRUNK DIAMETER, THE TPZ SHALL EXTEND 1'. FOR EXAMPLE, A 10" DIAMETER TREE SHALL HAVE A TPZ WITH A RADIUS OF 10' AROUND THE TREE.
        --- IN AREAS WHERE THIS TPZ SIZE IS GREATER THAN WHAT CONSTRUCTION CAN ALLOW, THE CANOPY DRIPLINE SHALL BE THE MINIMUM RADIUS FOR THE TPZ.
     -- FOR TREES GROWING ALONG THE EAST PERIMETER OF THE PROPERTY, TPZs CAN BE COMBINED TO FORM ONE LARGE TPZ FOR TREES IN THIS AREA. ADDTIONALLY, FENCING IS NOT REQUIRED ON THE WEST SIDE OF THE TREES AS THE PROPERTY LINE FENCING IS ALREADY IN PLACE.
   - A "WARNING: DO NOT ENTER" SIGN SHALL BE PROMINENTLY DISPLAYED ON EACH TREE PROTECTIVE FENCE.
   - A 4" LAYER OF CHIP BARK MULCH SHALL BE PLACED ON TOP OF THE TPZ AND ENCLOSED WITHIN THE TREE PROTECTIVE FENCING. THIS MULCH SHALL ONLY BE MOVED FOR LANDSCAPE PLANTS TO BE INSTALLED AFTER ALL EXCAVATION AND SOIL COMPACTION WORK HAS BEEN COMPLETED.
   - ESTABLISH AN AREA OUTSIDE OF ALL THE TPZs OR ON PREEXISTING HARDSCAPE TO STORE SEDIMENT AND BACKFILL. ENSURE NO FLOW PATHS LEAD TO TPZs FROM SEDIMENT OR BACKFILL PILES IF PRESENT.
   - NO MATERIAL OR EQUIPMENT SHALL BE STORED OR PLACED WITHIN THE TPZ OF PRESERVED TREES.
2. CONSTRUCTION:
   - IN AREAS WHERE CONSTRUCTION ACTIVITY IS TO TAKE PLACE BENEATH THE CANOPY OF EXISTING TREES, SUCH AS THE WALKING PATH, THE TPZ SHALL BE MOVED TO THE GREATEST DISTANCE POSSIBLE FROM THE SUBJECT TREE WHILE ALSO ALLOWING FOR CONSTRUCTION TO PROCEED. ONCE CONSTRUCTION IN THE SUBJECT AREA HAS OCCURRED, THE TPZ SHALL BE MOVED BACK TO BE PREESTABLISHED BOUNDARY.
     -- PROJECT ARBORIST SHALL CONDUCT SITE OBSERVATIONS DURING ANY CONSTRUCTION ACTIVITY THAT IS TO TAKE PLACE BENEATH THE CANOPY DRIPLINE OF TREE.
     -- ANY EXCAVATION ACTIVITY THAT IS TO TAKE PLACE IN THESE AREAS IS PROHIBITED FROM USING BACKHOES, TREAD TRACTORS, OR ANY OTHER HEAVY VEHICLES.
        --- METHODS PERMITTED INCLUDE HAND-DIGGING, HYDRAULIC OR PNEUMATIC AIR EXCAVATION.
   - DURING EXCAVATION ACTIVITY, SHOULD ANY ROOTS BE ENCOUNTERED, ROOT PRUNING SHALL BE DONE WITH HAND TOOLS IN ORDER TO MAKE CLEAN CUTS THAT FACE THE EXCAVATED AREA.
     -- ROOTS LARGER THAN 2.5" SHALL NOT BE CUT WITHOUT PROJECT ARBORIST PRIOR APPROVAL.
     -- ROOTS LARGER THAN 2.5" THAT ARE CUT SHALL IMMEDIATELY BE SHADED AND KEPT MOIST WITH WET BURLAP OR SIMILAR MATERIAL UNTIL THEY CAN BE RECOVERED.
   - NO PRUNING SHALL BE PERFORMED ON TREES THAT HAVE ROOTS IMPACTED BY CONSTRUCTION ACTIVITY FOR AT LEAST ONE YEAR FOLLOWING THE COMPLETION OF THE PROJECT OTHER THAN NECESSARY MAINTENANCE SUCH AS BUILDING CLEARANCE.
3. POST-CONSTRUCTION:
   -- - PROJECT ARBORIST SHALL CONDUCT MONITORING TWICE A YEAR FROM THE DATE OF PROJECT COMPLETION FOR NO LESS THAN TWO YEARS TO ENSURE TREES ARE IN GOOD CONDITION.

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Kikuchi + Kankel Design Group
720 Mill Street
Half Moon Bay, CA 94019
www.kikuchikankel.com
Landscape Architecture | Site Planning | Environmental Design

TREE REMOVAL PLAN
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA

NOT FOR CONSTRUCTION
HALF MOON BAY

Date
Revisions
No.

Date 11/20/2023
Scale 1/20" = 1'-0"
0 10' 20'
Drawn JG
Approved TVC

Drawing Number:
L1.1

XX% SUBMITTAL - NOT FOR CONSTRUCTION

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VIEW #1 – ENTRY POINT, LOOKING SOUTHEAST

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

BKF

CONCEPTUAL RENDERING – VIEW 1
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY
SAN MATEO COUNTY
CALIFORNIA

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-1
1 OF 6

DRAWING NAME: K:\2021\2211367-15_HMB_Corpyard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:28:23
PLOTTED BY: gold

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VIEW #2 - MAIN INTERSECTION

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
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CONCEPTUAL RENDERING - VIEW 2
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY
SAN MATEO COUNTY
CALIFORNIA

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-2
2 OF 6

DRAWING NAME: K:\2021\2113367-15_HMB_Coryard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:29:43
PLOTTED BY: gold

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VIEW #3 – MANAGERS UNIT, LOOKING SOUTHWEST

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
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CONCEPTUAL RENDERING – VIEW 3
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY
SAN MATEO COUNTY
CALIFORNIA

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-3
3 OF 6

DRAWING NAME: K:\2021\2111367-15_HMB_Coryard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:28:23
PLOTTED BY: gold

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VIEW #4 - COMMUNITY PARK

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
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CONCEPTUAL RENDERING - VIEW 4
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY CALIFORNIA

HALF MOON BAY

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-4
4 OF 6

DRAWING NAME: K:\2021\2117367-15_HMB_Carpyard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:29:23
PLOTTED BY: gld

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VIEW #5 – COMMUNITY GARDEN, LOOKING SOUTH

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
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CONCEPTUAL RENDERING – VIEW 5
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY
SAN MATEO COUNTY
CALIFORNIA

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-5
5 OF 6

DRAWING NAME: K:\2021\2111367-15_HMB_Courtyard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:29:43
PLOTTED BY: gold

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VIEW #6 – STREET LEVEL, LOOKING SOUTH

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

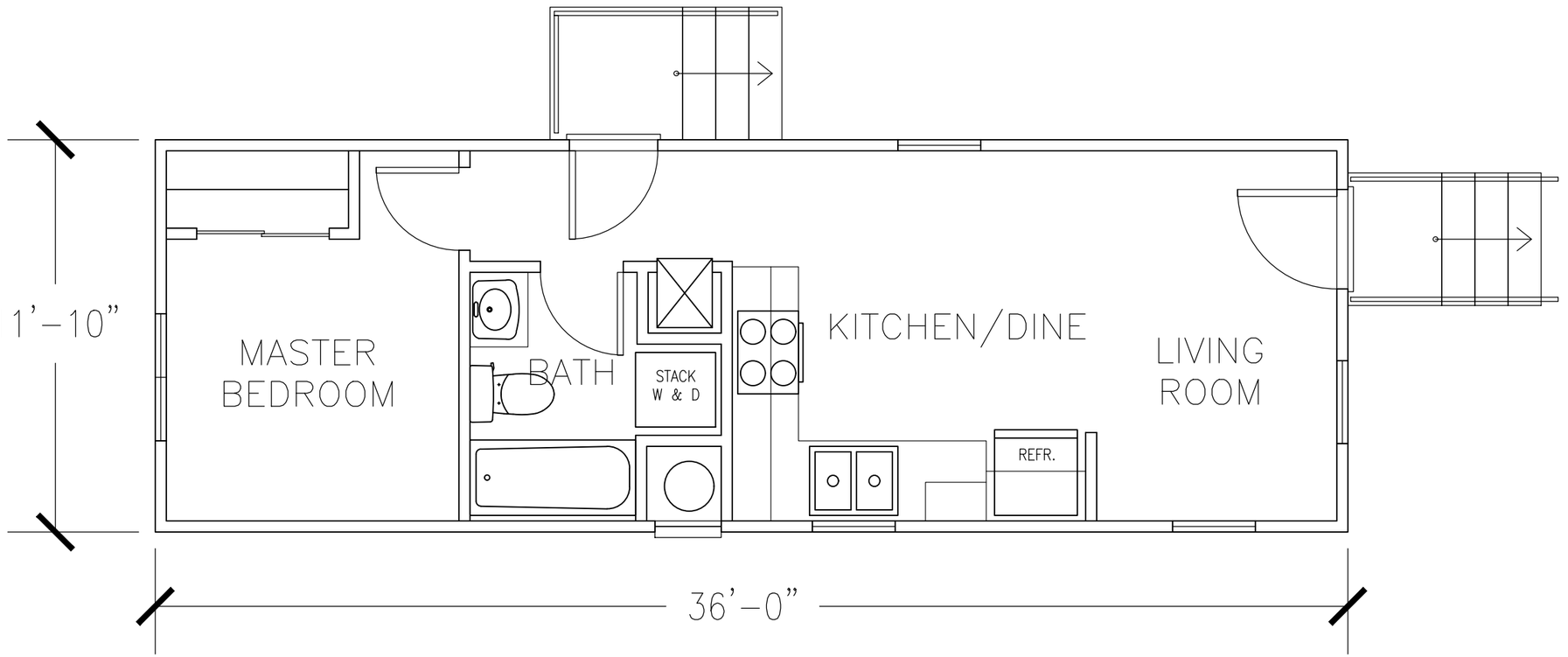
CONCEPTUAL RENDERING – VIEW 6
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY
SAN MATEO COUNTY
CALIFORNIA

No.	Revisions

Date: 11/28/2023
Scale: NO SCALE
Design: DJP
Drawn: DLG
Approved: DJL
Job No: 2021367-15

Drawing Number:
X-6
6 OF 6

DRAWING NAME: K:\2021\2211367-15_HMB_Corpyard_Housing\ENG\EXHIBITS\2023-11-28_Rendering_Exhibits\hmbexhibits.dwg
PLOT TIME: 11:28:23
PLOTTED BY: gold



1-BEDROOM MANUFACTURED HOME

EXTERNAL MATERIALS:

- COMPOSITION SHINGLES
- FIBER CONCRETE SIDING/TRIM WITH HORIZONTAL OR BOARD & BATTEN PATTERN (PAINTED)
- SKIRTING TO MATCH SIDING (PAINTED)

0 4 8
1/4" = 1 FT

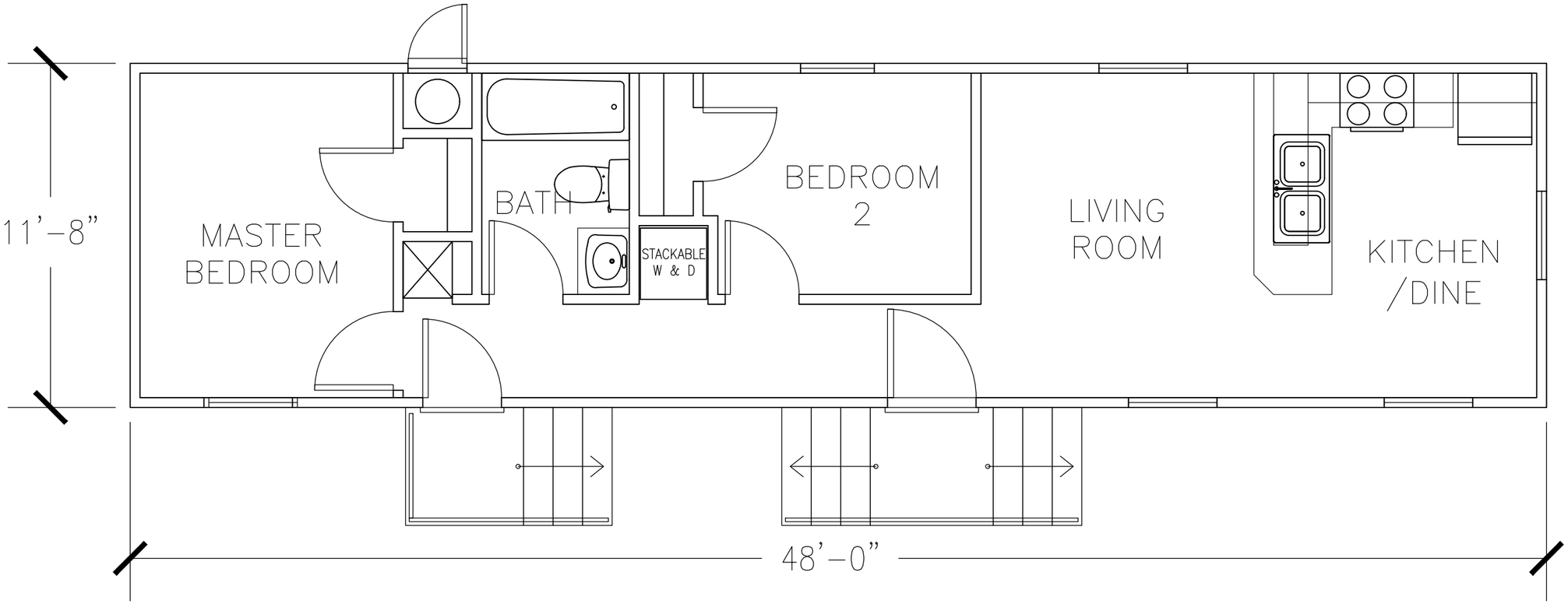
PRELIMINARY PLANS
NOT FOR CONSTRUCTION

CONCEPTUAL MANUFACTURED HOME FLOOR PLANS
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY SAN MATEO COUNTY CALIFORNIA

Revisions
No.

Date: 11/28/2023
Scale: AS NOTED
Design:
Dram: D. B.
Approved:
Job No:

Drawing Number:
MH1
1 OF 3



2-BEDROOM MANUFACTURED HOME

EXTERNAL MATERIALS:

- COMPOSITION SHINGLES
- FIBER CONCRETE SIDING/TRIM WITH HORIZONTAL OR BOARD & BATTEN PATTERN (PAINTED)
- SKIRTING TO MATCH SIDING (PAINTED)

0 4 8
1/4" = 1 FT

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

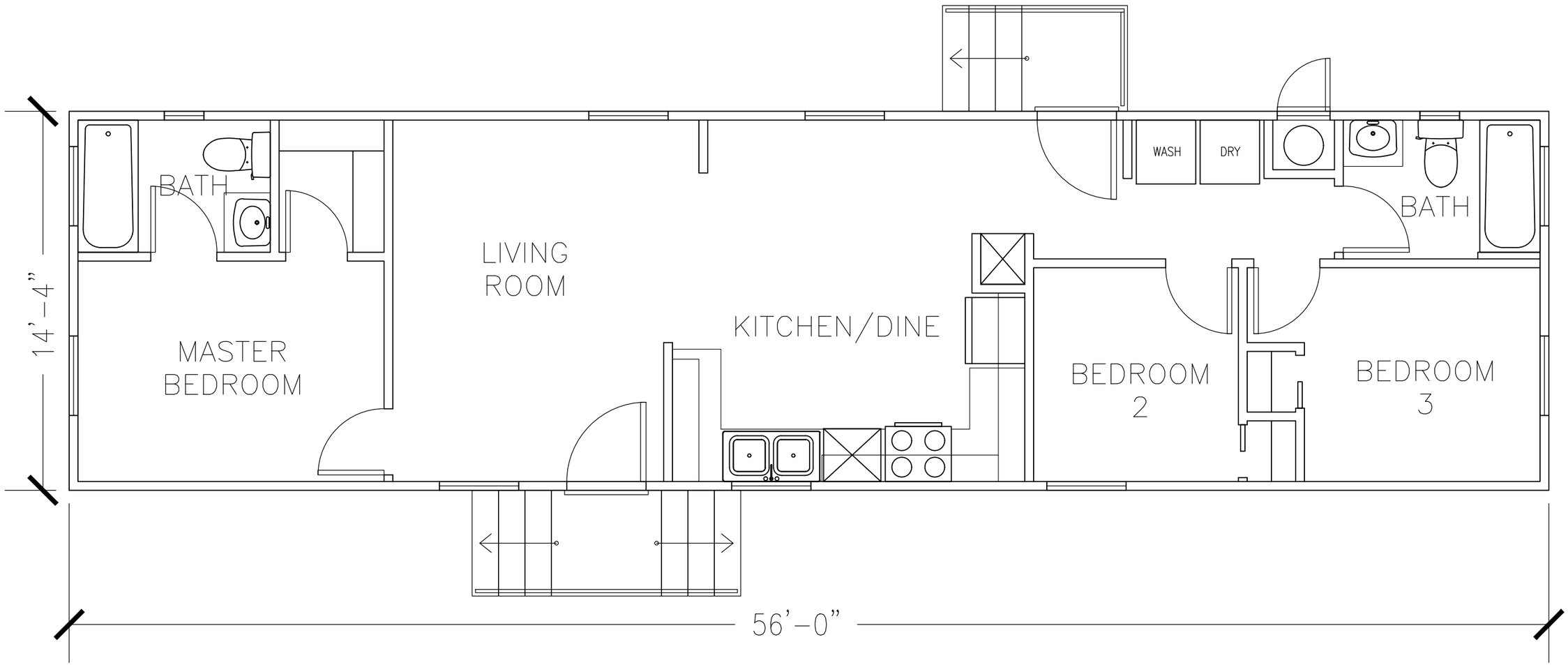
CONCEPTUAL MANUFACTURED HOME FLOOR PLANS
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY SAN MATEO COUNTY CALIFORNIA

Revisions

No.	

Date: 11/28/2023
Scale: AS NOTED
Design:
Drawn: D. B.
Approved:
Job No:

Drawing Number:
MH2
2 OF 3



3-BEDROOM MANUFACTURED HOME

EXTERNAL MATERIALS:

- COMPOSITION SHINGLES
- FIBER CONCRETE SIDING/TRIM WITH HORIZONTAL OR BOARD & BATTEN PATTERN (PAINTED)
- SKIRTING TO MATCH SIDING (PAINTED)

0 4 8

1/4" = 1 FT

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

CONCEPTUAL MANUFACTURED HOME FLOOR PLANS
STONE PINE COVE
880 STONE PINE ROAD
HALF MOON BAY, SAN MATEO COUNTY, CALIFORNIA

Revisions

No.					

Date: 11/28/2023
Scale: AS NOTED
Design:
Dram: D. B.
Approved:
Job No:

Drawing Number:
MH3
3 OF 3

From: Christina Alonso
To: John Doughty; Jill Ekas
Cc: Jessica Brinton-McBean
Subject: City of HMB Affordable Housing Archaeological Testing Results
Date: Thursday, November 30, 2023 3:42:41 PM
Attachments: 96FB9F999A7B42989BCB5C161780D4DB.png

[CAUTION]: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon John,

We wanted to provide you with a brief email summarizing the results of the archaeological testing effort for the City of HMB Affordable Housing Project.

Fieldwork was conducted in the project area on November 1 and 2 of 2023 by SWCA geoarchaeologist Jack Meyer, who meets or exceed the Secretary of the Interior-standards for the identification of prehistoric resources in California, and archaeologist Reid Donovan. The purpose and overall goals of this work were previously outlined by an approved research design in keeping with State CEQA guidelines. Trenching was supervised and monitored by the principal geoarchaeologist with competent person excavation safety certification, and project personnel did not physically enter any of the excavated trenches. The back dirt from each trench was consistently hand-raked and examined for archaeological materials during excavation, and the base and trench side walls were also closely examined when possible. Once completed, each trench was backfilled using the excavated back dirt to restore the surface grade.

The deposits exposed in the trenches consist mainly of relatively intact alluvial floodplain sediments that range from sand to clay in texture. The sandy alluvium is consistent with deposition in or near a formerly active stream channel, and the finer alluvium was formed by overbank deposition of sediments in a floodplain or basin setting. The alluvial deposits are consistently overlain by artificial fill composed of disturbed and/or imported materials, such as gravel, sand, and wood bark, which range from 0.3 to 0.9 meters (1 to 3 feet) in thickness. Since the entire parcel is covered by some amount of fill, it demonstrates why a normal archaeological surface survey would be inadequate and confirms the need for this type of exploratory study. These soils were closely examined for evidence of human activities, but no archaeological materials (i.e., bone, charcoal, shell, flaked stone, and heat-altered rock), features, or deposits were identified in any trenches excavated in the project parcel.

Based on these findings, it is unclear as to why the archaeological site was mapped in this location. A possible explanation is that the western part of the site was incorrectly mapped and is, instead, located further to the east.

If you have any questions, please feel free to reach out.

Christina Alonso
Senior Project Manager – Team Lead

SWCA Environmental Consultants
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October 25, 2023
BAGG Job No. COUSM-23-03

County of San Mateo
Department of Public Works
555 County Center, 5th Floor
Redwood City, CA 94063

c/o: Steven McGuckin, AIA
Capital Program Management, Inc

Geotechnical Review of Civil Drawings
SMC-HMB Farmworker Housing Project
880 Stone Pine Road
Half Moon Bay, San Mateo County, California

References:
1. Thirteen (13) sheets of civil drawings, titled *Stone Pine Cove, 880 Stone Pine Road, Half Moon Bay, San Mateo County, California,* prepared by BKF Engineers, dated 10/24/2023.
2. *Report, Geotechnical Engineering Investigation, SMC-HMB Farmworker Housing Project, 880 Stone Pine Road, Half Moon Bay, San Mateo County, California,* prepared by BAGG Engineers, dated August 23, 2023.

Dear Mr. McGuckin:

Per the request of the Project Civil Engineer (BKF Engineers), we have reviewed the civil drawings referenced above. The drawings have been reviewed based on the soils information and recommendations contained in our report as also referenced above.

It is our opinion the above-referenced civil plans have been prepared in general conformance with the intent of our recommendations. This opinion is contingent upon the geotechnical observation and testing by BAGG Engineers' field staff during site grading and subgrade preparation phases of the work to verify soil conditions are similar to those anticipated during design, and that the work in the field is performed as recommended and in accordance with the approved plans and specifications.

We trust this letter provides you with the information required at this time. If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,
BAGG Engineers

Jingqi Liu
Project Engineer

Jason Van Zwol
VP/Chief Engineer

REGISTERED PROFESSIONAL ENGINEER
JASON VAN ZWOL
No.854
Exp 6/30/24
GEOTECHNICAL
STATE OF CALIFORNIA



STONE PINE COVE TRANSPORTATION IMPACT ANALYSIS

NOVEMBER 2023

PREPARED FOR:

CITY OF HALF MOON BAY

DKS

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PREPARED BY DKS ASSOCIATES

Christine Bairan

Alexandra Haag

Erin Vaca

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INTRODUCTION

The City of Half Moon Bay is seeking to address the housing needs of its agricultural workforce and to replace substandard housing that has been lost due to recent events. The project proposed to meet these needs would consist of up to 50 mobile home units to be located on the City property at the eastern end of Stone Pine Road. The City's corporation yard facilities are co-located on the eastern half of the site.

This report presents an analysis of the potential traffic impacts that would be associated with the proposed project. The traffic study was completed in accordance with the criteria established by the City of Half Moon Bay and City/County Association of Governments of San Mateo County. This report documents analysis of the potential local transportation-related effects of the proposed project as well as consideration of potential VMT impacts. In addition to examining the operations at two study intersections, this study also addresses site access as well as bicycle and pedestrian access and safety.

PROJECT SETTING AND STUDY INTERSECTIONS

The proposed project consists of the construction of 50 mobile homes on an undeveloped parcel of land, to be co-located with the City's corporation yard. The project is located with State Route 92/San Mateo Road (SR-92) to the north, a residential neighborhood to the west, Pilarcitos Creek to the south, and commercial and agricultural uses to the east. Access to the residential project and the City's corporation yard would be provided via Stone Pine Road. Currently, there is no direct access to San Mateo Road/State Route 92 (SR-92) but there is an easement along the eastern edge of the property through which emergency vehicular access will be provided.

The project is located near downtown Half Moon Bay and would be within walking distance of many key destinations including Stone Pine Shopping Center, New Leaf Community Market, Half Moon Bay Pharmacy, Rite Aid, CVS, Safeway, and numerous restaurants.

The project site and study area boundary are illustrated in **Figure 1**, a project site plan is provided in **Figure 2**.



FIGURE 1: PROJECT SITE AND STUDY AREA

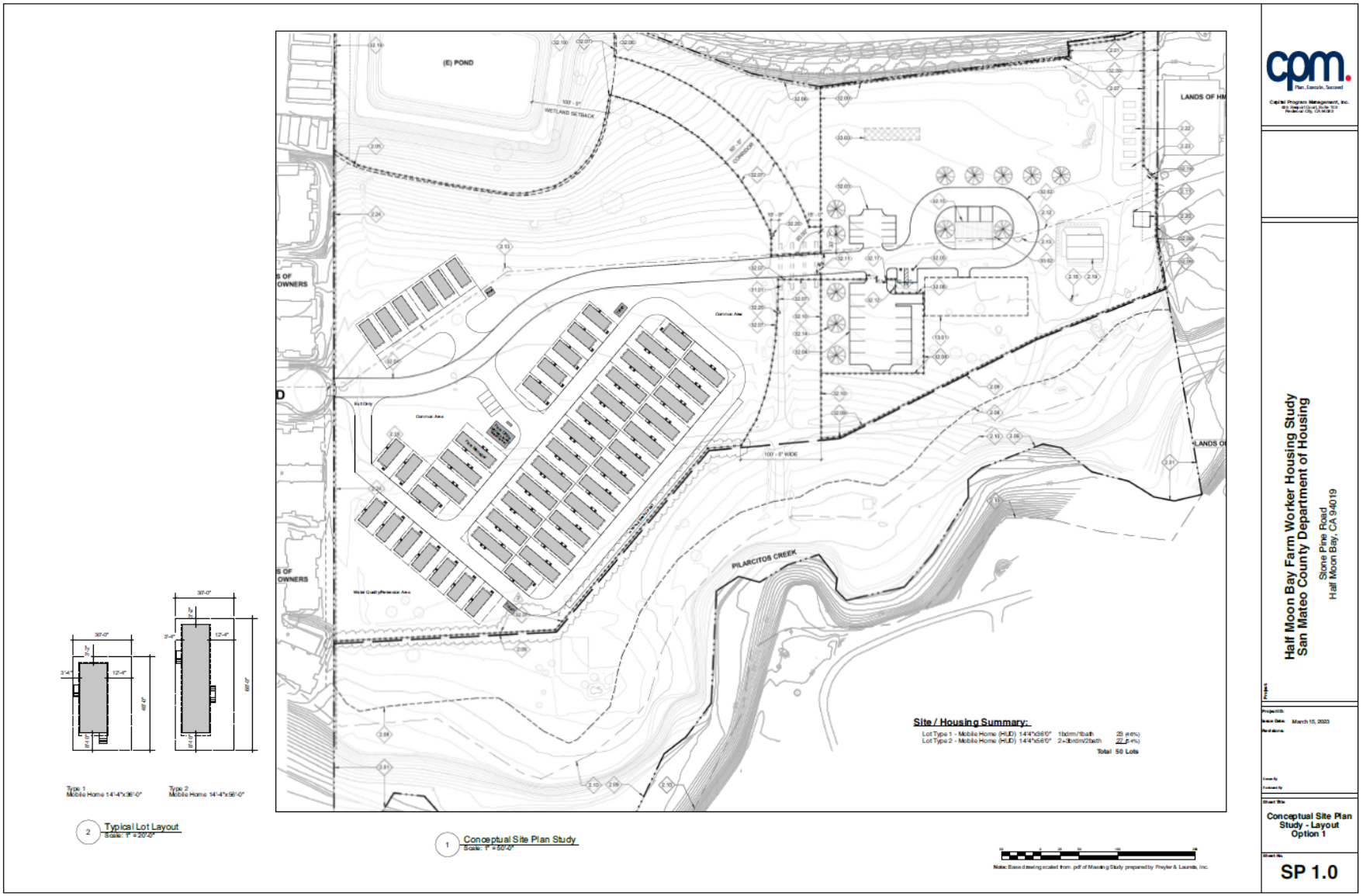


FIGURE 2: PROJECT SITE PLAN

STUDY INTERSECTIONS

The roadway network and study intersections are shown in **Figure 1**. This analysis will examine the project's potential effects on peak hour operations at two study intersections:

1. **SR-92 and Main Street** is a signalized, four-legged intersection with protected left-turn phasing on all approaches. Marked crosswalks and pedestrian signals are provided across every approach. This intersection is part of the County of San Mateo Congestion Management Program and is operated by Caltrans.

2. **Main Street and Stone Pine Road** is an all-way stop-controlled (AWSC), four-legged intersection. There are high-visibility crosswalks across the east and south approaches.

Crosswalks and sidewalks are generally provided within the study intersections and the study area. Bus stops are also located along SR-92 in both directions. A detailed description of the existing pedestrian and transit facilities is provided within the Existing Conditions Analysis.

STUDY ROADWAYS

SR-92 is a major east-west state highway that serves regional traffic between Highway 1, Interstate 280, the San Mateo Bridge and the City of Hayward. East of the study intersection, there is a raised median with one or two through lanes in each direction. Adjacent to the project site, the cross-section tapers to an undivided two-lane cross section with shoulders.

Main Street is a north-south arterial roadway that serves local circulation. This street has one travel lane in each direction with on street parking in some locations. Adjacent land uses include agricultural and local businesses, public facilities, commercial and residential. South of the Study Area, Main Street traverses the historic shopping district of Half Moon Bay, and the posted speed limit is 25 mph.

Stone Pine Road is a local east-west street that primarily provides access to residential properties as well as the Stone Pine Shopping Center. The street has one travel lane in each direction and a posted speed limit of 25 mph.

STUDY TIME PERIOD

Operating conditions during the weekday morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) as well as the Saturday midday (12:00 p.m. to 2:00 p.m.) peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the study road network. Turning movement intersection counts are provided in the **Appendix, Section 1**. Conditions during the weekday and Saturday midday peak hours were evaluated for the following scenarios:

- **Existing Conditions**: Existing peak hour volume, lane geometry, and traffic control
- **Existing plus Project Conditions**: Existing peak hour volumes plus net-new project-generated trips estimated for the proposed development.

DATA COLLECTION

Traffic volume data representative of a typical weekday was collected on Wednesday, May 17, 2023, while local schools were in session.

For the weekend analysis, counts collected in 2019 for another traffic study were used at the SR-92 and Main Street intersection[1]. Weekday volumes collected at this intersection in 2019 and 2023 were compared to assess if there was an increase in volume. Based on the weekday count comparison, using the 2019 weekend counts without adjustment was deemed to be the more conservative approach.

Weekend midday volumes entering and exiting Stone Pine Road and Main Street were estimated based on the tube counts collected for the speed study. The inbound and outbound trip distributions among these intersections were based on existing traffic patterns.

Vehicle speed data was collected along Stone Pine Road, east and west of Patrick Way. Twenty-four-hour tube counts were conducted on Wednesday, May 17, 2023, and Thursday, June 1, 2023, for weekday analysis, and on Saturday, June 3, 2023, for the weekend analysis. The vehicle speed data from May 17 was collected east of Patrick Way while the vehicle speed data from June 1 and June 3, 2023, was collected west of Patrick Way near the crosswalk east of Main Street.

EXISTING CONDITIONS

EXISTING INTERSECTION OPERATIONS

Intersection analyses were conducted using methodology outlined in the *Highway Capacity Manual 6th Edition* (HCM 6) and implemented in the Synchro 11 software package. This procedure calculates an average control delay per vehicle at an intersection and assigns a level of service designation based upon the delay. **Table 1** presents the level of service criteria for intersections in accordance with the HCM 6 methodology.

OPERATION ANALYSIS THRESHOLDS

The City of Half Moon Bay has established criteria to determine the level of significance of traffic impacts based on standards set by the City's *General Plan Circulation Element* (2013), and the *San Mateo County Congestion Management Program (CMP), Appendix L: Traffic Impact Analysis Policy*.

As the SR-92 and Main Street study intersection is within the CMP network, a project is considered to have an adverse impact on this intersection if it causes one or more of the following:

[1] Half Moon Bay Hyatt Place Project (2022).

TABLE 1: INTERSECTION LEVEL-OF-SERVICE AND AVERAGE DELAY

LEVEL OF SERVICE (LOS)	DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED	UNSIGNALIZED
A	< 10	< 10
B	> 10 and < 20	> 10 and < 15
C	> 20 and < 35	> 15 and < 25
D	> 35 and < 55	> 25 and < 35
E	> 55 and < 80	> 35 and < 50
F	> 80	> 50

Source: Highway Capacity Manual 6th Edition, Transportation Research Board.

- For a CMP intersection currently in compliance with the adopted LOS standard:
    - A project will be considered to have an adverse impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
    - A project will be considered to have an adverse impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP intersection operating at a level of service that violates the standard adopted in the current CMP AND the proposed project increases the average control delay at the intersection by four seconds or more.
- For a CMP intersection currently not in compliance with the adopted LOS standard, a project is considered to have an adverse impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP.

The City's policy has established that LOS C is the desired level of service at study intersections on SR-92, except during the peak two-hour commuting period and the peak recreational hour when LOS E is considered the minimum acceptable standard.

The City of Half Moon Bay does not have a formally adopted minimum threshold for unsignalized intersections. For this analysis, traffic effects are considered to be adverse if the addition of project-generated traffic causes operation of an unsignalized intersection to deteriorate from an acceptable LOS to LOS F, or queue lengths exceed storage lengths or spillback to impact nearby intersections.

EXISTING CONDITIONS ANALYSIS

The existing conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday morning and afternoon peak hours as well as the weekend midday peak hour.

Existing traffic operations have been calculated based on the lane configurations and traffic volumes shown in **Figure 3**. The results of the traffic operations and queuing analysis are summarized in **Table 2** and **Table 3**, respectively. Both study intersections currently operate acceptably during the weekday morning and afternoon as well as the weekend midday peak hours based on established performance standards. Detailed existing condition intersection analysis results may be found in the **Appendix, Section 2**. The signal timing worksheets used in the Synchro analysis are shown in the **Appendix, Section 3**.

Under existing conditions, queues at the SR-92 and Main Street intersection exceed available storage for the following movements:

- The eastbound left turn movement currently exceeds the available storage length during the weekday a.m. peak hour by 6 feet or less than one vehicle. Vehicles waiting to make an eastbound left turn movement may block one of the eastbound travel lanes.
- The westbound right turn movement currently exceeds the available storage length by 145 feet (approximately 6 vehicles) during the weekday afternoon peak hour and by 67 feet (approximately 3 vehicles) during the weekend midday peak hour. Vehicles making a westbound right turn at this intersection may block one of the westbound travel lanes.
- The northbound left turn movement currently exceeds the available storage length by 62 feet (approximately 3 vehicles) during the weekday afternoon peak hour and by 46 feet (approximately 2 vehicles) during the weekend midday peak hour. If the northbound left turn queue exceeds the available storage length, vehicles may be forced to stay in the two-way-center turn lane.
- The southbound left turn movement currently exceeds the available storage length by 77 feet (approximately 3 vehicles) during the weekday morning peak hour and by 48 feet (approximately 2 vehicles) during the weekend midday peak hour. Similarly, if the southbound left turn queue exceeds the available storage length, vehicles may be forced to wait in the two-way center turn lane.

Under existing conditions, queues do not exceed available storage at the Main Street and Stone Pine Road intersection.

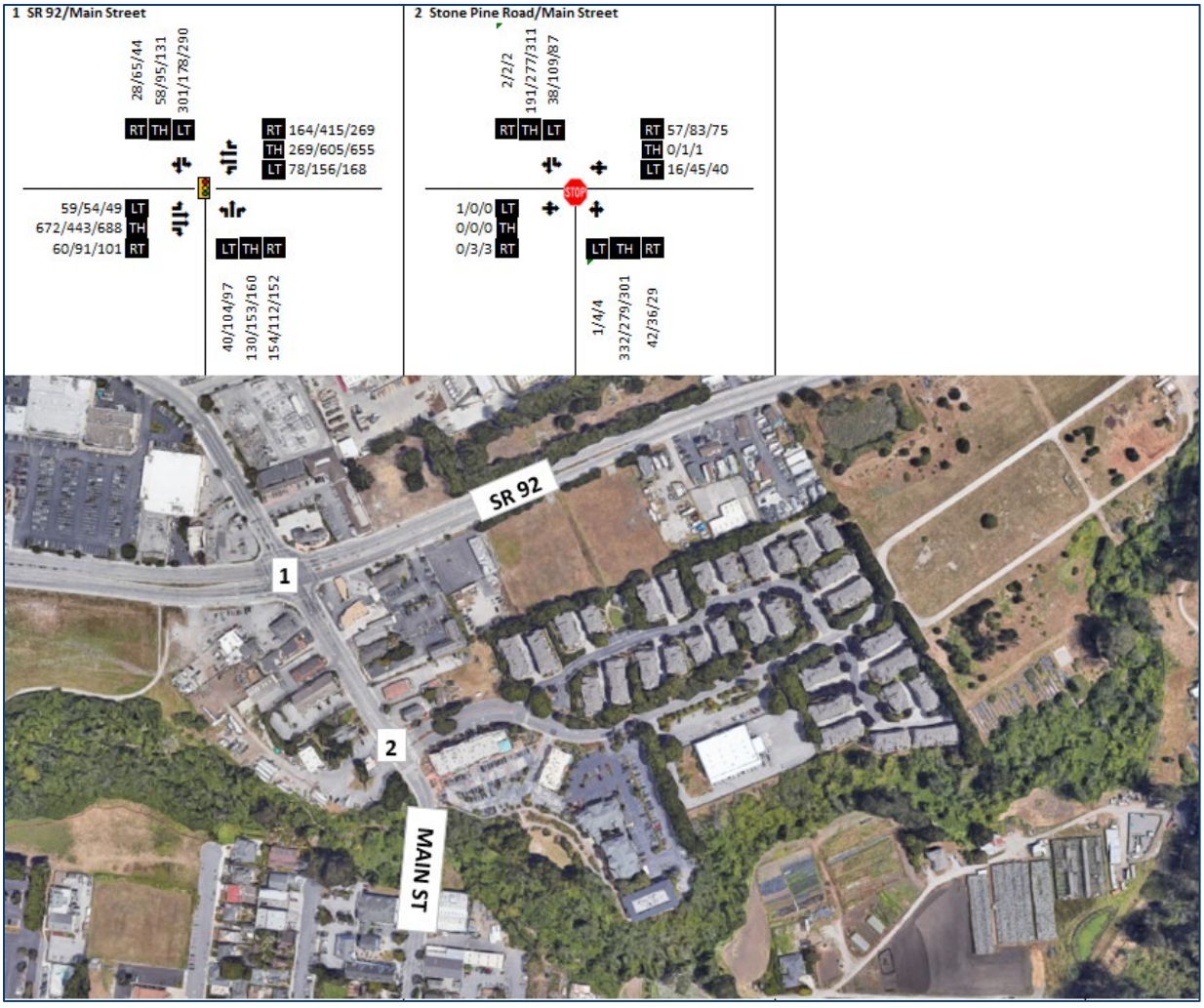


FIGURE 3: INTERSECTION GEOMETRY AND EXISTING WEEKDAY/WEEKEND VOLUMES

TABLE 2: EXISTING INTERSECTION DELAY AND LEVEL OF SERVICE

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR		WEEKEND PEAK HOUR	
	DELAY	LOS	DELAY	LOS	DELAY	LOS
SR-92 & MAIN STREET	44.6	D	38.3	D	42.6	D
MAIN STREET & STONE PINE ROAD	10.8	B	11.6	B	11.5	B

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service

Source: DKS Associates, 2023.

TABLE 3: EXISTING INTERSECTION 95TH PERCENTILE QUEUE LENGTHS

INTERSECTION/ MOVEMENT	TURN BAY LENGTH (FT)	AM PEAK HOUR	PM PEAK HOUR	WEEKEND PEAK HOUR
		QUEUE (FT)	QUEUE (FT)	QUEUE (FT)
SR-92 & MAIN STREET				
EBL	110	**116**	103	96
EBR		24	42	46
WBL	430	140	230	245
WBR	100	49	**245**	**167**
NBL	100	74	**162**	**146**
NBR		62	59	64
SBL	340	**417**	238	**388**
SBT/R		111	197	222
MAIN STREET & STONE PINE ROAD				
NBL/T/R		73	65	63
EBL/T/R		0	0	0
SBL	100	5	18	13
SBT/R		30	58	63
WBL/T/R		10	20	15

Note: Lengths shown in **bold** exceed storage.

Source: DKS Associates, 2023.

EXISTING ACTIVE TRANSPORTATION AND TRANSIT

PEDESTRIAN FACILITIES

Pedestrian facilities in the study area include sidewalks, crosswalks, pedestrian signal phases, curb ramps, and various streetscape amenities such as lighting and benches. A network of sidewalks, crosswalks, pedestrian signals and curb ramps provides access for pedestrians in the project vicinity, primarily along Main Street.

State Route 92 (SR-92). A continuous sidewalk is provided along the north side of SR-92 between Main Street and SR-1, and along the south side of SR-92 approximately 330 ft west of Main Street. Crosswalks are provided at nearby signalized intersections.

Main Street. Sidewalks are provided along both sides of Main Street with curb ramps and overhead lighting at intersections between SR-92 and Half Moon Bay's downtown. Crosswalks are also provided at the Main Street intersections with SR-92 and Stone Pine Road.

Stone Pine Road. Sidewalks are provided along the southern side of Stone Pine Road between Main Street and the western edge of the property. Crosswalks are provided at Main Street and Patrick Way. The ramp on the north side of crosswalk at Stone Pine Road and Patrick Way is not built to current design standards.

BICYCLE FACILITIES

Within the vicinity of the project area, there are on-street bike lanes (Class II facilities) on Main Street north of the SR-92 intersection, but no facilities south of the intersection. There are no bike facilities on Stone Pine Road or SR-92. The proposed project does not provide direct access to the bicycle network, but is within 0.5 mile of the Naomi Partridge Trail, a Class I shared use path which travels north-south adjacent to Highway 1 within Half Moon Bay. This path could be accessed by travelling north via Main Street. The existing bicycle network is illustrated in **Figure 4** and the complete bicycle map may be found in **Appendix, Section 4**.

TRANSIT FACILITIES

SamTrans provides multiple fixed-route bus services in the City of Half Moon Bay. Routes 117 and 294 operate daily and Route 18 operates only on school days. All three routes have stops in Half Moon Bay primarily along SR-1, Main Street, and SR-92.

Route 117 (Linda Mar Park & Ride - Moonridge Apartments) operates daily between Linda Mar Park-and-Ride in Pacifica and Miramontes Point Road along SR-1 in Half Moon Bay, with limited service to the town of Pescadero. Service is provided from 5 a.m. to 9 p.m. on weekdays and 5 a.m. and 8 p.m. on weekends. Headways are approximately 1 hour on both weekends and weekdays.

Route 18 operates on school days only and provides service between the town of Montara and the Moonridge Apartments in Half Moon Bay via SR-1 and Main Street. During the mornings, the northbound service departs from the Moonridge Apartments at 7:27 a.m. and 8:06 a.m. while the southbound service departs from Montara at 7:28 a.m., 7:29 a.m. In the afternoons, the northbound service departs at 3:03 p.m., 4:03 p.m. and 4:34 p.m. while the southbound service departs at 2:37 p.m., 3:37 p.m. and 4:18 p.m.

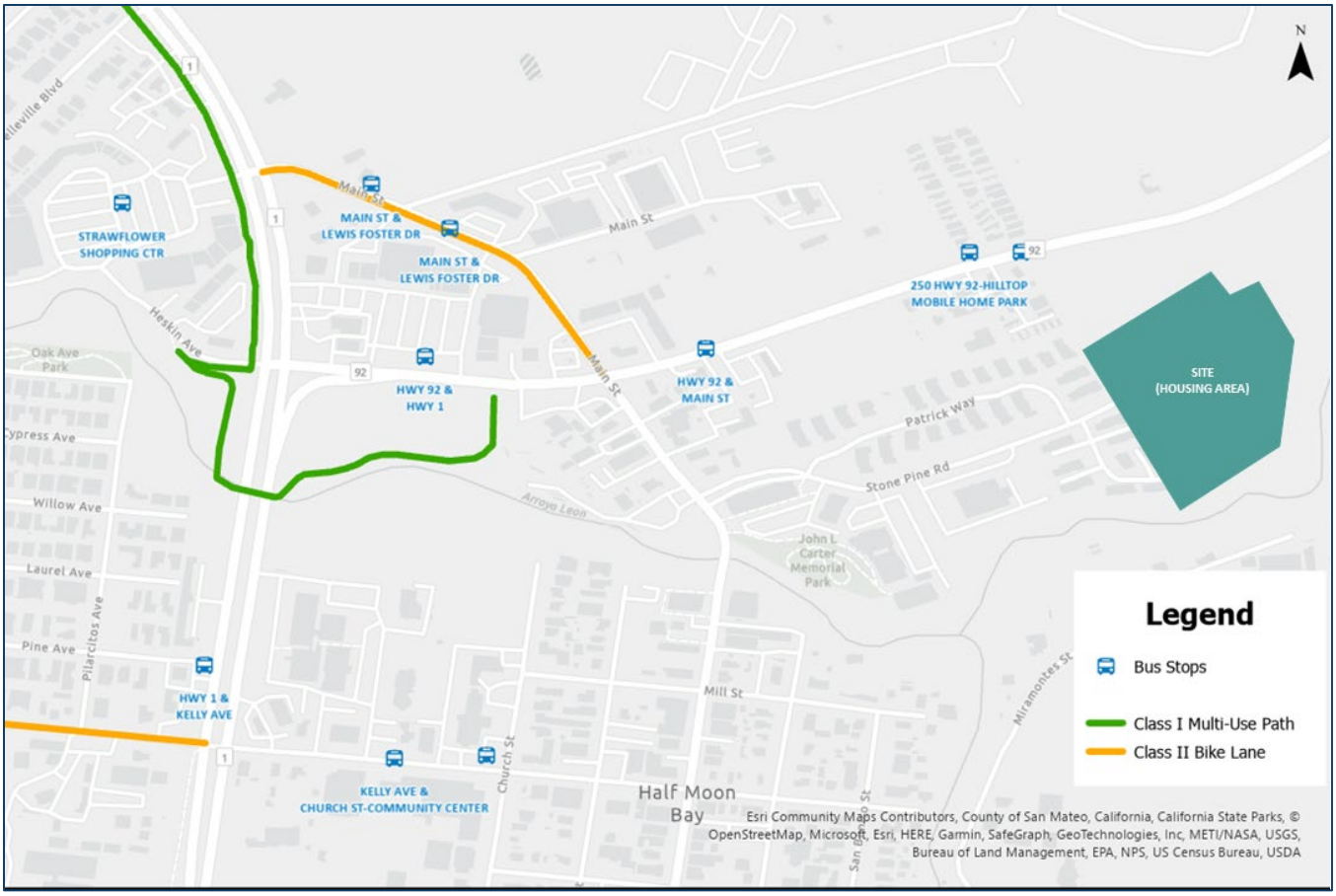


FIGURE 4: EXISTING BICYCLE, AND TRANSIT FACILITIES

Route 294 operates daily from approximately 5:00 a.m. to 9:00 p.m., with headways ranging from one to two hours. Route 294 connects Half Moon Bay with the San Mateo Medical Center with stops along Main Street and SR-92. The existing bus stops near the study site are illustrated in **Figure 4**.

SPEED ANALYSIS AND TRAFFIC CALMING ON STONE PINE ROAD

Vehicle speed data was collected along Stone Pine Road, east and west of Patrick Way. Twenty-four-hour tube counts were conducted on two midweek days (Wednesday and Thursday) as well as the weekend (Saturday) at the locations illustrated in **Figure 5**. As previously mentioned, the vehicle speed data observed on May 17, 2023, was collected east of Patrick Way while the vehicle speed data observed on June 1 and June 3, 2023, was collected west of Patrick Way near the crosswalk east of Main Street. See the **Appendix, Section 5** for a full summary of the collected speed data.

The midweek twenty-four-hour tube counts recorded 3,700 vehicles west of Patrick Way on Stone Pine Road, and 1,400 vehicles east of Patrick Way. Peak hour volumes west of Patrick Way were 350 vehicles at 1:00 p.m., and 167 vehicles at 3:00 p.m. east of Patrick Way. The weekend twenty-four hour tube counts recorded 2,900 vehicles west of Patrick Way on Stone Pine Road,

with the peak hour volume of 305 vehicles recorded at 11:00 a.m. Traffic volume hourly trends on Stone Pine Road west of Patrick Way on collected on weekday and weekday dates are illustrated in **Figure 6**. The count data sheets are provided in the **Appendix, Section 5**.



FIGURE 5: SPEED STUDY LOCATIONS

Results of the vehicle speed data study are summarized in **Table 4**. Comparing the average and 85th percentile observed speeds to the posted speed limit of 25 mph, excessive speeding was not common on either data collection date on Stone Pine Road.

TABLE 4: SPEED DATA (MAY 17, 2023 AND JUNE 1, 2023)

LOCATION	SPEED DATA (MPH)				
	COLLECTION DATE	DAY OF WEEK	POSTED SPEED	AVERAGE SPEED	85TH PERCENTILE SPEED
1. STONE PINE ROAD EAST OF PATRICK WAY	May 17, 2023	Wednesday	25	19	23
2. STONE PINE ROAD WEST OF PATRICK WAY	June 1, 2023	Thursday	25	19	24

Source: DKS Associates, 2023

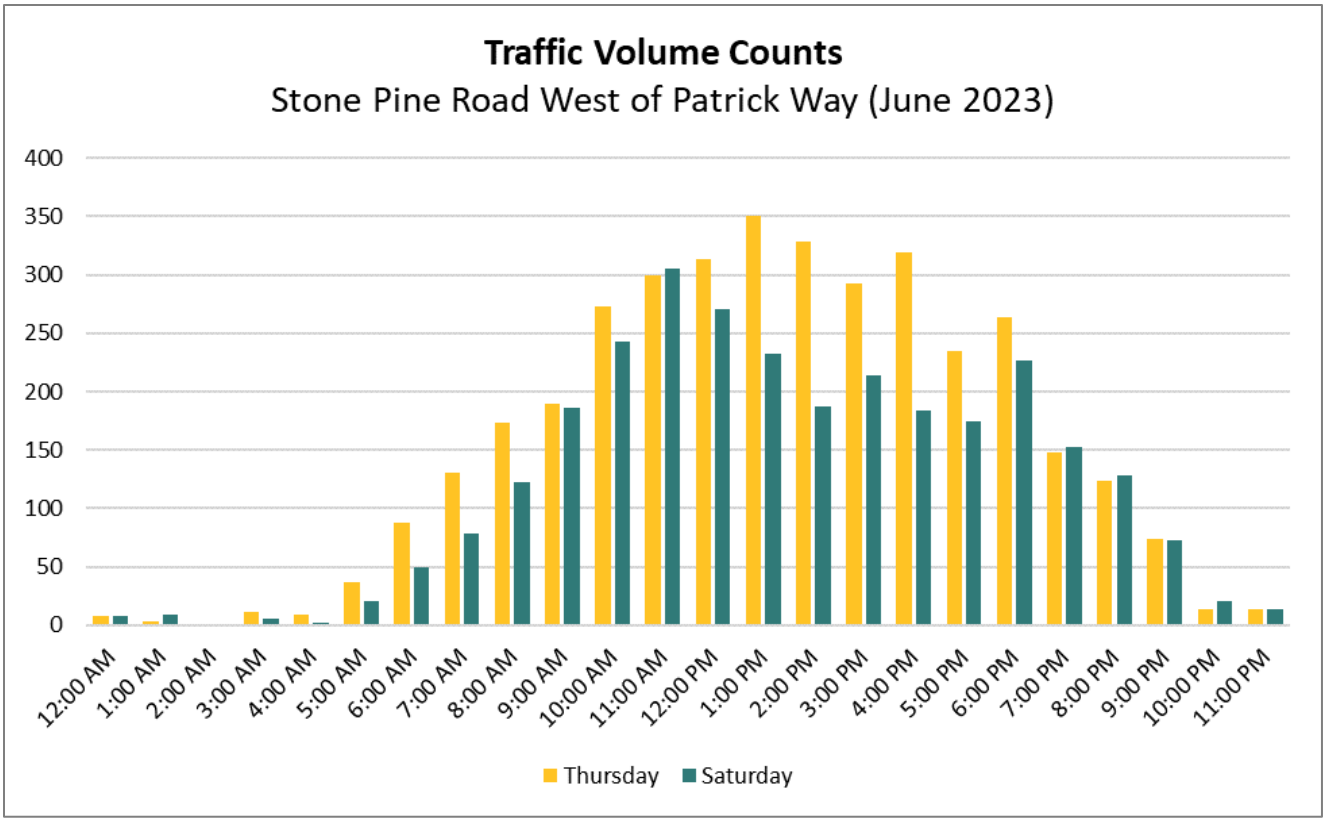


FIGURE 6: TRAFFIC VOLUME PATTERNS ON STONE PINE ROAD WEST OF PATRICK WAY

PROJECT TRAVEL CHARACTERISTICS

PROJECT TRIP GENERATION

Anticipated trip generation for the proposed project was estimated using the average rate published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual, 11th Edition for* "Mobile Home Park" (ITE LU #240).

The resulting expected trip generation potential for the proposed project is indicated in **Table 5**. The project is expected to generate an average of 356 trips per day, including 26 trips during the weekday morning peak hour, 43 trips during the weekday afternoon peak hour and 32 trips on the weekend midday peak hour.

The trip generation analysis accounted for the trips associated with the corporation yard that is currently under construction. Based on discussions with City staff, there are seven employees who typically arrive at the project site before the morning peak hour and depart in city-owned vehicles during the morning peak hour. Then, employees typically return during the afternoon peak hour to retrieve their personal vehicles. These trips have been added to the project-generated traffic by adding seven outbound trips to the morning peak hour, and seven inbound and outbound (14 total) during the afternoon peak hour.

TABLE 5: VEHICLE TRIP GENERATION
ITE CODE 240, MOBILE HOME PARK

TRIP TYPE AND RATE PER DWELLING UNIT	TRIPS ENTERING	TRIPS EXITING	TOTAL TRIPS
DAILY TRIPS (RATE)	178	178	356 [a]
AM PEAK HOUR (RATE)	4	22	26
PM PEAK HOUR (RATE)	25	18	43
WEEKEND PEAK HOUR (RATE)	17	15	32

Source: Institute of Transportation Engineers Trip Generation, 11th edition (itetripgen.org)

TRIP DISTRIBUTION

Project trip distribution for peak hours was based on existing travel patterns identified through the turning movement counts. Weekday peak hour distribution is illustrated in **Figure 7** and **Figure 8**.

EXISTING PLUS PROJECT CONDITIONS

Existing plus project condition intersection analysis results are summarized in this section with analysis details in the **Appendix, Section 6**. Project trips, as shown in **Figure 9**, were developed from the site trip generation and the trip distribution described in the previous section. Existing plus project traffic volumes are shown in **Figure 10**. Traffic operations under the existing plus project condition are summarized in **Table 5**. Consistent with the existing conditions, both study intersections will continue to operate acceptably during the weekday and weekend peak hours.

The queuing analysis summarized in **Table 6**, is also generally consistent with the existing conditions. The only movement where an increase in queue length was seen was the northbound left turn movement at SR-92 and Main Street, which increases by about three feet in both the weekday afternoon and the weekend midday peak hours.

With the development of the project, there is no change in the number of vehicles that would exceed available storage lengths compared to existing conditions for all peak hours. Therefore, the queuing impact of the proposed development is expected to be minimal.

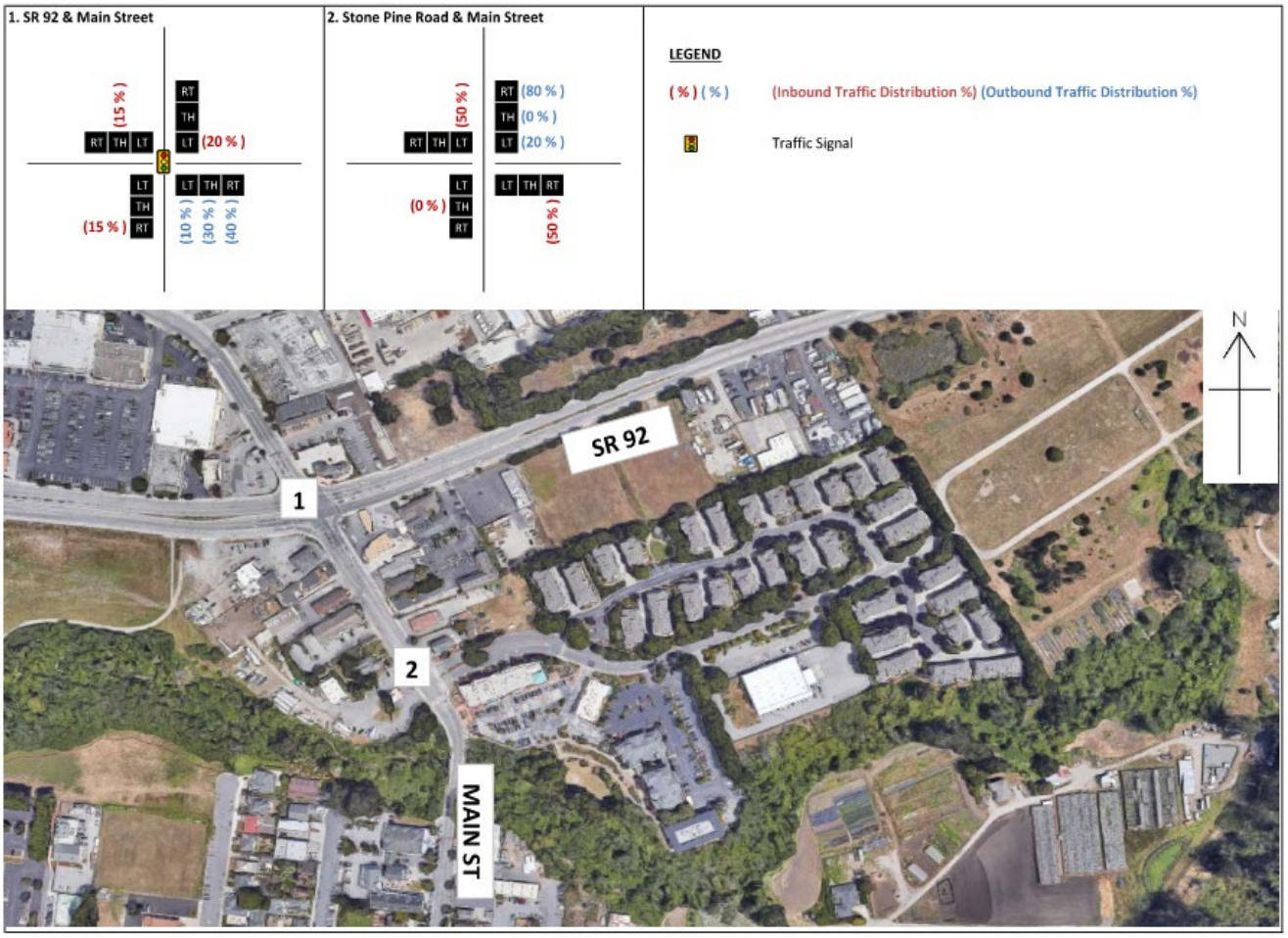


FIGURE 7: PROJECT A.M. TRIP DISTRIBUTION

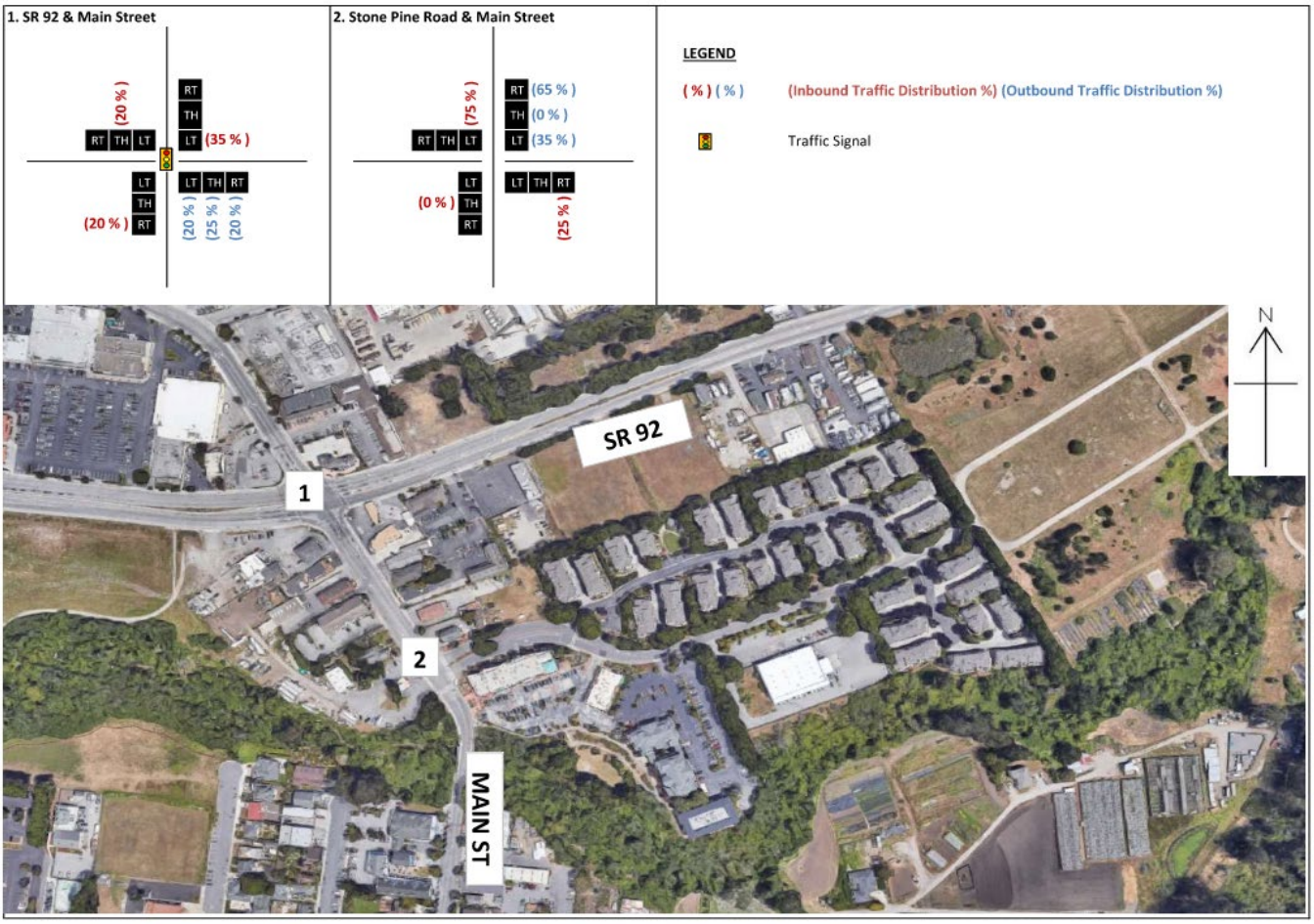


FIGURE 8: PROJECT P.M. TRIP DISTRIBUTION



FIGURE 9: PROJECT SITE TRIP VOLUMES

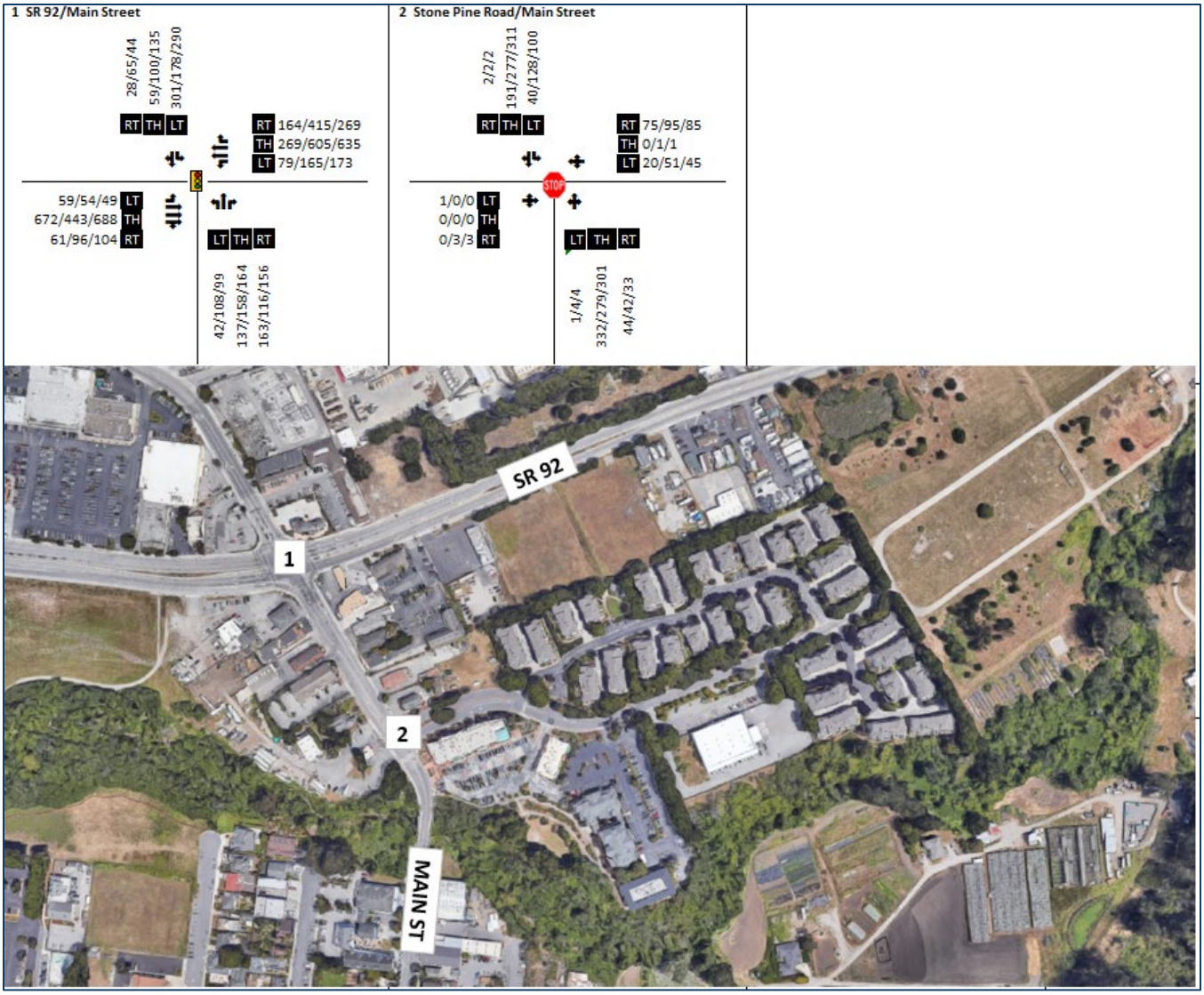


FIGURE 10: EXISTING PLUS PROJECT TRAFFIC VOLUMES

TABLE 5: INTERSECTION OPERATING CONDITIONS WITH PROJECT

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR		WEEKEND PEAK HOUR	
	DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS	DELAY (SECONDS)	LOS
1. SR-92 & MAIN STREET	45.1	D	38.9	D	42.9	D
2. MAIN STREET & STONE PINE ROAD	11.0	B	11.8	B	11.7	B

Source: DKS Associates, 2023

TABLE 6: INTERSECTION OPERATING CONDITIONS WITH PROJECT - 95TH PERCENTILE QUEUE LENGTHS

INTERSECTION/ MOVEMENT	TURN BAY LENGTH (FT)	AM PEAK HOUR	PM PEAK HOUR	WEEKEND PEAK HOUR
		QUEUE (FT)	QUEUE (FT)	QUEUE (FT)
SR-92 & MAIN STREET				
EBL	110	**116**	103	96
EBR		25	44	47
WBL	430	140	241	251
WBR	100	49	**246**	**167**
NBL	100	78	**167**	**149**
NBR		64	59	64
SBL	340	**417**	238	**388**
SBT/R		113	204	228
MAIN STREET & STONE PINE ROAD				
NBL/T/R		75	70	65
EBL/T/R		0	0	0
SBL	100	5	23	15
SBT/R		30	60	63
WBL/T/R		13	25	20

Note: Lengths shown in **bold** exceed storage.

Source: DKS Associates, 2023.

SIGNAL WARRANT ANALYSIS

A preliminary traffic signal warrant analysis was performed to determine if the Main Street and Stone Pine Road intersection would meet the thresholds to warrant a traffic signal with the existing plus project traffic conditions. For this preliminary signal warrant study, data were available to examine Warrants 2, and 3 (Four-Hour Vehicular Volume, and Peak Hour) from the 2014 California Manual of Uniform Traffic Devices (CA MUTCD). Neither Warrant 2 nor Warrant 3 are met under existing plus project traffic conditions. Full details of the preliminary signal warrant study can be found in **Appendix, Section 7**.

SITE CIRCULATION AND ACCESS

As shown in the site plan, access to the proposed project would be located along the western edge of the property via Stone Pine Road. There are three driveways that serve as access points for residential housing. It is noted that the driveway closest to the direct access point on Stone Pine Road serves as an exit-only driveway.

Within the vicinity of the proposed project, sidewalks are only provided on the south side of Stone Pine Road between the western edge of the property and Main Street, providing access to the Stone Pine shopping plaza. The commercial plaza, which includes a pharmacy, a coffee shop, and restaurants, is less than a quarter mile away from the proposed project along Stone Pine Road.

Due to the low volumes entering and exiting Stone Pine Road along Main Street, the crosswalks across Stone Pine Road at Main Street and Patrick Way are adequate, as motorists are expected to come to a full-stop at the all-way stop-controlled intersection. Additionally, the average and 85th percentile speed along Stone Pine Road does not exceed the posted speed limit. There is, however, community concern regarding the crosswalk across Stone Pine Road at west Patrick Way. This crosswalk is used by most of the existing neighborhood residents to reach the shopping center and points beyond on foot. The 880 Stone Pine Road project presents an opportunity to consider traffic calming and pedestrian infrastructure improvements in the neighborhood (see Potential Traffic Calming Improvements, below).

POTENTIAL DIRECT ACCESS TO SR-92

The project site includes emergency access to SR-92 through an easement along the eastern edge of the property. The possibility of adding another driveway access point from SR-92 that directly serves the residential complex was also examined, including the option for an SR-92 driveway to replace vehicular access from Stone Pine Road. Provision of a regular access point from SR-92 would be subject to several constraints, pertaining to constructability, cost, safety, environmental considerations, and operational feasibility, all of which would negatively affect the feasibility of such an access point.

- Environmental constraints, topography, and access spacing related to adjacent site access limit the potential locations for providing an access point to the site via SR-92. The grade differential between SR-92 and the project site presents a challenge in finding a suitable location for a

driveway that would not require significant grading, which restricts possible driveway locations. The slope or grade of a driveway has a direct impact on maneuverability, as driveways with steep slopes can cause vehicles to scrape their undercarriages, necessitating a slow speed transition. The maximum recommended slope for a driveway on a major arterial is 6 percent[2]. Potential driveway locations are constrained by on-site environmental conditions, such as the pond located on the western edge of the project site, as well as the existing Frog Corridor. The Frog Corridor, in the context of the California Environmental Quality Act (CEQA), refers to a designated area or habitat crucial for the conservation and protection of frogs and other amphibians. The potential impact of a driveway on these corridors would need careful evaluation and mitigation, which limits how far west along the project frontage an additional driveway can be located.

- The existing driveways located adjacent to the eastern project frontage also impose a constraint on potential driveway locations. Appropriate distances between driveways along SR-92 should be maintained for the safety of both the mainline and drivers entering and exiting the access points. Sufficient access spacing is necessary to ensure proper separation between crossing, stopping, and turning movements, avoiding overlaps that could create conflict points, and the addition of new driveways without adequate spacing increases the potential for conflicts and collisions.
- A full-movement unsignalized site access on SR-92 is not advisable due to the number of additional conflicts points it would create on a state highway facility. Conflict points refer to locations where the travel paths of different vehicles may legally cross.
- If full-movement access on SR-92 were to be provided, signalization would be the preferred control measure from a safety perspective. However, it would not be preferable from an operational standpoint. A full signal with proper geometric upgrades including right-turn tapers and left-turn pockets would require additional right-of-way acquisition and earthwork in addition to geometric upgrades and signal installation due to the terrain adjacent to SR-92. While a signalized access with proper left-turn storage lanes and suitable pedestrian-cycling crossing treatments could offer a safer option for full-movement site access, the associated costs and operational considerations make signalization prohibitive for the project.
- In addition to the geometric upgrades that would be required, signalization of a full movement access on SR-92 is generally not supported from an operations standpoint as it would negatively impact traffic flow and operations due to increased congestion and delays caused by the introduction of signal cycles, as well as its spacing from other existing signals. Signalization would resolve issues for this development; however, it would cause impacts to the rest of the travelling public on SR-92.
- A restricted movement access, such as right-in, right-out only, would be a safer alternative to an unsignalized full-movement access as this would reduce the complexity of driving conditions and minimize conflicts between through vehicles and turning vehicles. However, this would not efficiently serve the needs of the project traffic.
- The implementation of any additional signalization on SR-92 would require multijurisdictional coordination involving local, regional, and state agencies. Caltrans, which is responsible for enhancing and maintaining the State Highway System, aims to minimize the number of

[2] Transportation Research Board Access Management Manual, 2nd Edition

connection points on freeways and expressways to protect access control rights. Introducing a new driveway on SR-92 does not align with the general objectives of access management and would necessitate coordination among various agencies. This coordination process would lead to delays and complications for the project.

VEHICLE MILES TRAVELED

The California Environmental Quality Act (CEQA) Guidelines Section 15064.3 states that a project's potential effects on VMT must be examined. The proposed project is intended to allow agricultural workers of modest income to live relatively near to their workplaces rather than potentially commuting into Half Moon Bay from greater distances. The proposed project is located within the City's Town Center area and within walking distance of retail and service opportunities, which will also tend to reduce VMT.

In addition, this agricultural worker housing project was analyzed as part of the City's currently ongoing Housing Element update. In aggregate, the planned additional housing units, including those in this project, result in a Year 2040 citywide VMT per capita that is lower than 85% of the baseline VMT per capita in the Coastside region. Although a threshold of significance has not been formally adopted, the Housing Element analysis supports the proposition that the project will have less than significant VMT impacts.

POTENTIAL TRAFFIC CALMING IMPROVEMENTS

Although speeds are not typically high on Stone Pine Road, there is community concern, especially around the Patrick Way crosswalk. The addition of the 880 Stone Pine Road project is an opportunity to implement traffic calming options for the neighborhood such as rectangular rapid flashing beacons (RRFB), raised crosswalks, speed cushions, and chicanes. The project civil engineer, BKF Engineers, along with DKS and city staff have jointly prepared a recommended program of traffic calming and active transportation infrastructure improvements that can be considered for implementation in concert with the proposed project. This program of improvements will help manage the additional vehicle traffic associated with the project while providing improved pedestrian access in the neighborhood.

A wide variety of potential improvements were reviewed by the project team. The package of improvements recommended for immediate implementation alongside the project includes those improvements that are both feasible and will have the greatest impact. Additional improvements may be considered in the future if traffic conditions remain a neighborhood concern and as funding becomes available.

The recommended improvements include:

- Addition of a crosswalk sign with a Rectangular Rapid Flashing Beacon (RRFB) at the west Patrick Way crosswalk.

- Edge line striping and sharrows (bicycle route pavement markers) on Stone Pine Road between the project driveway and the west Patrick Way crosswalk.
- Vegetation trimming at the west Patrick Way crosswalk to improve sight lines.
- Speed feedback messaging signs on Stone Pine Road midway between the east and west Patrick Way intersections (one in eastbound and one in westbound direction); and
- A crosswalk, new ADA-compliant ramps, and landings at the east Patrick Way intersection with Stone Pine Road.

This program of improvements is estimated to cost $225,000. Planning level cost estimates and a conceptual diagram may be found in the **Appendix, Section 8**.

SUMMARY OF FINDINGS

This transportation impact assessment assessed the potential traffic and circulation effects associated with the proposed project. Key findings are summarized below.

- Under existing conditions both study intersections operate acceptably during the weekday morning, weekday afternoon and weekend midday peak hours based on established performance thresholds.
- Under existing conditions, all intersections are operating at LOS D or better during both weekday and weekend peak hours. The SR-92 and Main Street intersection is operating at LOS D in the weekday morning peak hour, and LOS D in the weekday afternoon peak hour.
- The project site is served by adequate pedestrian, cycling and transit facilities. Sidewalks connect the project site to key destinations in the area such as the Stone Pine shopping center and bus stops, and pedestrian crossing treatments are provided at both study intersections.
- Vehicle speed data collected on Stone Pine Road did not indicate that high vehicle travel speeds are common at the locations surveyed.
- With the addition of site-generated traffic, both study intersections are expected to continue to operate at acceptable levels of service. Significant increases in queuing are not expected at the study intersections with the addition of site-generated traffic.
- A preliminary traffic signal warrant analysis did not indicate that a traffic signal was warranted at the Main Street and Stone Pine Road intersection.
- While the proposed site already includes emergency access to SR-92 through an easement along the eastern edge of the property, the possibility of adding another driveway access point that directly serves the residential complex was also examined. This option is not recommended due to significant challenges related to constructability, cost, safety, environmental considerations, and operational feasibility.
- The project is expected to have less than significant VMT impacts.
- Although high vehicles travel speeds are not common on Stone Pine Road, traffic calming measures and pedestrian improvements are recommended to address neighborhood concerns about increased vehicular traffic and to improve the pedestrian experience.

APPENDIX

DKS

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SECTION 7. SIGNAL WARRANT RESULTS

SECTION 8. TRAFFIC CALMING AND PEDESTRIAN INFRASTRUCTURE IMPROVEMENTS

SECTION 1. INTERSECTION TURNING MOVEMENT COUNT DATA SHEETS

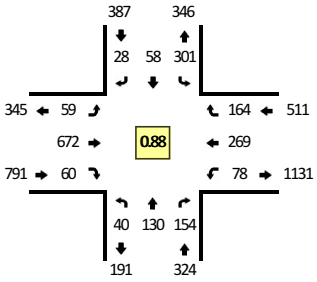
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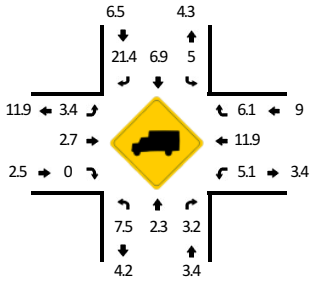
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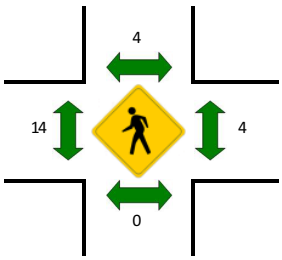
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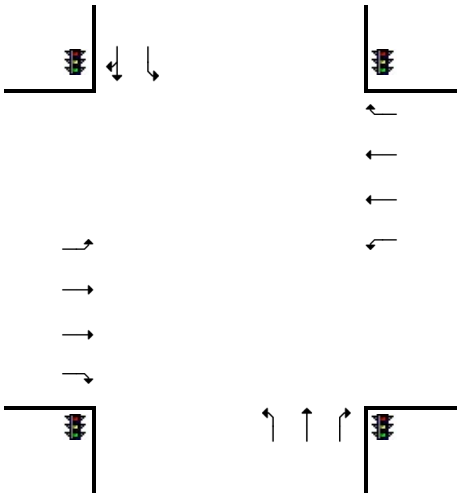
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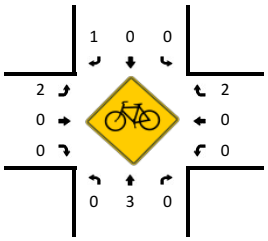
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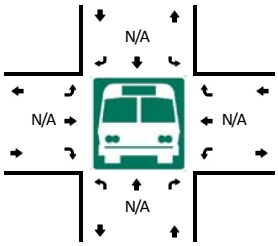


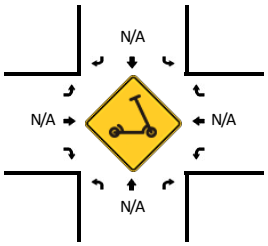












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				San Mateo Rd (Eastbound)				San Mateo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	3	8	0	35	3	0	0	0	40	7	1	1	16	16	0	132	
7:05 AM	3	4	7	0	34	12	2	0	1	67	3	2	1	9	10	0	155	
7:10 AM	4	4	9	0	34	6	2	0	0	41	4	1	3	15	10	0	133	
7:15 AM	2	3	12	0	40	2	4	0	3	42	3	0	7	18	18	2	156	
7:20 AM	4	4	8	0	31	5	1	0	0	57	8	1	2	24	11	0	156	
7:25 AM	3	6	13	0	40	6	3	0	0	75	5	1	4	23	12	0	191	
7:30 AM	3	2	16	0	33	4	1	0	0	81	3	1	12	23	16	1	196	
7:35 AM	1	7	7	0	43	6	1	0	1	73	5	0	10	17	16	1	188	
7:40 AM	2	8	17	0	31	4	2	0	2	41	4	0	1	27	19	1	159	
7:45 AM	2	8	6	0	21	6	2	0	3	46	7	0	7	21	10	0	139	
7:50 AM	8	11	11	0	21	8	2	0	4	51	6	3	7	35	25	0	192	
7:55 AM	5	14	11	0	25	4	3	0	4	41	4	0	6	12	12	0	141	1938
8:00 AM	2	12	13	0	16	5	3	0	9	39	6	2	9	41	11	0	168	1974
8:05 AM	3	21	14	0	13	5	1	0	7	48	5	0	4	19	10	0	150	1969
8:10 AM	3	23	26	0	15	4	3	0	15	46	1	0	10	9	13	1	169	2005
8:15 AM	4	14	12	0	11	1	6	1	6	74	6	0	1	18	9	1	164	2013
8:20 AM	3	24	6	0	16	4	8	1	5	52	5	0	3	12	13	0	152	2009
8:25 AM	9	10	11	0	14	5	6	0	2	54	8	1	6	22	11	0	159	1977
8:30 AM	8	14	8	0	17	14	3	0	4	20	7	0	11	24	21	0	151	1932
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8:45 AM	8	20	11	0	15	12	3	0	3	38	10	1	9	13	13	0	156	1852
8:50 AM	3	9	10	0	6	10	4	0	5	28	17	0	6	15	5	0	118	1778
8:55 AM	2	9	3	0	7	11	1	0	3	21	13	3	1	14	14	0	102	1739

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
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All Vehicles	28	60	144	0	464	64	20	0	4	916	52	8	104	252	176	8	2300
Heavy Trucks	0	4	12		16	16	0		0	16	0		4	44	12		124
Buses																	
Pedestrians		0				8				12				8			28
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

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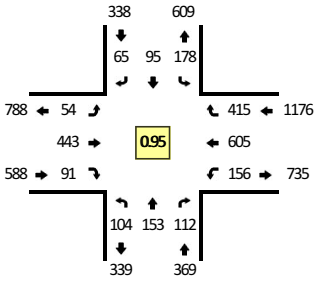
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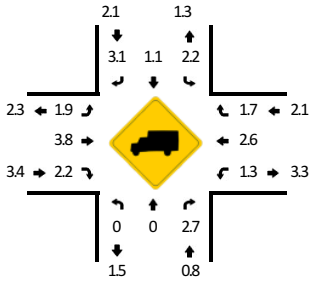
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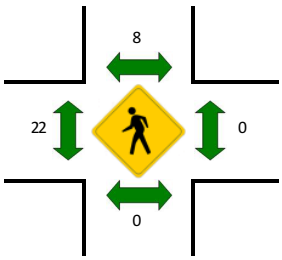
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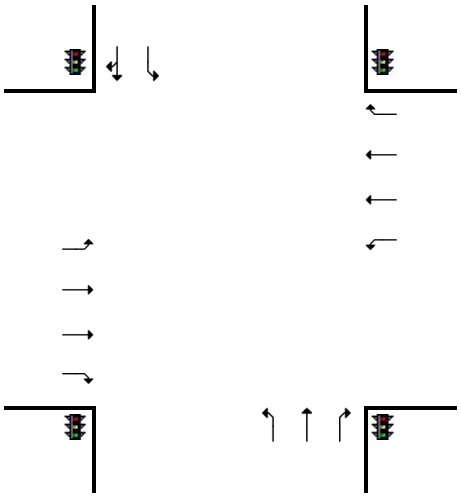
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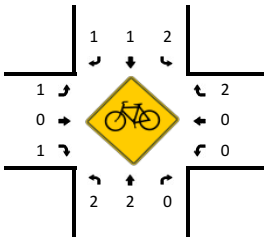
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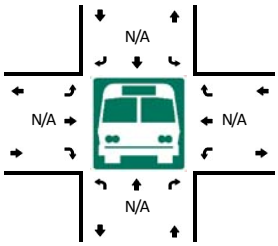


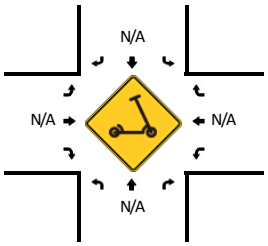












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				San Mateo Rd (Eastbound)				San Mateo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	12	10	0	17	8	6	0	3	58	7	2	16	51	28	0	229	
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4:10 PM	8	14	9	0	18	6	6	0	4	46	14	2	12	44	20	0	203	
4:15 PM	7	10	10	0	9	7	10	1	2	57	8	4	12	49	44	0	230	
4:20 PM	6	9	10	0	19	11	7	1	2	33	15	1	15	57	30	0	216	
4:25 PM	9	13	6	0	11	9	3	0	2	32	7	0	9	40	21	0	162	
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5:20 PM	8	6	14	0	19	14	7	0	3	39	11	0	22	66	36	0	245	2462
5:25 PM	6	10	8	0	17	6	8	0	4	28	9	3	11	27	29	0	166	2466
5:30 PM	10	20	8	0	12	5	1	0	3	31	1	0	12	48	32	3	186	2442
5:35 PM	6	11	8	0	12	12	2	0	1	30	1	1	12	43	44	0	183	2412
5:40 PM	12	18	8	0	12	7	5	0	3	27	4	2	11	62	33	0	204	2414
5:45 PM	5	21	9	0	11	2	4	0	7	26	7	1	10	36	36	0	175	2397
5:50 PM	7	17	11	0	10	6	1	0	9	34	9	0	14	54	29	1	202	2399
5:55 PM	7	16	7	0	9	2	6	0	6	32	6	0	10	37	31	0	169	2368

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	84	132	116	0	184	96	92	8	32	544	148	28	156	600	376	0	2596
Heavy Trucks	0	0	0		4	0	8		0	20	0		4	24	16		76
Buses																	
Pedestrians		0				16				16				0			32
Bicycles	0	4	0		4	0	0		0	0	4		0	0	4		16
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

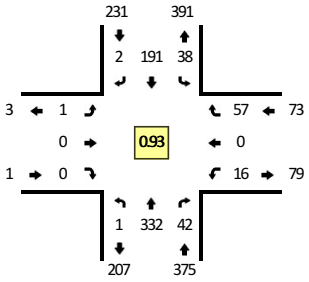
Type of peak hour being reported: Intersection Peak

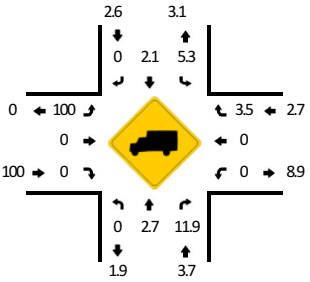
Method for determining peak hour: Total Entering Volume

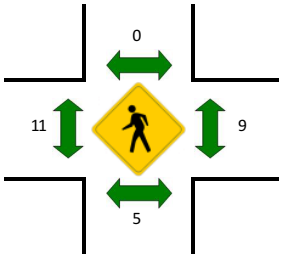
LOCATION: Main St -- Produce Shop Dwy/Stone Pine Rd
CITY/STATE: Half Moon Bay, CA

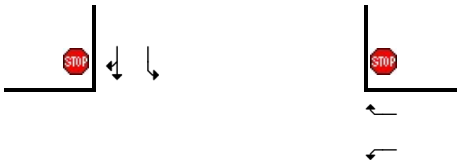
QC JOB #: 16189904
DATE: Wed, May 17 2023

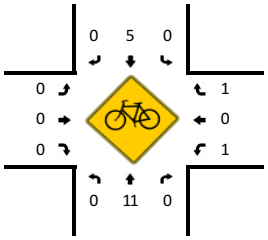
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

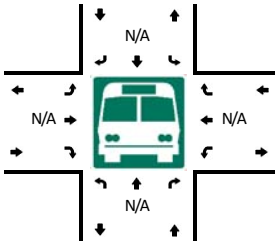




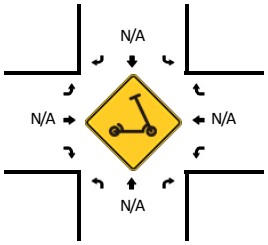












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				Produce Shop Dwy/Stone Pine Rd (Eastbound)				Produce Shop Dwy/Stone Pine Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	8	3	0	7	3	0	0	0	0	0	0	3	0	7	0	31	
7:05 AM	0	11	1	0	5	8	0	1	0	0	0	0	1	0	2	0	29	
7:10 AM	0	13	0	0	4	9	0	0	0	0	0	0	0	0	6	0	32	
7:15 AM	0	12	1	0	4	7	0	0	0	0	0	0	2	0	5	0	31	
7:20 AM	0	15	1	0	4	5	0	0	0	0	0	0	1	0	1	0	27	
7:25 AM	0	15	1	0	5	12	0	0	0	0	0	0	3	0	6	0	42	
7:30 AM	0	16	1	0	6	14	0	0	0	0	0	0	2	0	3	0	42	
7:35 AM	0	14	1	0	2	17	0	0	0	0	0	0	3	0	5	0	42	
7:40 AM	0	18	3	0	1	8	1	0	0	0	1	0	1	0	5	0	38	
7:45 AM	0	18	2	0	4	14	0	0	0	0	0	0	2	0	1	0	41	
7:50 AM	0	26	3	0	0	19	0	0	0	0	0	0	2	0	6	0	56	
7:55 AM	0	20	6	0	1	15	0	0	0	0	0	0	1	0	6	0	49	460
8:00 AM	0	25	1	0	6	18	0	0	0	0	0	0	0	0	5	0	55	484
8:05 AM	0	36	2	0	2	13	0	0	0	0	0	0	1	0	2	0	56	511
8:10 AM	0	54	2	0	1	9	1	0	0	0	0	0	3	0	2	0	72	551
8:15 AM	0	29	7	0	5	9	0	0	0	0	0	0	0	0	5	0	55	575
8:20 AM	0	34	3	0	1	4	0	0	0	0	0	0	1	0	5	0	48	596
8:25 AM	1	20	3	0	3	16	0	0	0	0	0	0	1	0	2	0	46	600
8:30 AM	0	28	4	0	0	26	1	0	0	0	0	0	1	0	5	0	65	623
8:35 AM	0	14	3	0	3	18	0	0	0	0	0	0	2	0	5	0	45	626
8:40 AM	0	27	5	0	8	21	0	0	1	0	0	0	1	0	5	0	68	656
8:45 AM	0	19	3	0	7	23	0	1	0	0	0	0	3	0	9	0	65	680
8:50 AM	0	14	1	0	5	23	0	1	0	0	0	0	3	0	3	0	50	674
8:55 AM	0	10	3	0	6	9	0	0	0	0	0	0	2	0	6	0	36	661

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	460	20	0	36	160	4	0	0	0	0	0	16	0	36	0	732
Heavy Trucks	0	8	0		0	4	0		0	0	0		0	0	0		12
Buses																	
Pedestrians		0				0				16				12			28
Bicycles	0	16	0		0	4	0		0	0	0		4	0	0		24
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

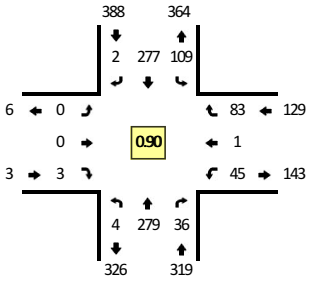
Type of peak hour being reported: Intersection Peak

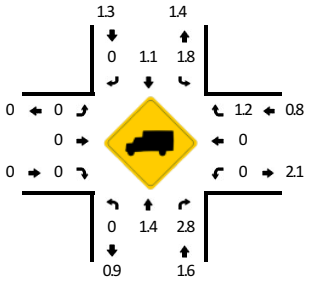
Method for determining peak hour: Total Entering Volume

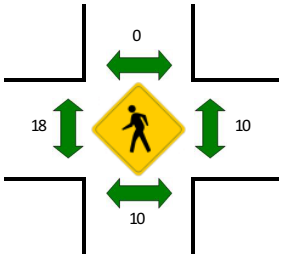
LOCATION: Main St -- Produce Shop Dwy/Stone Pine Rd
CITY/STATE: Half Moon Bay, CA

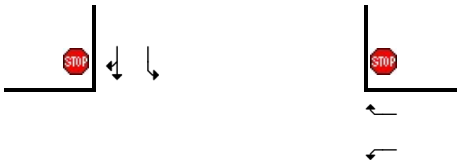
QC JOB #: 16189905
DATE: Wed, May 17 2023

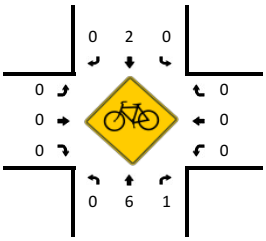
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

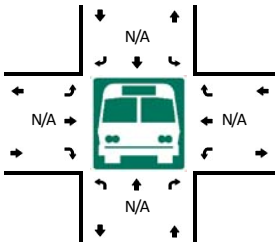




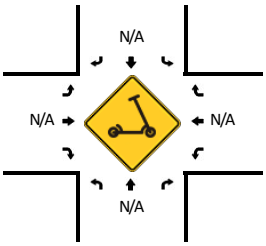












5-Min Count Period Beginning At	Main St (Northbound)				Main St (Southbound)				Produce Shop Dwy/Stone Pine Rd (Eastbound)				Produce Shop Dwy/Stone Pine Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	21	6	0	6	25	1	0	0	0	1	0	4	0	11	0	75	
4:05 PM	1	19	5	0	7	24	1	0	0	0	1	0	5	0	16	0	79	
4:10 PM	0	21	3	0	11	20	0	0	0	0	1	0	1	0	5	0	62	
4:15 PM	0	17	3	0	7	26	0	0	0	0	0	0	2	0	9	0	64	
4:20 PM	0	22	2	0	10	33	0	0	0	0	0	0	5	0	6	0	78	
4:25 PM	0	19	4	0	6	21	0	1	0	0	0	0	2	0	8	0	61	
4:30 PM	0	23	3	0	8	24	0	0	0	0	0	0	4	0	10	0	72	
4:35 PM	0	28	4	0	4	18	0	0	0	0	0	0	3	0	6	0	63	
4:40 PM	0	23	4	0	12	25	1	0	0	0	0	0	4	0	7	0	76	
4:45 PM	2	26	4	0	12	21	1	0	0	0	1	0	3	0	5	0	75	
4:50 PM	0	13	3	0	3	15	0	1	0	0	0	0	4	0	7	0	46	
4:55 PM	0	13	2	0	10	22	0	0	0	0	0	0	4	0	6	0	57	808
5:00 PM	0	26	4	0	11	26	0	0	0	0	0	0	3	0	9	0	79	812
5:05 PM	1	30	1	0	13	23	0	0	0	0	1	0	4	0	6	0	79	812
5:10 PM	0	30	3	0	6	25	0	0	0	0	0	0	5	1	4	0	74	824
5:15 PM	0	28	2	0	8	21	0	1	0	0	0	0	5	0	8	0	73	833
5:20 PM	0	20	2	1	11	33	0	0	0	0	1	0	4	0	5	0	77	832
5:25 PM	0	19	4	0	9	24	0	0	0	0	0	0	2	0	10	0	68	839
5:30 PM	0	19	7	0	5	12	0	0	0	0	0	0	5	0	9	0	57	824
5:35 PM	0	23	1	0	8	24	0	0	0	0	0	0	2	0	6	0	64	825
5:40 PM	0	22	2	0	10	18	0	1	0	0	0	0	1	0	12	0	66	815
5:45 PM	0	22	3	0	8	14	0	0	0	0	0	0	4	0	7	0	58	798
5:50 PM	0	32	5	0	7	22	0	0	0	0	0	0	3	0	7	0	76	828
5:55 PM	0	19	1	0	8	17	0	0	0	0	0	0	2	0	7	0	54	825

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	344	32	0	120	296	0	0	0	0	4	0	48	4	76	0	928
Heavy Trucks	0	12	0		4	4	0		0	0	0		0	0	0		20
Buses																	
Pedestrians		20				0				12				16			48
Bicycles	0	12	0		0	0	0		0	0	0		0	0	0		12
Scooters																	

Comments:

Report generated on 5/25/2023 3:47 PM

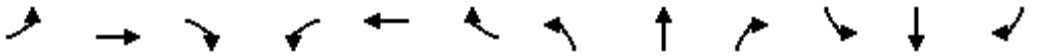
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

SECTION 2. EXISTING CONDITIONS OPERATIONAL ANALYSIS REPORTS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	764	68	89	306	186	45	148	175	342	98
v/c Ratio	0.61	0.47	0.09	0.65	0.19	0.23	0.23	0.70	0.53	0.90	0.25
Control Delay	91.3	32.1	4.5	87.1	24.9	4.7	60.2	80.6	13.3	81.8	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	32.1	4.5	87.1	24.9	4.7	60.2	80.6	13.3	81.8	39.8
Queue Length 50th (ft)	65	266	0	86	88	0	41	143	0	325	65
Queue Length 95th (ft)	116	411	24	140	148	49	74	197	62	417	111
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1646	781	157	1642	804	330	348	431	439	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.46	0.09	0.57	0.19	0.23	0.14	0.43	0.41	0.78	0.22

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	672	60	78	269	164	40	130	154	301	58	28
Future Volume (vph)	59	672	60	78	269	164	40	130	154	301	58	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1688	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1688	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	764	68	89	306	186	45	148	175	342	66	32
RTOR Reduction (vph)	0	0	37	0	0	95	0	0	155	0	12	0
Lane Group Flow (vph)	67	764	31	89	306	91	45	148	20	342	86	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	3%	3%	3%	6%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.3	68.6	68.6	13.1	73.4	73.4	17.1	17.1	17.1	33.7	33.7	
Effective Green, g (s)	8.3	68.6	68.6	13.1	73.4	73.4	17.1	17.1	17.1	33.7	33.7	
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.49	0.49	0.11	0.11	0.11	0.22	0.22	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	96	1602	717	144	1620	701	199	210	174	382	379	
v/s Ratio Prot	c0.04	c0.22		c0.05	0.09		0.03	c0.08		c0.20	0.05	
v/s Ratio Perm			0.02			0.06			0.01			
v/c Ratio	0.70	0.48	0.04	0.62	0.19	0.13	0.23	0.70	0.11	0.90	0.23	
Uniform Delay, d1	69.6	28.2	22.5	66.0	21.6	20.9	60.4	64.0	59.7	56.4	47.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.3	1.0	0.1	5.5	0.3	0.4	0.2	8.5	0.1	22.0	0.1	
Delay (s)	85.9	29.3	22.6	71.5	21.8	21.3	60.6	72.5	59.8	78.5	47.6	
Level of Service	F	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		33.0			29.2			65.0			71.6	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	16	0	57	1	332	42	38	191	2
Future Vol, veh/h	1	0	0	16	0	57	1	332	42	38	191	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	4	4	4	3	3	3
Mvmt Flow	1	0	0	17	0	61	1	357	45	41	205	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

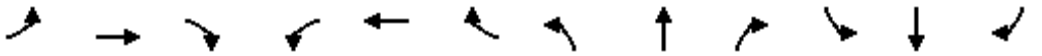
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.8	8.7	12	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	22%	100%	0%
Vol Thru, %	89%	0%	0%	0%	99%
Vol Right, %	11%	0%	78%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	375	1	73	38	193
LT Vol	1	1	16	38	0
Through Vol	332	0	0	0	191
RT Vol	42	0	57	0	2
Lane Flow Rate	403	1	78	41	208
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.502	0.002	0.109	0.063	0.291
Departure Headway (Hd)	4.485	5.755	4.99	5.552	5.042
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	802	619	716	645	712
Service Time	2.513	3.817	3.037	3.284	2.774
HCM Lane V/C Ratio	0.502	0.002	0.109	0.064	0.292
HCM Control Delay	12	8.8	8.7	8.7	9.8
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	2.9	0	0.4	0.2	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	466	96	164	637	437	109	161	118	187	168
v/c Ratio	0.53	0.28	0.12	0.76	0.33	0.47	0.55	0.77	0.42	0.59	0.52
Control Delay	84.8	28.5	6.4	85.1	23.3	12.5	72.4	87.2	13.8	62.6	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.8	28.5	6.4	85.1	23.3	12.5	72.4	87.2	13.8	62.6	52.3
Queue Length 50th (ft)	55	160	0	158	206	114	103	155	0	158	122
Queue Length 95th (ft)	103	237	42	230	291	245	162	228	59	238	197
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	133	1648	788	330	1916	936	337	354	393	416	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.28	0.12	0.50	0.33	0.47	0.32	0.45	0.30	0.45	0.40

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	443	91	156	605	415	104	153	112	178	95	65
Future Volume (vph)	54	443	91	156	605	415	104	153	112	178	95	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1770	3539	1513	1787	1881	1573	1770	1721	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1770	3539	1513	1787	1881	1573	1770	1721	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	466	96	164	637	437	109	161	118	187	100	68
RTOR Reduction (vph)	0	0	51	0	0	118	0	0	105	0	17	0
Lane Group Flow (vph)	57	466	45	164	637	319	109	161	13	187	151	0
Confl. Peds. (#/hr)	8					8	22					22
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.2	69.9	69.9	18.9	80.6	80.6	16.8	16.8	16.8	26.9	26.9	
Effective Green, g (s)	8.2	69.9	69.9	18.9	80.6	80.6	16.8	16.8	16.8	26.9	26.9	
Actuated g/C Ratio	0.05	0.47	0.47	0.13	0.54	0.54	0.11	0.11	0.11	0.18	0.18	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	95	1633	730	223	1901	812	200	210	176	317	308	
v/s Ratio Prot	c0.03	0.13		c0.09	0.18		0.06	c0.09		c0.11	0.09	
v/s Ratio Perm			0.03			c0.21			0.01			
v/c Ratio	0.60	0.29	0.06	0.74	0.34	0.39	0.55	0.77	0.08	0.59	0.49	
Uniform Delay, d1	69.3	24.7	22.0	63.1	19.6	20.4	63.0	64.7	59.6	56.5	55.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	0.4	0.2	10.3	0.5	1.4	1.6	13.9	0.1	1.8	0.4	
Delay (s)	75.9	25.1	22.2	73.5	20.1	21.8	64.6	78.6	59.7	58.3	55.8	
Level of Service	E	C	C	E	C	C	E	E	E	E	E	
Approach Delay (s)		29.3			27.7			68.9			57.1	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	45	1	83	4	279	36	109	277	2
Future Vol, veh/h	0	0	3	45	1	83	4	279	36	109	277	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	2	2	2	1	1	1
Mvmt Flow	0	0	3	50	1	92	4	310	40	121	308	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

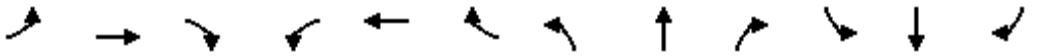
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.5	9.9	12.3	11.6
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	100%	0%
Vol Thru, %	87%	0%	1%	0%	99%
Vol Right, %	11%	100%	64%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	319	3	129	109	279
LT Vol	4	0	45	109	0
Through Vol	279	0	1	0	277
RT Vol	36	3	83	0	2
Lane Flow Rate	354	3	143	121	310
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.477	0.005	0.213	0.192	0.448
Departure Headway (Hd)	4.84	5.444	5.346	5.712	5.203
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	737	661	665	624	688
Service Time	2.908	3.444	3.429	3.484	2.974
HCM Lane V/C Ratio	0.48	0.005	0.215	0.194	0.451
HCM Control Delay	12.3	8.5	9.9	9.9	12.2
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.6	0	0.8	0.7	2.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	717	105	175	682	280	101	167	158	302	182
v/c Ratio	0.51	0.49	0.15	0.74	0.38	0.33	0.43	0.68	0.46	0.85	0.49
Control Delay	85.7	37.0	7.0	80.1	26.9	13.6	63.8	75.0	11.8	78.2	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	37.0	7.0	80.1	26.9	13.6	63.8	75.0	11.8	78.2	53.5
Queue Length 50th (ft)	49	278	0	166	224	71	94	161	0	276	144
Queue Length 95th (ft)	96	402	46	245	326	167	146	226	64	388	222
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1529	744	245	1782	846	333	351	420	416	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.14	0.71	0.38	0.33	0.30	0.48	0.38	0.73	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Future Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1532	1770	1863	1546	1770	1779	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1532	1770	1863	1546	1770	1779	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	717	105	175	682	280	101	167	158	302	136	46
RTOR Reduction (vph)	0	0	62	0	0	76	0	0	137	0	9	0
Lane Group Flow (vph)	51	717	43	175	682	204	101	167	21	302	173	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.5	61.6	61.6	20.8	74.9	74.9	19.8	19.8	19.8	30.3	30.3	
Effective Green, g (s)	7.5	61.6	61.6	20.8	74.9	74.9	19.8	19.8	19.8	30.3	30.3	
Actuated g/C Ratio	0.05	0.41	0.41	0.14	0.50	0.50	0.13	0.13	0.13	0.20	0.20	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	88	1453	650	245	1767	764	233	245	204	357	359	
v/s Ratio Prot	c0.03	c0.20		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.01			
v/c Ratio	0.58	0.49	0.07	0.71	0.39	0.27	0.43	0.68	0.10	0.85	0.48	
Uniform Delay, d1	69.7	32.7	26.8	61.8	23.3	21.7	59.9	62.1	57.3	57.6	52.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.2	0.2	8.0	0.6	0.9	0.5	6.1	0.1	16.0	0.4	
Delay (s)	75.3	33.9	27.0	69.7	23.9	22.5	60.4	68.2	57.4	73.6	53.3	
Level of Service	E	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		35.5			30.6			62.3			66.0	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	40	1	75	4	301	29	87	311	2
Future Vol, veh/h	0	0	3	40	1	75	4	301	29	87	311	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	42	1	78	4	314	30	91	324	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.4	9.6	11.9	11.7
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	34%	100%	0%
Vol Thru, %	90%	0%	1%	0%	99%
Vol Right, %	9%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	3	116	87	313
LT Vol	4	0	40	87	0
Through Vol	301	0	1	0	311
RT Vol	29	3	75	0	2
Lane Flow Rate	348	3	121	91	326
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.462	0.005	0.179	0.142	0.466
Departure Headway (Hd)	4.78	5.379	5.324	5.652	5.144
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	748	669	668	632	698
Service Time	2.837	3.379	3.4	3.412	2.903
HCM Lane V/C Ratio	0.465	0.004	0.181	0.144	0.467
HCM Control Delay	11.9	8.4	9.6	9.4	12.4
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.5	0	0.6	0.5	2.5

SECTION 3. SIGNAL TIMING SHEETS

Location: N. MAIN STREET & RTE 92 | **Designed By:**

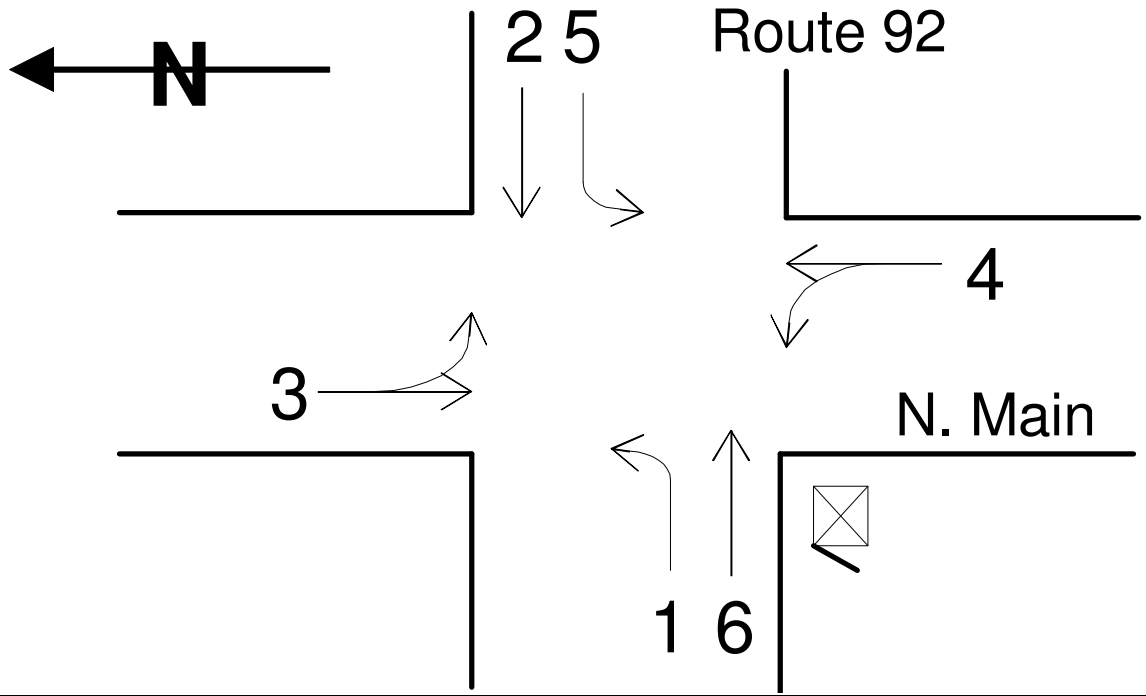
System: | **District:** 04 | **Installed By:**

Master At: | **I/C:** | **Service Info:**

Timing Change: | **Date Start:** | **Date End:** | **Designed:** | **Installed:**

		FLASH
PHASE	1)	[R]
	2)	[R]
	3)	[R]
	4)	[R]
	5)	[R]
	6)	[R]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layou



Comments and Notes:
TSCP 2.20 BUILD 120 - 08/04/2016

RAM Checksum

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Page 6: 191A	Page 12: EF20
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CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 3 4 5 6 . .
Restricted	. . . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . . .
Pedestrian	. . . . .
Bicycle	. . . . .

Phase Locks (2-1-1-3)	
Red	. . . . .
Yellow	. . . . .
Force/Max	. . . . .

Phase Features (2-1-1-4)	
Double Entry	. . . . .
Rest In Walk	. . . . .
Rest In Red	. . . . .
Walk 2	. . . . .
Max Green 2	. . . . .
Max Green 3	. . . . .

Startup (2-1-1-5)	
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . . .
Vehicle Calls	1 2 3 4 5 6 . .
Pedestrian Calls	. 2 3 4 . 6 . .
Yellow Start Overlaps	. . . . .
Startup All-Red	5.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . . .	1	. . . . .
2	. . . . .	2	. . . . .
3	. . . . .	3	. . . . .
4	. . . . .	4	. . . . .
5	. . . . .	5	. . . . .
6	. . . . .	6	. . . . .
7	. . . . .	7	. . . . .
8	. . . . .	8	. . . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . . .
Yellow Flash Overlap	. . . . .
Flash In Red Phases	. . . . .
Flash In Red Overlap	. . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . . .
Driveway Signal Phases	. . . . .
Driveway Signal Overlaps	. . . . .
Leading Ped Phases	. . . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . . .

Pedestrian (2-1-3)	
P1	. . . . .
P2	. 2 . . . . .
P3	. . . . .
P4	. . . 4 . . . .
P5	. . . . .
P6	. . . . . 6 . .
P7	. . . . .
P8	. . 3 . . . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . . .	. . . . .	. . . . .	. . . . .
B	. . . . .	. . . . .	. . . . .	. . . . .
C	. . . . .	. . . . .	. . . . .	. . . . .
D	. . . . .	. . . . .	. . . . .	. . . . .
E	. . . . .	. . . . .	. . . . .	. . . . .
F	. . . . .	. . . . .	. . . . .	. . . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	5	5	5	0	5	0	10
Flash Don't Walk	0	18	30	23	0	18	0	10
Minimum Green	4	10	4	4	4	10	2	2
Det Limit	0	30	0	0	0	30	10	10
Max Initial	0	25	0	0	0	25	10	10
Max Green 1	11	55	28	22	21	55	2	2
Max Green 2	50	50	50	50	50	50	50	50
Max Green 3	50	50	50	50	50	50	50	50
Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum Gap	2.0	2.0	1.5	1.5	2.0	2.0	2.0	2.0
Minimum Gap	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
Add Per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	1.0	1.0
Reduce Gap By	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Reduce Every	1.0	1.2	1.0	1.0	1.0	1.2	1.0	1.0
Yellow	3.0	4.1	3.7	3.7	3.0	4.1	3.0	3.0
All-Red	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	2.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	SEC

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	150		1	74			11	54	38	28	13	47		
Plan 2	Green Factor	136		1	105			10	44	35	28	13	36		
Plan 3	Green Factor	150		1	96			11	57	35	28	25	38		
Plan 4	Green Factor	150		1	17			11	57	35	28	17	46		
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Master Timer Sync (7-A)	
Enable in Plans	
1-9	. . . . .
11-19	. . . . .
21-29	. . . . .

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . . .
Ped	Bike
. . . . .	. . . . .
Cond	Cond Grn
. . . . .	10

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 2	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 3	. 2 3 . 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 4	. 2 . 4 5 . . 8	. 2 . . . 6 . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 5	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 6	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 7	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Plan 9	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor														
Plan 12	Green Factor														
Plan 13	Green Factor														
Plan 14	Green Factor														
Plan 15	Green Factor														
Plan 16	Green Factor														
Plan 17	Green Factor														
Plan 18	Green Factor														
Plan 19	Green Factor														

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	.....	.....	.....	.....	.....	.....	.....	.....
Plan 12	.....	.....	.....	.....	.....	.....	.....	.....
Plan 13	.....	.....	.....	.....	.....	.....	.....	.....
Plan 14	.....	.....	.....	.....	.....	.....	.....	.....
Plan 15	.....	.....	.....	.....	.....	.....	.....	.....
Plan 16	.....	.....	.....	.....	.....	.....	.....	.....
Plan 17	.....	.....	.....	.....	.....	.....	.....	.....
Plan 18	.....	.....	.....	.....	.....	.....	.....	.....
Plan 19	.....	.....	.....	.....	.....	.....	.....	.....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor														
Plan 22	Green Factor														
Plan 23	Green Factor														
Plan 24	Green Factor														
Plan 25	Green Factor														
Plan 26	Green Factor														
Plan 27	Green Factor														
Plan 28	Green Factor														
Plan 29	Green Factor														

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	.....	.....	.....	.....	.....	.....	.....	.....
Plan 22	.....	.....	.....	.....	.....	.....	.....	.....
Plan 23	.....	.....	.....	.....	.....	.....	.....	.....
Plan 24	.....	.....	.....	.....	.....	.....	.....	.....
Plan 25	.....	.....	.....	.....	.....	.....	.....	.....
Plan 26	.....	.....	.....	.....	.....	.....	.....	.....
Plan 27	.....	.....	.....	.....	.....	.....	.....	.....
Plan 28	.....	.....	.....	.....	.....	.....	.....	.....
Plan 29	.....	.....	.....	.....	.....	.....	.....	.....

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3		2.0	10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4		2.0	10	1.5
5	LIMITED	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	LIMITED	. 2	NO	I4U	7		1.0	10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	. . 3	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	. . 3	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I7U	13	10		10	4.7
14	CALL+EXTEND	. . . 4 . . .	NO	I7L	14	15		10	6.4
15	CALL+EXTEND	. . . 4 . . .	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	. . 3	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4 . . .	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	23		2.0	10	1.2
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	24		2.0	10	1.6
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	25		2.0	10	4.6
26	LIMITED	. . . . . 6 . .	NO	J3L	26			10	6.3
27	LIMITED	. . . . . 6 . .	NO	J4U	27		1.0	10	2.2
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	. . 3	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	. . 3	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	. . 3	NO	J7U	33			10	4.8
34	CALL+EXTEND	. . 3	NO	J7L	34			10	6.5
35	LIMITED	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	. . . . . 7 .	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4 . . .	NO	I12L	42			10	5.3
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U	43			10	5.2
44	PEDESTRIAN	. . 3	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . . .
Detectors 9-16	. . . . .
Detectors17-24	. . . . .
Detectors 25-32	. . . . .
Detectors 33-40	. . . . .
Detectors 41-44	. . . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		
Time	Plan	OS
0645	1	A
1100	2	A
1430	3	A
2000	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		
Time	Plan	OS
1000	4	A
1500	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			.....	
2			.....	
3			.....	
4			.....	
5			.....	
6			.....	
7			.....	
8			.....	
9			.....	
10			.....	
11			.....	
12			.....	
13			.....	
14			.....	
15			.....	
16			.....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	.....
Holiday	.....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			.....		.....
2			.....		.....
3			.....		.....
4			.....		.....
5			.....		.....
6			.....		.....
7			.....		.....
8			.....		.....
9			.....		.....
10			.....		.....
11			.....		.....
12			.....		.....
13			.....		.....
14			.....		.....
15			.....		.....
16			.....		.....

Action Codes:

0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11. Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed

200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	3
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
IP Mode	STATIC

IP Address	0 . 0 . 0 . 0
Netmask	255 . 255 . 255 . 0
Broadcast	0 . 0 . 0 . 254
Gateway	0 . 0 . 0 . 1

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. 2 . . 5 . . .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		. . . . .	. . . . .	1 2 3 4 5 6 7 8	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)

Port	Gate Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear 1	10	. . . 4 . . 7 .	. . . . .	. . . . .	. . . . .	. . . . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .	. . . . .
Clear 2		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Clear 3		. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .
Hold		1 2 3 . . 6 . .	. . . . .	. . . . .	. 2 . . . 6 . .	. . . . .	. . . 4 . . . 8	. . . . .	. . . . .	. . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)

Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . . .	. . . . .	. . . 4 . . 7 .	. . . . .

Configuration (3-2-6)

Port	Gate Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. 2 . . 5 . . .	. . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. . . 4 . . 7 .	. . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	1 . . . . 6 . .	. . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	5	40	. . 3 8	. . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	6.6
Advance Enable	6.6

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	FLASHING

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:

0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

\+ middle output of loadswitches 3 and 6 Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . . .	0.0	OPT	0	0
Plan 11-19	. . . . .	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . . .
	. . . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

					Force-Offs											
Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . . .	. . . . .

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . . .	0.0	0.0	0.0	0	0.0	0

SECTION 4. BICYCLE NETWORK

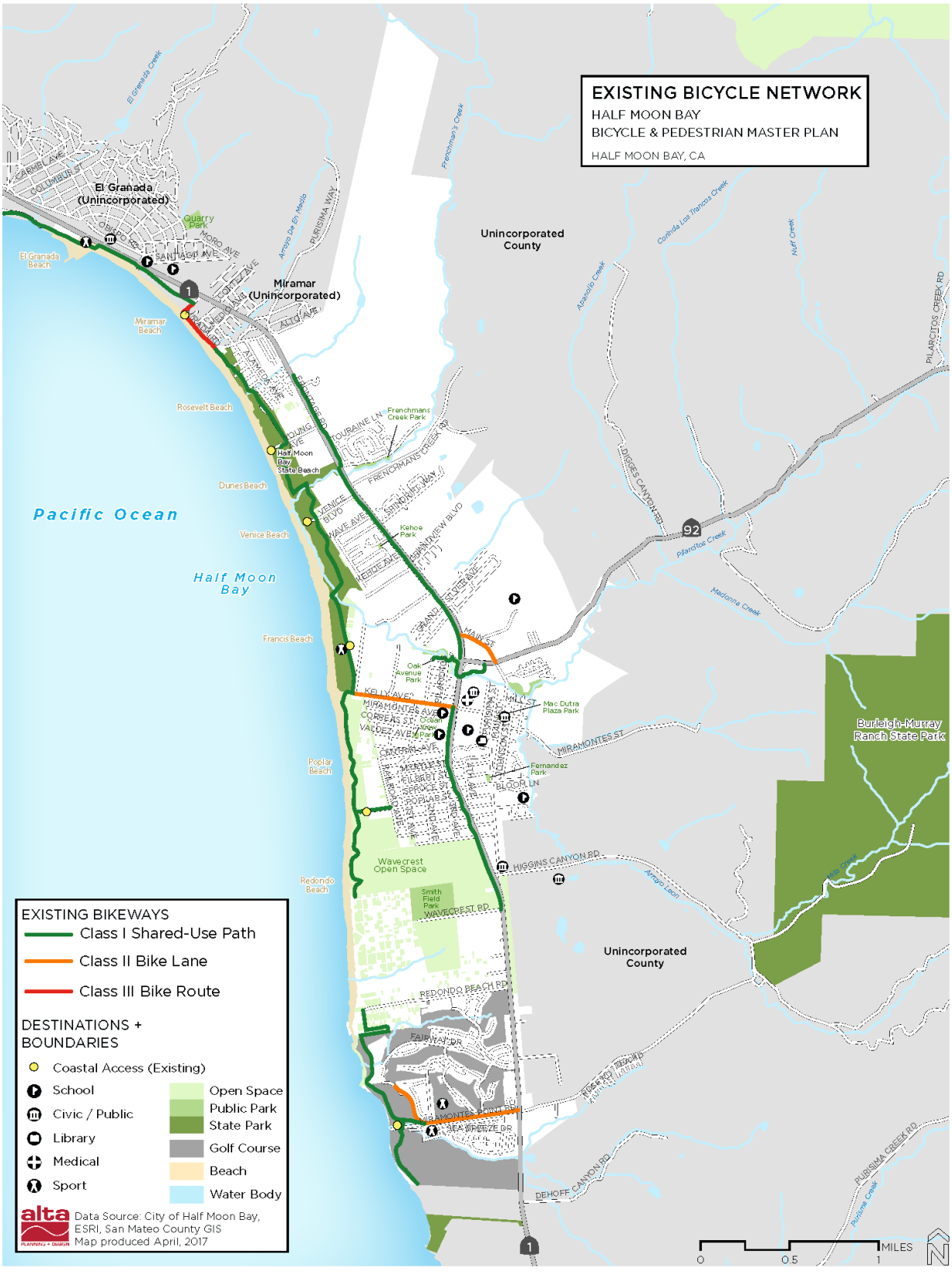


Figure 2-1: Existing Bicycle Network

SECTION 5. DAILY TRAFFIC AND SPEED DATA COLLECTION ON STONE PINE ROAD

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek) **QC JOB #:** 16225701

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 1 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	1	6	1	0	0	0	0	0	0	0	0	0	0	8	16-25	7
01:00 AM	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3	16-25	2
02:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
03:00 AM	2	1	6	1	1	0	0	0	0	0	0	0	0	0	11	16-25	7
04:00 AM	1	3	3	2	0	0	0	0	0	0	0	0	0	0	9	16-25	6
05:00 AM	2	10	15	10	0	0	0	0	0	0	0	0	0	0	37	16-25	25
06:00 AM	8	43	32	3	2	0	0	0	0	0	0	0	0	0	88	16-25	75
07:00 AM	9	46	57	16	2	0	0	0	0	0	0	0	0	0	130	16-25	103
08:00 AM	11	69	75	18	0	0	0	0	0	0	0	0	0	0	173	16-25	144
09:00 AM	18	56	97	18	0	0	0	0	0	0	0	0	0	0	189	16-25	153
10:00 AM	**26**	122	103	**19**	**3**	0	0	0	0	0	0	0	0	0	273	16-25	225
11:00 AM	26	**149**	**105**	19	1	0	0	0	0	0	0	0	0	0	**300**	16-25	254
12:00 PM	**34**	**150**	112	15	2	0	0	0	0	0	0	0	0	0	313	16-25	262
01:00 PM	17	148	**157**	25	**3**	0	0	0	0	0	0	0	0	0	**350**	16-25	305
02:00 PM	32	136	139	18	3	0	0	0	0	0	0	0	0	0	328	16-25	275
03:00 PM	23	117	126	25	2	0	0	0	0	0	0	0	0	0	293	16-25	243
04:00 PM	22	112	150	**34**	1	0	0	0	0	0	0	0	0	0	319	16-25	262
05:00 PM	22	100	98	14	1	0	0	0	0	0	0	0	0	0	235	16-25	198
06:00 PM	15	120	110	19	0	0	0	0	0	0	0	0	0	0	264	16-25	230
07:00 PM	10	77	48	10	3	0	0	0	0	0	0	0	0	0	148	16-25	125
08:00 PM	12	54	53	5	0	0	0	0	0	0	0	0	0	0	124	16-25	107
09:00 PM	8	25	30	10	1	0	0	0	0	0	0	0	0	0	74	16-25	55
10:00 PM	1	7	4	1	0	0	0	0	0	0	0	0	0	0	13	16-25	11
11:00 PM	0	3	7	3	0	0	0	0	0	0	0	0	0	0	13	16-25	10
Day Total	299	1550	1535	287	25	0	0	0	0	0	0	0	0	0	3696	16-25	3085
Percent	8.1%	41.9%	41.5%	7.8%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak	10:00 AM	11:00 AM	11:00 AM	10:00 AM	10:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	11:00 AM		
Volume	26	149	105	19	3	0	0	0	0	0	0	0	0	0	300		
PM Peak	12:00 PM	12:00 PM	1:00 PM	4:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	1:00 PM		
Volume	34	150	157	34	3	0	0	0	0	0	0	0	0	0	350		



Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek)
SPECIFIC LOCATION:
CITY/STATE: Half Moon Bay, CA

QC JOB #: 16225701
DIRECTION: EB, WB
DATE: Jun 1 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	299	1550	1535	287	25	0	0	0	0	0	0	0	0	0	3696	16-25	3085
Percent	8.1%	41.9%	41.5%	7.8%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Cumulative Percent	8.1%	50%	91.6%	99.3%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
3696



85th Percentile: 24 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Rd West of Patrick Way (Midweek) **QC JOB #:** 16225701

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 1 2023 - Jun 1 2023

Start Time	Mon	Tue	Wed	Thu 1 Jun 23	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM				8		8			8	
01:00 AM				3		3			3	
02:00 AM				1		1			1	
03:00 AM				11		11			11	
04:00 AM				9		9			9	
05:00 AM				37		37			37	
06:00 AM				88		88			88	
07:00 AM				130		130			130	
08:00 AM				173		173			173	
09:00 AM				189		189			189	
10:00 AM				273		273			273	
11:00 AM				**300**		**300**			**300**	
12:00 PM				313		313			313	
01:00 PM				**350**		**350**			**350**	
02:00 PM				328		328			328	
03:00 PM				293		293			293	
04:00 PM				319		319			319	
05:00 PM				235		235			235	
06:00 PM				264		264			264	
07:00 PM				148		148			148	
08:00 PM				124		124			124	
09:00 PM				74		74			74	
10:00 PM				13		13			13	
11:00 PM				13		13			13	
Day Total				3696		3696			3696	
% Weekday Average				100%						
% Week Average				100%		100%				
AM Peak Volume				11:00 AM 300		11:00 AM 300			11:00 AM 300	
PM Peak Volume				1:00 PM 350		1:00 PM 350			1:00 PM 350	

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday) **QC JOB #:** 16225703

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 3 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	1	3	4	0	0	0	0	0	0	0	0	0	0	0	8	16-25	7
01:00 AM	0	1	5	2	1	0	0	0	0	0	0	0	0	0	9	21-30	7
02:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	11-20	1
03:00 AM	2	2	2	0	0	0	0	0	0	0	0	0	0	0	6	16-25	4
04:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	16-25	1
05:00 AM	2	9	7	3	0	0	0	0	0	0	0	0	0	0	21	16-25	16
06:00 AM	4	18	22	6	0	0	0	0	0	0	0	0	0	0	50	16-25	40
07:00 AM	4	31	35	8	0	0	0	0	0	0	0	0	0	0	78	16-25	66
08:00 AM	12	41	54	13	**2**	0	0	0	0	0	0	0	0	0	122	16-25	95
09:00 AM	15	81	77	13	0	0	0	0	0	0	0	0	0	0	186	16-25	158
10:00 AM	17	106	104	**15**	1	0	0	0	0	0	0	0	0	0	243	16-25	210
11:00 AM	**26**	**156**	**113**	10	0	0	0	0	0	0	0	0	0	0	**305**	16-25	269
12:00 PM	21	**136**	**98**	**16**	0	0	0	0	0	0	0	0	0	0	**271**	16-25	234
01:00 PM	**31**	110	82	9	0	0	0	0	0	0	0	0	0	0	232	16-25	192
02:00 PM	25	101	52	8	**1**	0	0	0	0	0	0	0	0	0	187	16-25	153
03:00 PM	25	97	84	8	0	0	0	0	0	0	0	0	0	0	214	16-25	181
04:00 PM	17	61	93	13	0	0	0	0	0	0	0	0	0	0	184	16-25	154
05:00 PM	14	70	80	11	0	0	0	0	0	0	0	0	0	0	175	16-25	150
06:00 PM	19	113	80	15	0	0	0	0	0	0	0	0	0	0	227	16-25	193
07:00 PM	14	79	53	7	0	0	0	0	0	0	0	0	0	0	153	16-25	132
08:00 PM	13	56	51	8	0	0	0	0	0	0	0	0	0	0	128	16-25	107
09:00 PM	12	38	20	3	0	0	0	0	0	0	0	0	0	0	73	16-25	58
10:00 PM	0	4	12	5	0	0	0	0	0	0	0	0	0	0	21	21-30	17
11:00 PM	0	6	5	2	0	0	0	0	0	0	0	0	0	0	13	16-25	11
Day Total	275	1320	1134	175	5	0	0	0	0	0	0	0	0	0	2909	16-25	2454
Percent	9.5%	45.4%	39%	6%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak	11:00 AM	11:00 AM	11:00 AM	10:00 AM	8:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	11:00 AM		
Volume	26	156	113	15	2	0	0	0	0	0	0	0	0	0	305		
PM Peak	1:00 PM	12:00 PM	12:00 PM	12:00 PM	2:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM		
Volume	31	136	98	16	1	0	0	0	0	0	0	0	0	0	271		



Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday)
QC JOB #: 16225703
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Half Moon Bay, CA
DATE: Jun 3 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total **Percent**	275 9.5%	1320 45.4%	1134 39%	175 6%	5 0.2%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	2909	16-25	2454
Cumulative Percent	9.5%	54.8%	93.8%	99.8%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
2909



85th Percentile: 23 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Rd West of Patrick Way (Saturday) **QC JOB #:** 16225703

SPECIFIC LOCATION: **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA **DATE:** Jun 3 2023 - Jun 3 2023

Start Time	Mon	Tue	Wed	Thu	Fri	Average Weekday Hourly Traffic	Sat 3 Jun 23	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM							8		8	
01:00 AM							9		9	
02:00 AM							1		1	
03:00 AM							6		6	
04:00 AM							2		2	
05:00 AM							21		21	
06:00 AM							50		50	
07:00 AM							78		78	
08:00 AM							122		122	
09:00 AM							186		186	
10:00 AM							243		243	
11:00 AM							**305**		305	
12:00 PM							**271**		271	
01:00 PM							232		232	
02:00 PM							187		187	
03:00 PM							214		214	
04:00 PM							184		184	
05:00 PM							175		175	
06:00 PM							227		227	
07:00 PM							153		153	
08:00 PM							128		128	
09:00 PM							73		73	
10:00 PM							21		21	
11:00 PM							13		13	
Day Total							2909		2909	
% Weekday Average										
% Week Average						0%	100%			
AM Peak Volume							11:00 AM 305		11:00 AM 305	
PM Peak Volume							12:00 PM 271		12:00 PM 271	

Comments:

Report generated on 6/7/2023 12:40 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Speed Data

LOCATION: Stone Pine Road East of Patrick Way
QC JOB #: 16189903
SPECIFIC LOCATION:
DIRECTION: EB, WB
CITY/STATE: Half Moon Bay, CA
DATE: May 17 2023

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	21-30	1
01:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	11-20	2
02:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
03:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
04:00 AM	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	11-20	3
05:00 AM	0	5	5	3	0	0	0	0	0	0	0	0	0	0	13	16-25	10
06:00 AM	3	9	13	3	0	0	0	0	0	0	0	0	0	0	28	16-25	22
07:00 AM	5	22	**44**	**9**	0	0	0	0	0	0	0	0	0	0	80	16-25	66
08:00 AM	7	28	23	4	0	0	0	0	0	0	0	0	0	0	62	16-25	51
09:00 AM	12	43	37	3	0	0	0	0	0	0	0	0	0	0	95	16-25	80
10:00 AM	**21**	56	40	6	0	0	0	0	0	0	0	0	0	0	**123**	16-25	96
11:00 AM	15	**59**	40	2	0	0	0	0	0	0	0	0	0	0	116	16-25	99
12:00 PM	25	63	47	2	0	0	0	0	0	0	0	0	0	0	137	16-25	110
01:00 PM	12	44	36	7	**1**	0	0	0	0	0	0	0	0	0	100	16-25	80
02:00 PM	13	56	**55**	8	0	0	0	0	0	0	0	0	0	0	132	16-25	111
03:00 PM	26	**77**	52	**12**	0	0	0	0	0	0	0	0	0	0	**167**	16-25	129
04:00 PM	**29**	60	42	9	0	0	0	0	0	0	0	0	0	0	140	16-25	102
05:00 PM	14	33	30	5	0	0	0	0	0	0	0	0	0	0	82	16-25	63
06:00 PM	11	18	14	0	0	0	0	0	0	0	0	0	0	0	43	16-25	32
07:00 PM	6	19	13	1	0	0	0	0	0	0	0	0	0	0	39	16-25	32
08:00 PM	0	9	5	2	0	0	0	0	0	0	0	0	0	0	16	16-25	14
09:00 PM	5	4	1	1	0	0	0	0	0	0	0	0	0	0	11	11-20	6
10:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	16-25	1
11:00 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	16-25	3
Day Total	206	609	503	78	1	0	0	0	0	0	0	0	0	0	1397	16-25	1112
Percent	14.7%	43.6%	36%	5.6%	0.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
AM Peak	10:00 AM	11:00 AM	7:00 AM	7:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	10:00 AM		
Volume	21	59	44	9	0	0	0	0	0	0	0	0	0	0	123		
PM Peak	4:00 PM	3:00 PM	2:00 PM	3:00 PM	1:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	3:00 PM		
Volume	29	77	55	12	1	0	0	0	0	0	0	0	0	0	167		



Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Speed Data

SUMMARY - Tube Count - Speed Data

LOCATION: Stone Pine Road East of Patrick Way
SPECIFIC LOCATION:
CITY/STATE: Half Moon Bay, CA

QC JOB #: 16189903
DIRECTION: EB, WB
DATE: May 17 2023

Speed Range	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
Grand Total	206	609	503	78	1	0	0	0	0	0	0	0	0	0	1397	16-25	1112
Percent	14.7%	43.6%	36%	5.6%	0.1%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
Cumulative Percent	14.7%	58.3%	94.3%	99.9%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			

ADT
1397



85th Percentile: 23 MPH
Mean Speed(Average): 19 MPH
Median: 19 MPH
Mode: 18 MPH

Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Quality Counts
DATA THAT DRIVES COMMUNITIES

Type of report: Tube Count - Volume Data

LOCATION: Stone Pine Road East of Patrick Way | **QC JOB #:** 16189903

SPECIFIC LOCATION: | **DIRECTION:** EB, WB

CITY/STATE: Half Moon Bay, CA | **DATE:** May 17 2023 - May 17 2023

Start Time	Mon	Tue	Wed 17 May 23	Thu	Fri	Average Weekday Hourly Traffic	Sat	Sun	Average Week Hourly Traffic	Average Week Profile
12:00 AM			1			1			1	
01:00 AM			2			2			2	
02:00 AM			1			1			1	
03:00 AM			1			1			1	
04:00 AM			4			4			4	
05:00 AM			13			13			13	
06:00 AM			28			28			28	
07:00 AM			80			80			80	
08:00 AM			62			62			62	
09:00 AM			95			95			95	
10:00 AM			**123**			**123**			**123**	
11:00 AM			116			116			116	
12:00 PM			137			137			137	
01:00 PM			100			100			100	
02:00 PM			132			132			132	
03:00 PM			**167**			**167**			**167**	
04:00 PM			140			140			140	
05:00 PM			82			82			82	
06:00 PM			43			43			43	
07:00 PM			39			39			39	
08:00 PM			16			16			16	
09:00 PM			11			11			11	
10:00 PM			1			1			1	
11:00 PM			3			3			3	
Day Total			1397			1397			1397	
% Weekday Average			100%							
% Week Average			100%			100%				
AM Peak Volume			10:00 AM 123			10:00 AM 123			10:00 AM 123	
PM Peak Volume			3:00 PM 167			3:00 PM 167			3:00 PM 167	

Comments:

Report generated on 5/23/2023 8:36 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

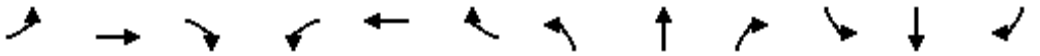
Quality Counts
DATA THAT DRIVES COMMUNITIES

SECTION 6: EXISTING + PROJECT OPERATIONAL ANALYSIS RESULTS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	67	764	69	90	306	186	48	156	185	342	99
v/c Ratio	0.61	0.48	0.09	0.65	0.19	0.23	0.23	0.72	0.54	0.90	0.25
Control Delay	91.3	32.5	4.6	86.8	25.1	4.8	60.1	81.3	13.1	82.0	40.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	32.5	4.6	86.8	25.1	4.8	60.1	81.3	13.1	82.0	40.4
Queue Length 50th (ft)	65	269	0	87	90	0	44	151	0	325	67
Queue Length 95th (ft)	116	411	25	140	147	49	78	208	64	417	113
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1632	775	158	1631	800	330	348	439	439	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.47	0.09	0.57	0.19	0.23	0.15	0.45	0.42	0.78	0.22

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	672	61	79	269	164	42	137	163	301	59	28
Future Volume (vph)	59	672	61	79	269	164	42	137	163	301	59	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1689	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1656	3312	1434	1752	1845	1530	1703	1689	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	764	69	90	306	186	48	156	185	342	67	32
RTOR Reduction (vph)	0	0	38	0	0	96	0	0	163	0	12	0
Lane Group Flow (vph)	67	764	31	90	306	90	48	156	22	342	87	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Heavy Vehicles (%)	3%	3%	3%	9%	9%	9%	3%	3%	3%	6%	6%	6%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.3	67.9	67.9	13.3	72.9	72.9	17.6	17.6	17.6	33.7	33.7	
Effective Green, g (s)	8.3	67.9	67.9	13.3	72.9	72.9	17.6	17.6	17.6	33.7	33.7	
Actuated g/C Ratio	0.06	0.45	0.45	0.09	0.49	0.49	0.12	0.12	0.12	0.22	0.22	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	96	1586	709	146	1609	696	205	216	179	382	379	
v/s Ratio Prot	c0.04	c0.22		c0.05	0.09		0.03	c0.08		c0.20	0.05	
v/s Ratio Perm			0.02			0.06			0.01			
v/c Ratio	0.70	0.48	0.04	0.62	0.19	0.13	0.23	0.72	0.12	0.90	0.23	
Uniform Delay, d1	69.6	28.7	22.9	65.9	21.8	21.1	60.1	63.8	59.3	56.4	47.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.3	1.1	0.1	5.3	0.3	0.4	0.2	9.7	0.1	22.0	0.1	
Delay (s)	85.9	29.8	23.0	71.2	22.1	21.5	60.3	73.5	59.4	78.5	47.7	
Level of Service	F	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		33.4			29.5			65.2			71.5	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	20	0	75	1	332	44	40	191	2
Future Vol, veh/h	1	0	0	20	0	75	1	332	44	40	191	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	4	4	4	3	3	3
Mvmt Flow	1	0	0	22	0	81	1	357	47	43	205	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.9	8.9	12.3	9.8
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	100%	21%	100%	0%
Vol Thru, %	88%	0%	0%	0%	99%
Vol Right, %	12%	0%	79%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	1	95	40	193
LT Vol	1	1	20	40	0
Through Vol	332	0	0	0	191
RT Vol	44	0	75	0	2
Lane Flow Rate	405	1	102	43	208
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.512	0.002	0.142	0.067	0.295
Departure Headway (Hd)	4.551	5.82	5.006	5.627	5.117
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	790	611	713	636	701
Service Time	2.586	3.892	3.058	3.369	2.858
HCM Lane V/C Ratio	0.513	0.002	0.143	0.068	0.297
HCM Control Delay	12.3	8.9	8.9	8.8	10
HCM Lane LOS	B	A	A	A	A
HCM 95th-tile Q	3	0	0.5	0.2	1.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	466	101	174	637	437	114	166	122	187	173
v/c Ratio	0.53	0.29	0.13	0.78	0.33	0.47	0.56	0.77	0.42	0.59	0.53
Control Delay	84.8	29.4	6.4	85.3	23.6	12.7	72.5	87.1	13.5	62.6	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.8	29.4	6.4	85.3	23.6	12.7	72.5	87.1	13.5	62.6	53.4
Queue Length 50th (ft)	55	162	0	167	207	115	107	160	0	158	128
Queue Length 95th (ft)	103	242	44	241	292	246	167	233	59	238	204
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	133	1621	779	330	1907	933	337	354	396	416	421
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.29	0.13	0.53	0.33	0.47	0.34	0.47	0.31	0.45	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	443	96	165	605	415	108	158	116	178	100	65
Future Volume (vph)	54	443	96	165	605	415	108	158	116	178	100	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	3505	1568	1770	3539	1513	1787	1881	1574	1770	1725	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	3505	1568	1770	3539	1513	1787	1881	1574	1770	1725	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	466	101	174	637	437	114	166	122	187	105	68
RTOR Reduction (vph)	0	0	55	0	0	119	0	0	108	0	16	0
Lane Group Flow (vph)	57	466	46	174	637	318	114	166	14	187	157	0
Confl. Peds. (#/hr)	8					8	22					22
Confl. Bikes (#/hr)									2			1
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	8.2	68.8	68.8	19.6	80.2	80.2	17.2	17.2	17.2	26.9	26.9	
Effective Green, g (s)	8.2	68.8	68.8	19.6	80.2	80.2	17.2	17.2	17.2	26.9	26.9	
Actuated g/C Ratio	0.05	0.46	0.46	0.13	0.53	0.53	0.11	0.11	0.11	0.18	0.18	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	95	1607	719	231	1892	808	204	215	180	317	309	
v/s Ratio Prot	c0.03	0.13		c0.10	0.18		0.06	c0.09		c0.11	0.09	
v/s Ratio Perm			0.03			c0.21			0.01			
v/c Ratio	0.60	0.29	0.06	0.75	0.34	0.39	0.56	0.77	0.08	0.59	0.51	
Uniform Delay, d1	69.3	25.3	22.6	62.9	19.8	20.6	62.8	64.5	59.3	56.5	55.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	0.5	0.2	11.6	0.5	1.4	1.9	14.4	0.1	1.8	0.5	
Delay (s)	75.9	25.8	22.8	74.5	20.3	22.0	64.7	78.9	59.4	58.3	56.0	
Level of Service	E	C	C	E	C	C	E	E	E	E	E	
Approach Delay (s)		29.9			28.5			69.0			57.2	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	51	1	95	4	279	42	128	277	2
Future Vol, veh/h	0	0	3	51	1	95	4	279	42	128	277	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	1	1	1	2	2	2	1	1	1
Mvmt Flow	0	0	3	57	1	106	4	310	47	142	308	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

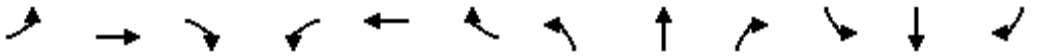
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.6	10.3	12.7	11.7
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	35%	100%	0%
Vol Thru, %	86%	0%	1%	0%	99%
Vol Right, %	13%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	325	3	147	128	279
LT Vol	4	0	51	128	0
Through Vol	279	0	1	0	277
RT Vol	42	3	95	0	2
Lane Flow Rate	361	3	163	142	310
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.493	0.005	0.245	0.229	0.454
Departure Headway (Hd)	4.913	5.568	5.4	5.785	5.276
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	726	647	658	616	676
Service Time	2.992	3.568	3.493	3.57	3.06
HCM Lane V/C Ratio	0.497	0.005	0.248	0.231	0.459
HCM Control Delay	12.7	8.6	10.3	10.3	12.4
HCM Lane LOS	B	A	B	B	B
HCM 95th-tile Q	2.8	0	1	0.9	2.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	51	717	108	180	682	280	103	171	163	302	187
v/c Ratio	0.51	0.50	0.15	0.73	0.38	0.33	0.44	0.69	0.47	0.85	0.51
Control Delay	85.7	37.6	7.0	78.8	27.0	13.7	63.8	75.5	11.7	78.2	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.7	37.6	7.0	78.8	27.0	13.7	63.8	75.5	11.7	78.2	54.3
Queue Length 50th (ft)	49	282	0	170	225	72	96	165	0	276	149
Queue Length 95th (ft)	96	402	47	251	326	167	149	231	64	388	228
Internal Link Dist (ft)		800			1072			451			782
Turn Bay Length (ft)	110			430		100	100			340	
Base Capacity (vph)	130	1512	738	251	1778	845	333	351	424	416	426
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.47	0.15	0.72	0.38	0.33	0.31	0.49	0.38	0.73	0.44

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	688	104	173	655	269	99	164	156	290	135	44
Future Volume (vph)	49	688	104	173	655	269	99	164	156	290	135	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583	1770	3539	1532	1770	1863	1547	1770	1781	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1583	1770	3539	1532	1770	1863	1547	1770	1781	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	717	108	180	682	280	103	171	162	302	141	46
RTOR Reduction (vph)	0	0	64	0	0	76	0	0	141	0	8	0
Lane Group Flow (vph)	51	717	44	180	682	204	103	171	22	302	179	0
Confl. Peds. (#/hr)	4					4	14		4	4		14
Confl. Bikes (#/hr)									3			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.5	60.6	60.6	21.6	74.7	74.7	20.0	20.0	20.0	30.3	30.3	
Effective Green, g (s)	7.5	60.6	60.6	21.6	74.7	74.7	20.0	20.0	20.0	30.3	30.3	
Actuated g/C Ratio	0.05	0.40	0.40	0.14	0.50	0.50	0.13	0.13	0.13	0.20	0.20	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	88	1429	639	254	1762	762	236	248	206	357	359	
v/s Ratio Prot	c0.03	c0.20		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.01			
v/c Ratio	0.58	0.50	0.07	0.71	0.39	0.27	0.44	0.69	0.11	0.85	0.50	
Uniform Delay, d1	69.7	33.4	27.4	61.2	23.4	21.8	59.8	62.0	57.1	57.6	53.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.3	0.2	7.2	0.6	0.9	0.5	6.2	0.1	16.0	0.4	
Delay (s)	75.3	34.7	27.6	68.4	24.1	22.7	60.3	68.3	57.2	73.6	53.5	
Level of Service	E	C	C	E	C	C	E	E	E	E	D	
Approach Delay (s)		36.2			30.7			62.3			65.9	
Approach LOS		D			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	45	1	85	4	301	33	100	311	2
Future Vol, veh/h	0	0	3	45	1	85	4	301	33	100	311	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	47	1	89	4	314	34	104	324	2
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	8.5	9.8	12.2	11.9
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	1%	0%	34%	100%	0%
Vol Thru, %	89%	0%	1%	0%	99%
Vol Right, %	10%	100%	65%	0%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	3	131	100	313
LT Vol	4	0	45	100	0
Through Vol	301	0	1	0	311
RT Vol	33	3	85	0	2
Lane Flow Rate	352	3	136	104	326
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.473	0.005	0.203	0.165	0.471
Departure Headway (Hd)	4.833	5.464	5.359	5.706	5.197
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	739	659	663	625	688
Service Time	2.899	3.464	3.443	3.475	2.966
HCM Lane V/C Ratio	0.476	0.005	0.205	0.166	0.474
HCM Control Delay	12.2	8.5	9.8	9.6	12.6
HCM Lane LOS	B	A	A	A	B
HCM 95th-tile Q	2.6	0	0.8	0.6	2.5

SECTION 7. SIGNAL WARRANT RESULTS

Traffic Signal Warrant Analysis Workbook

STUDY AND ANALYSIS INFORMATION

Municipality:	Half Moon Bay	**Analysis Date:**	6/15/2023
County:	San Mateo	**Conducted By:**	Christine Bairan
		Agency/Company Name:	DKS Associates

Analysis Information

Data Collection Date:	5/17/2023
Day of the Week:	Wednesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Major Street Information

Major Street Name and Route Number:	Main Street
Major Street Approach #1 Direction:	N-Bound
Major Street Approach #2 Direction:	S-Bound

Number of Lanes for Moving Traffic on Each Major Street Approach:	1	**LANE(S)**
Speed Limit or 85th Percentile Speed on the Major Street:	25	**MPH**

Minor Street Information

Minor Street Name and Route Number:	Stone Pine Road
Minor Street Approach #1 Direction:	W-Bound
Minor Street Approach #2 Direction:	E-Bound

Number of Lanes for Moving Traffic on Each Minor Street Approach:	1	**LANE(S)**

TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	**No**	**N/A**
Warrant 2, Four-Hour Vehicular Volume	**Yes**	**No**
Warrant 3, Peak Hour	**Yes**	**No**
Warrant 4, Pedestrian Volume	**No**	**N/A**
Warrant 5, School Crossing	**No**	**N/A**
Warrant 6, Coordinated Signal System	**No**	**N/A**
Warrant 7, Crash Experience	**No**	**N/A**
Warrant 8, Roadway Network	**No**	**N/A**
Warrant 9, Intersection Near a Grade Crossing	**No**	**N/A**
Bicycle Signal Warrant (CA)	**No**	**N/A**

MUTCD WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

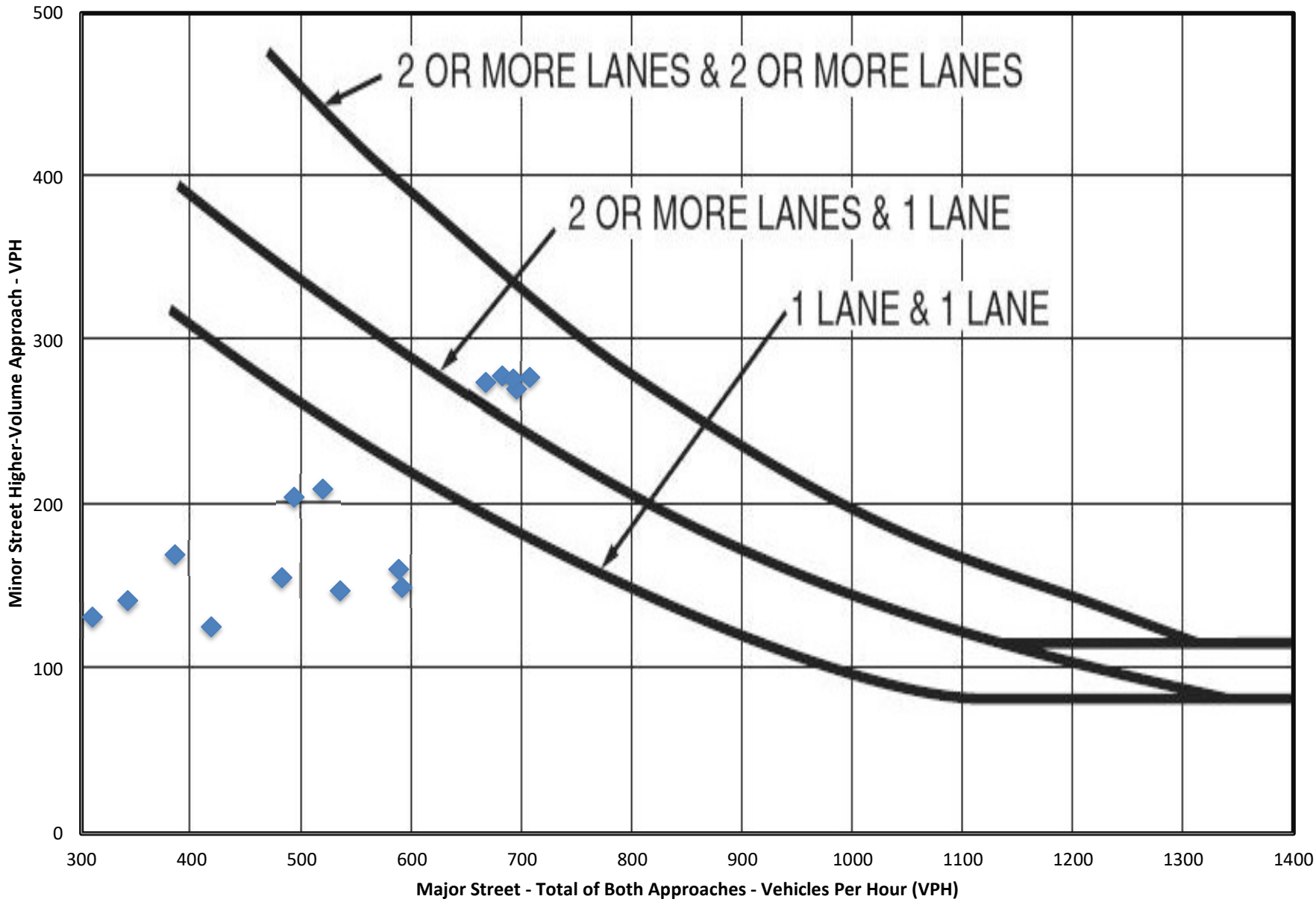
Total Number of Unique Hours Met On Figure 4C-1
2

Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 AM	0	0	
12:15 AM	0	0	
12:30 AM	0	0	
12:45 AM	0	0	
1:00 AM	0	0	
1:15 AM	0	0	
1:30 AM	0	0	
1:45 AM	0	0	
2:00 AM	0	0	
2:15 AM	0	0	
2:30 AM	0	0	
2:45 AM	0	0	
3:00 AM	0	0	
3:15 AM	0	0	
3:30 AM	0	0	
3:45 AM	0	0	
4:00 AM	0	0	
4:15 AM	0	0	
4:30 AM	0	0	
4:45 AM	0	0	
5:00 AM	0	0	
5:15 AM	0	0	
5:30 AM	0	0	
5:45 AM	0	0	
6:00 AM	0	0	
6:15 AM	73	49	
6:30 AM	155	93	
6:45 AM	257	134	
7:00 AM	385	170	
7:15 AM	482	156	
7:30 AM	535	148	
7:45 AM	591	150	
8:00 AM	588	161	
8:15 AM	418	126	
8:30 AM	283	90	
8:45 AM	125	47	
9:00 AM	0	0	
9:15 AM	0	0	
9:30 AM	0	0	
9:45 AM	0	0	
10:00 AM	0	0	
10:15 AM	0	0	
10:30 AM	0	0	
10:45 AM	0	0	
11:00 AM	0	0	
11:15 AM	0	0	
11:30 AM	0	0	
11:45 AM	0	0	

Hourly Vehicular Volume			
Hour Interval Beginning At	Major Street Combined Vehicles Per Hour (VPH)	Highest Minor Street Approach Vehicles Per Hour (VPH)	Hour Met?
12:00 PM	0	0	
12:15 PM	0	0	
12:30 PM	0	0	
12:45 PM	0	0	
1:00 PM	0	0	
1:15 PM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	171	76	
3:30 PM	342	142	
3:45 PM	519	210	
4:00 PM	667	275	Met
4:15 PM	695	271	Met
4:30 PM	707	278	Met
4:45 PM	682	279	Met
5:00 PM	692	277	Met
5:15 PM	493	205	
5:30 PM	310	132	
5:45 PM	158	63	
6:00 PM	0	0	
6:15 PM	0	0	
6:30 PM	0	0	
6:45 PM	0	0	
7:00 PM	0	0	
7:15 PM	0	0	
7:30 PM	0	0	
7:45 PM	0	0	
8:00 PM	0	0	
8:15 PM	0	0	
8:30 PM	0	0	
8:45 PM	0	0	
9:00 PM	0	0	
9:15 PM	0	0	
9:30 PM	0	0	
9:45 PM	0	0	
10:00 PM	0	0	
10:15 PM	0	0	
10:30 PM	0	0	
10:45 PM	0	0	
11:00 PM	0	0	

MUTCD Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



MUTCD WARRANT 3, PEAK HOUR

Number of Lanes for Moving Traffic on Each Approach	
Major Street:	1 Lane
Minor Street:	1 Lane

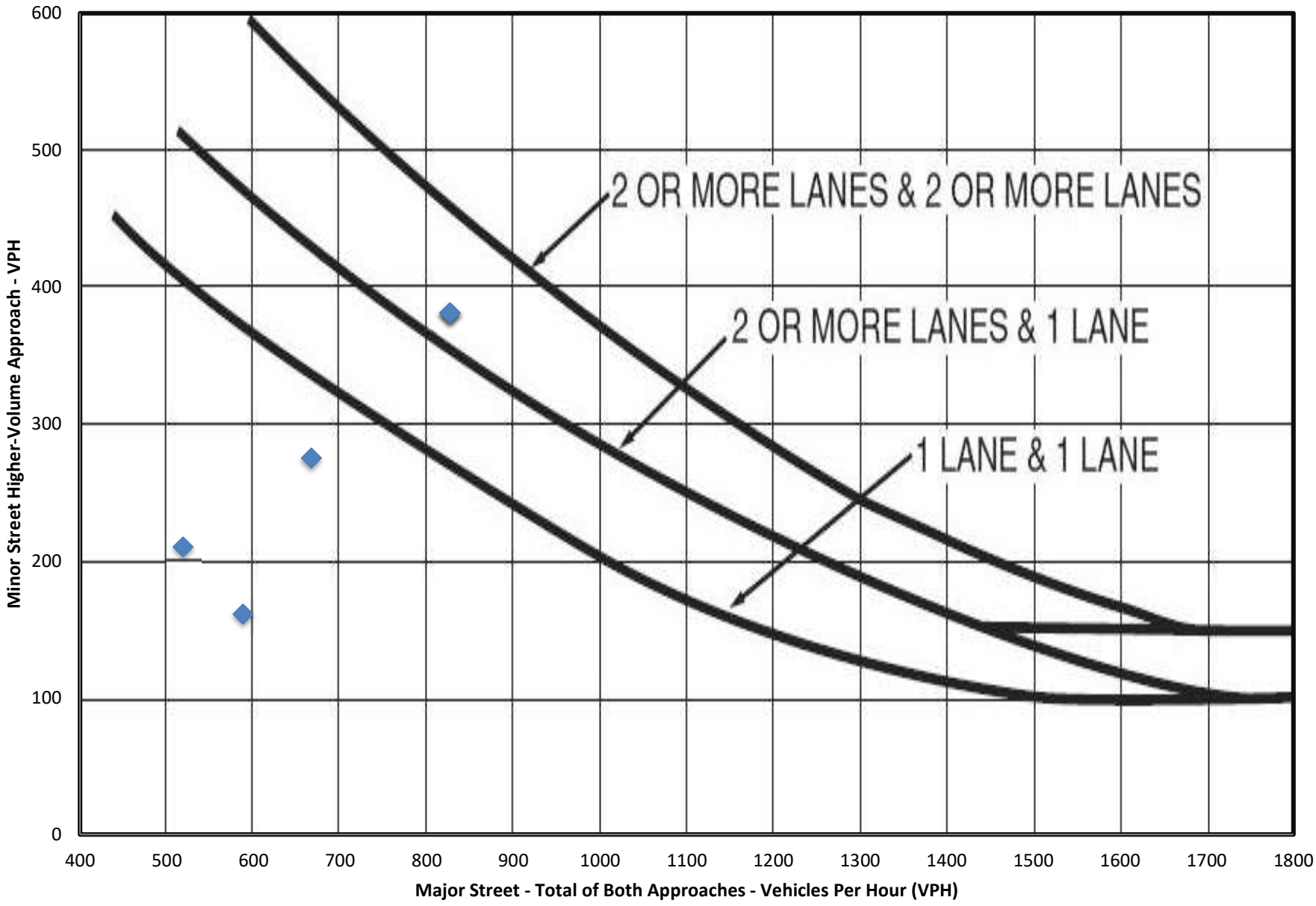
Built-up Isolated Community With Less Than 10,000 Population or Above 40 MPH on Major Street?	No
Is this signal warrant being applied for an unusual case, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time?	No

Indicate whether all three of the following conditions for the same 1 hour (any four consecutive 15-minute periods) of an average day are present*	
Does the total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equal or exceed 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach?	No
Does the volume on the same minor-street approach (one direction only) equal or exceed 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes?	No
Does the total entering volume serviced during the hour equal or exceed 650 vehicles per hour for intersection with three approaches or 800 vehicles per hour for intersections with four or more approaches?	No
**If applicable, attach all supporting calculations and documentation.*	

Total Number of Unique Hours Met On Figure 4C-3
1

Hourly Vehicular Volume			
Hour Interval Beginning At	**Major Street Combined Vehicles Per Hour (VPH)**	**Highest Minor Street Approach Vehicles Per Hour (VPH)**	**Hour Met?**
8:00 AM	588	161	
8:15 AM	827	381	Met
8:30 AM	827	381	Met
8:45 AM	827	381	Met
9:00 AM	0	0	
9:15 AM	0	0	
1:30 PM	0	0	
1:45 PM	0	0	
2:00 PM	0	0	
2:15 PM	0	0	
2:30 PM	0	0	
2:45 PM	0	0	
3:00 PM	0	0	
3:15 PM	171	76	
3:30 PM	342	142	
3:45 PM	519	210	
4:00 PM	667	275	

MUTCD Figure 4C-3. Warrant 3, Peak Hour



SECTION 8. TRAFFIC CALMING AND PEDESTRIAN INFRASTRUCTURE IMPROVEMENTS

© BKF Engineers

TRAFFIC CALMING/CROSSWALK IMPROVEMENTS

HWY 92

CROSSWALK, RAMPS AND LANDINGS @ EAST PATRICK WAY
SEE ATTACHMENT 1 FOR DETAILS

PATRICK WAY

STONE PINE RD

SPEED FEEDBACK MESSAGING BOARD

VEGETATION TRIMMING

STONE PINE RD

ERIN LN

STONE PINE RD

MAIN ST

CROSSWALK SIGN WITH
RECT. RAPID FLASHING BEACON

TWO WHITE STRIPES AND SHARROWS

PILARCITOS CREEK

0 40 80
GRAPHIC SCALE

BKF
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

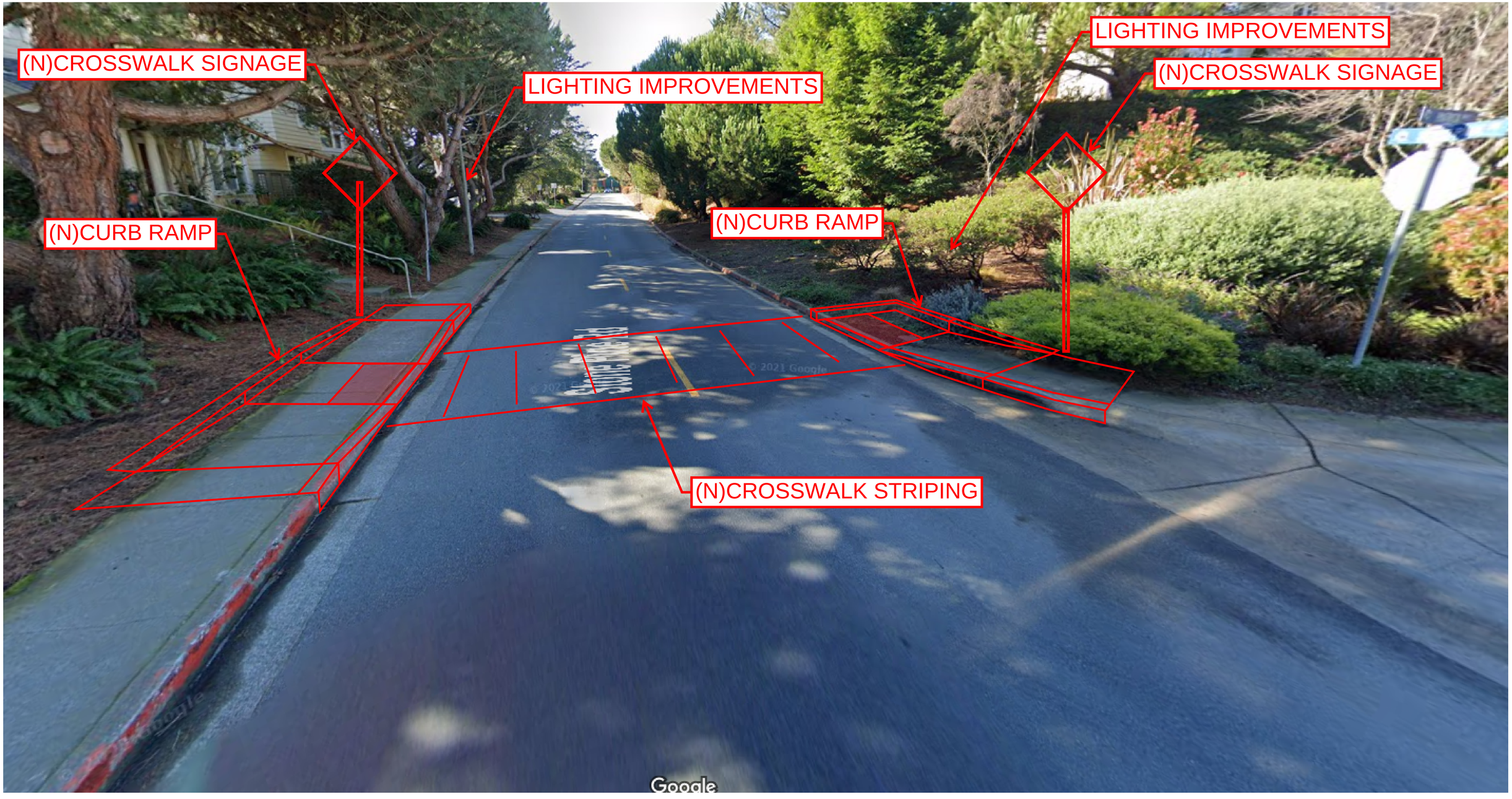
STONE PINE ROAD
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA
HALF MOON BAY

No.	Revisions	Date

Date 10/10/2023
Scale 1" = 40'
Design DJP
Drawn DLG
Approved DJL
Job No 2021367-15

Drawing Number:
X-1
OF

DRAWING NAME: K:\2021\2113367-15_HMB_Corpyard_Housing\ENG\EXHIBITS\2023-08-30_STONE_PINE_AERIAL\hmbsheets.dwg
PLOT DATE: 08-30-23 PLOTTED BY: gold



ATTACHMENT 1:
STONE PINE RD & PATRICK WAY
EAST INTERSECTION

255 Shoreline Drive, Suite 200
Redwood City, CA 94065
Tel 650.482.6300

Stone Pine Road Traffic Calming and Crosswalk Improvements

Engineer's Opinion of Probable Construction Cost for Site Improvements[1]

Item No.	Item	Total Quantity	Unit	Unit Cost[2]	Total Cost
Mobilization and Traffic Control					
1	Mobilization	1	LS	$4,000	$4,000
2	Traffic Control[4]	1	LS	$15,000	$15,000
3	Tree Protection/Erosion Control	1	LS	$5,000	$5,000
Mobilization and Traffic Control Subtotal					$24,000
Rect. Rapid Flashing Beacons - West Patrick Wy Crosswalk					
1	Pedestrian Crosswalk Sign	2	EA	$1,000	$2,000
2	RRFB System (4 RRFB)	1	LS	$50,000	$50,000
3	Extension of Electrical System	1	LS	$5,000	$5,000
Rect. Rapid Flashing Beacons Subtotal					$57,000
Vegetation Trimming - West Patrick Wy Crosswalk (North Side)					
1	Vegetation Trimming Services	1	LS	$5,000	$5,000
Vegetation Trimming Subtotal					$5,000
Crosswalk, Ramps and Landings - East Patrick Wy					
1	Remove Existing Concrete Curb, Gutter and Sidewalk	400	SF	$3	$1,200
2	Remove Existing AC Paving	200	SF	$1	$200
3	New Accessible Curb Ramp (North)	1	EA	$15,000	$15,000
4	New Accessible Curb Ramp (South)	1	EA	$8,000	$8,000
5	New AC Paving	200	SF	$10	$2,000
6	Pedestrian Crosswalk Sign	2	EA	$1,000	$2,000
7	Thermoplastic Crosswalk Striping	200	SF	$5	$1,000
8	Lighting Improvements	1	LS	$10,000	$10,000
Crosswalk, Ramps and Landings Subtotal					$39,400
Speed Feedback Messaging Board - Stone Pine Rd					
1	Speed Feedback Sign	2	EA	$5,000	$10,000
2	Extension of Electrical System	1	LS	$5,000	$5,000
Speed Feedback Messaging Board Subtotal					$15,000
Re-striping and Lane Narrowing - Stone Pine Rd					
1	Two White Thermoplastic Edge Striping (Stone Pine Rd~1000 LF)	2,000	LF	$3	$6,000
2	Thermoplastic Sharrows	10	EA	$300	$3,000
Re-striping and Lane Narrowing Subtotal					$9,000

Subtotal	$149,400
50% Contingency[3]	$74,700
GRAND TOTAL	$225,000

NOTES

1. This Opinion of Probable Construction Quality & Costs Estimate for Site Improvements is based upon observation of current onsite conditions and the 2022 San Mateo County GIS Aerial Imagery. This estimate of Site Improvement Quantities and Order of Magnitude Costs has been prepared as a guide as to the opinion of the probable conceptual construction costs quantities anticipated for this project. BKF Engineers makes no warranty, either expressed or implied that the actual quantities and/or costs will not vary from the
2. Unit prices are generally based on Caltrans Region 4 construction cost data and comparison to other recent bids or estimates.
3. 50% contingency accounts for variation in design, design fees and other soft costs.
4. Traffic control does not include temporary pedestrian path of travel for any closures of the Stone Pine Road sidewalk due to improvements.

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TRAFFIC CALMING/CROSSWALK IMPROVEMENTS

HWY 92

CROSSWALK, RAMPS AND LANDINGS @ EAST PATRICK WAY
SEE ATTACHMENT 1 FOR DETAILS

PATRICK WAY

STONE PINE RD

SPEED FEEDBACK MESSAGING BOARD

VEGETATION TRIMMING

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STONE PINE RD

MAIN ST

CROSSWALK SIGN WITH
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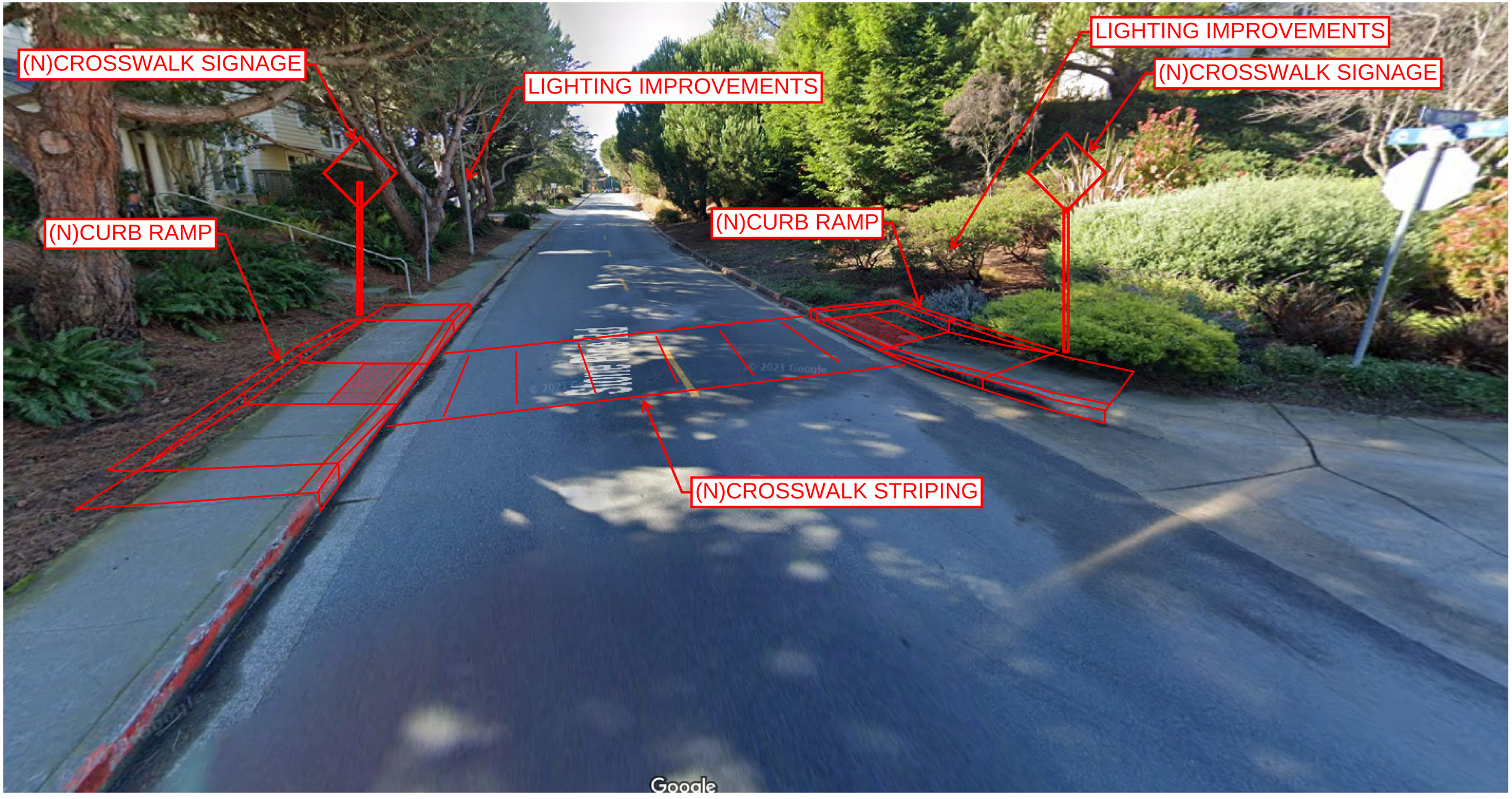
STONE PINE ROAD
STONE PINE COVE
880 STONE PINE ROAD
SAN MATEO COUNTY
CALIFORNIA
HALF MOON BAY

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Drawing Number:
X-1
OF

DRAWING NAME: K:\2021\2113367-15_HMB_Corpyard_Housing\ENG\EXHIBITS\2023-08-30_STONE_PINE_AERIAL\hmbsheets.dwg
PLOT DATE: 08-30-23 PLOTTED BY: gold



ATTACHMENT 1:
STONE PINE RD & PATRICK WAY
EAST INTERSECTION

Half Moon Bay
Corporation Yard Upgrade Project

Draft Initial Study/
Mitigated Negative Declaration

JANUARY 2022

PREPARED FOR

City of Half Moon Bay

PREPARED BY

SWCA Environmental Consultants

HALF MOON BAY
CORPORATION YARD UPGRADE PROJECT
DRAFT INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

Prepared for

City of Half Moon Bay
501 Main Street
Half Moon Bay, California 94019
Attn: Todd Seeley

Prepared by

SWCA Environmental Consultants
60 Stone Pine Road, Suite 100
Half Moon Bay, California 94019
(650) 440-4160
www.swca.com

SWCA Project No. 67708

City Project No. PDP-21-053

January 2022

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B2. Peer Review of the Biological Resources Report. 880 Stone Pine Road Project. Technical Memorandum, SWCA Environmental Associates
B3. Preliminary Delineation of Wetlands and Other Waters/Delineation of Coastal Zone Wetlands Within California Coastal Commission Jurisdiction. 880 Stone Pine Road Project, H.T Harvey & Associates
B4. Draft Frog/Snake Tunnel Design Proposal, Dr. Mark R. Jennings, Rana Resources
B5. Peer Review of H.T. Harvey & Associates Biological Resources Report for the City of Half Moon Bay Corporation Yard Upgrade Project, Dr. Mark R. Jennings, Rana Resources
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Acronyms and Abbreviations

2020 LCLUP	Local Coastal Land Use Plan adopted in 2020
AB	Assembly Bill
AMMP	archeological monitoring and mitigation plan
APN	Assessor's Parcel Number
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
BRR	Biological Resources Report
BSA	biological survey area
CAL FIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Commission
CCR	California Code of Regulations
CCWD	Coastside County Water District
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFPD	Coastside Fire Protection District
City	City of Half Moon Bay
CNDDB	California Natural Diversity Database
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Coastal Trail	Half Moon Bay Coastal Trail
County	County of San Mateo
CRHR	California Register of Historical Resources
CUSD	Cabrillo Unified School District
CY	cubic yards
DPS	Distinct Population Segment
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources

ESHA	Environmentally Sensitive Habitat Area
GHG	greenhouse gas
GIP	Green Infrastructure Plan
IS/MND	Initial Study/Mitigated Negative Declaration
LCLUP	Local Coastal Land Use Plan adopted in 2020
LID	Low Impact Development
LOS	level of service
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MRZ	Mineral Resource Zone
NAHC	Native American Heritage Commission
NO_x	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHWM	ordinary high-water mark
PERP	portable engine registration program
PG&E	Pacific Gas and Electric Company
PM_{10}	particulate matter, 10 microns or less
$PM_{2.5}$	particulate matter, 2.5 microns or less
POST	Peninsula Open Space Trust
PRC	Public Resources Code
project	Half Moon Bay Corporation Yard Upgrade Project
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SAM	Sewer Authority Mid-Coastside
SamTrans	San Mateo County Transit District
SFPUC	San Francisco Public Utilities Commission
Sheriff's Department	San Mateo County Sheriff' Department
SLF	sacred lands file
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SR-	State Route
SSC	Species of Special Concern
State	State of California

State Water Board	State Water Resources Control Board
SVP	Society of Vertebrate Paleontology
SWCA	SWCA Environmental Consultants
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
U-R	Urban Reserve
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHFHSZ	Very High Fire Hazard Severity Zone
VDECS	Verified Diesel Emission Control Strategies
VMT	Vehicle Miles Traveled
WUI	wildland urban interface

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CITY OF HALF MOON BAY

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY AND CHECKLIST

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this 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 and Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use and Planning	☐ Tribal Cultural Resources
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☐ Geology and Soils	☐ Population and Housing	☐ Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

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 an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT 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 EIR 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.

Todd J Seeley
Todd J Seeley (Jan 14, 2022 15:46 PST)

Jan 14, 2022

Signature **Date**

Printed Name
Todd Seeley, Public Works Superintendent

INITIAL STUDY CHECKLIST

BACKGROUND

PROPONENT NAME	**PHONE NUMBER**
City of Half Moon Bay	650-726-8265

PROPONENT ADDRESS
501 Main Street
Half Moon Bay, CA 94019

AGENCY REQUIRING CHECKLIST	**DATE SUBMITTED**
City of Half Moon Bay Public Works Department	January 14, 2022

PROPOSAL NAME
Half Moon Bay Corporation Yard Upgrade Project

CHAPTER 1. PROJECT DESCRIPTION

1.1 Introduction

Project Title: Half Moon Bay Corporation Yard Upgrade Project
Initial Study/Mitigated Negative Declaration

Lead Agency: City of Half Moon Bay
Public Works and Engineering Department
501 Main Street
Half Moon Bay, CA 94019

City Staff Contact: Todd Seeley, Public Works Superintendent
Maziar Bozorginia, City Engineer
Doug Garrison, Senior Planner

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DGarrison@hmbcity.com

Project Applicants: City of Half Moon Bay, Public Works and Engineering Department

The subject of this Initial Study/Mitigated Negative Declaration (IS/MND) under the California Environmental Quality Act (CEQA) is the proposed Half Moon Bay Corporation Yard Upgrade Project (project), which consists of constructing improvements and upgrades to City-owned property at the City's existing Corporation Yard at 880 Stone Pine Road, Half Moon Bay, California. The property currently contains the City's Corporation Yard facilities, as well as several Environmentally Sensitive Areas (ESHAs) and a Conservation Trail Easement. The project would be composed of the following improvements: a new access road would be constructed and the old access road loop abandoned; the approximately 4-acre Corporation Yard area would receive upgrades to the Corporation Yard facilities, including a new fabric tension warehouse (warehouse) building, trash and landscape materials enclosure (materials enclosure), solar field, roadways, parking areas, gates, and fencing; and approximately 12 acres of ESHAs, including a 50-foot riparian buffer area around Pilarcitos Creek and 100-foot wetland buffer area around an existing impoundment, would be protected with the installation of wildlife fencing including wildlife tunnels under the new access road. The remaining approximately 4-acre portion of the parcel (remainder area) would not receive any improvements. The remainder area is not a part of the project but may be developed under a subsequent project. The project is planned to be implemented in two phases. In Phase 1, the site would be cleared, prepared, and graded; water and electrical utilities would be upgraded; wildlife corridor fencing would be installed; a portion of the existing fencing within the 100-foot buffer of the impoundment would be removed; and a new materials enclosure, solar field, roadways, parking areas, gates, and fencing would be constructed. The existing dirt/gravel loop roadway would be removed. Preparation would include demolition of some existing features, including the existing trash bins, and removal of a number of existing metal shipping containers and trailers. Under Phase 2, the project would construct the new warehouse, including the foundation and the following interior improvements to the warehouse: storage rooms, offices, kitchenette, locker room, restrooms/shower rooms, and new electrical and utilities. The project includes installation of new fencing around a portion of the Corporation Yard area to fully enclose it and a security gate at the entrance of the Corporation Yard. Security lighting would be included at the gate and on the warehouse and materials enclosure.

Construction of the Corporation Yard upgrades would commence in April 2022 and take approximately 4 to 6 months to complete over the course of 2 to 3 years. This IS/MND includes a description of the existing environmental setting of the project and the environmental effects that may result from construction and operation of the project.

1.2 CEQA Statute and Guidelines

According to CEQA Statute Section 21064.5:

> MITIGATED NEGATIVE DECLARATION
>
> "Mitigated negative declaration" means a negative declaration prepared for a project when the initial study has identified potentially significant effects on the environment, but (1) revisions in the project plans or proposals made by, or agreed to by, the applicant before the proposed negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment."

According to California State (State) CEQA Guidelines Article 6. Negative Declaration Process:

> 15070. DECISION TO PREPARE A NEGATIVE OR MITIGATED NEGATIVE DECLARATION
>
> A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:
>
> (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
>
> (b) The initial study identifies potentially significant effects, but:
>
> (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
>
> (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.
>
> 15071. CONTENTS
>
> A Negative Declaration circulated for public review shall include:
>
> (a) A brief description of the project, including a commonly used name for the project, if any;
>
> (b) The location of the project, preferably shown on a map, and the name of the project proponent;
>
> (c) A proposed finding that the project will not have a significant effect on the environment;

(d) An attached copy of the Initial Study documenting reasons to support the finding; and

(e) Mitigation measures, if any, included in the project to avoid potentially significant effects.

1.3 Project Location

Regional Setting

The project site is located at the east end of Stone Pine Road between State Route (SR-) 92 and Pilarcitos Creek in the City of Half Moon Bay, San Mateo County, California. San Mateo County is situated along the central coast of California and encompasses approximately 554 square miles (including tidal waters) of the San Francisco Peninsula. The county's western border is on the Pacific Ocean and the eastern border is on the San Francisco Bay shoreline. The county is bounded by the city and county of San Francisco to the north and by Santa Cruz and Santa Clara Counties to the south and southeast, respectively.

The Santa Cruz Mountain Range traverses San Mateo County in a north–south direction, effectively dividing the county into two distinct regions: the Coastside and the Bayside. The Coastside is characterized by coastal terraces transitioning into the gently sloping foothills of the Santa Cruz Mountains. The Bayside is characterized by low-lying mudflats, marshes, artificial fill, and broad, flat alluvial plains. Farther west, this low-lying region transitions into the foothills of the Santa Cruz Mountains, increasing in slope to 15 to 30 percent near its crest. The City is situated along the Coastside, approximately 25 miles south of San Francisco, and encompasses approximately 6.4 square miles of land. It is bordered by the Pacific Ocean to the west, the Santa Cruz Mountains to the east, and unincorporated San Mateo County to the north and south. Figure 1-1 shows the project site location and regional vicinity.

Local Setting

The project site, at 880 Stone Pine Road, is the site of a former plant nursery at the east end of Stone Pine Road (Figure 1-2) with a total acreage of 20.33 acres. The site is gently sloping from north to south towards Pilarcitos Creek and varies from approximately 65 to 80 feet above mean sea level; the site drains by overland flow to Pilarcitos Creek. The eastern portion of the site is currently used as a Corporation Yard by the City, and the western portion of the site is undeveloped except for a former agricultural water impoundment/wetland (impoundment) in the northwestern corner that was used by the previous agricultural operation, a dirt/gravel loop road for access, and fencing around the entire site (Figure 1-3). The western portion of the site also contains several abandoned structures from the previous agricultural operations. A Pacific Gas and Electric Company (PG&E) transmission line crosses the western portion from north to south.

The project site is bordered by SR-92 to the north, a commercial center (Spanish Town) to the east, Pilarcitos Creek to the south, and townhomes and mobile homes to the west (see Figure 1-2). In the broader area, there are open space areas and agricultural greenhouses southeast of Pilarcitos Creek and southeast, east, and northeast of the project site. To the north, there are open space areas north of SR-92 and the Hilltop Mobile Home Park to the northwest.

The project site is partially visible from SR-92; however, it is partially screened by a row of cypress trees.

The project site is accessed by Main Street and Stone Pine Road via SR-92. Stone Pine Road connects to Main Street approximately 0.25 mile west of the project site.

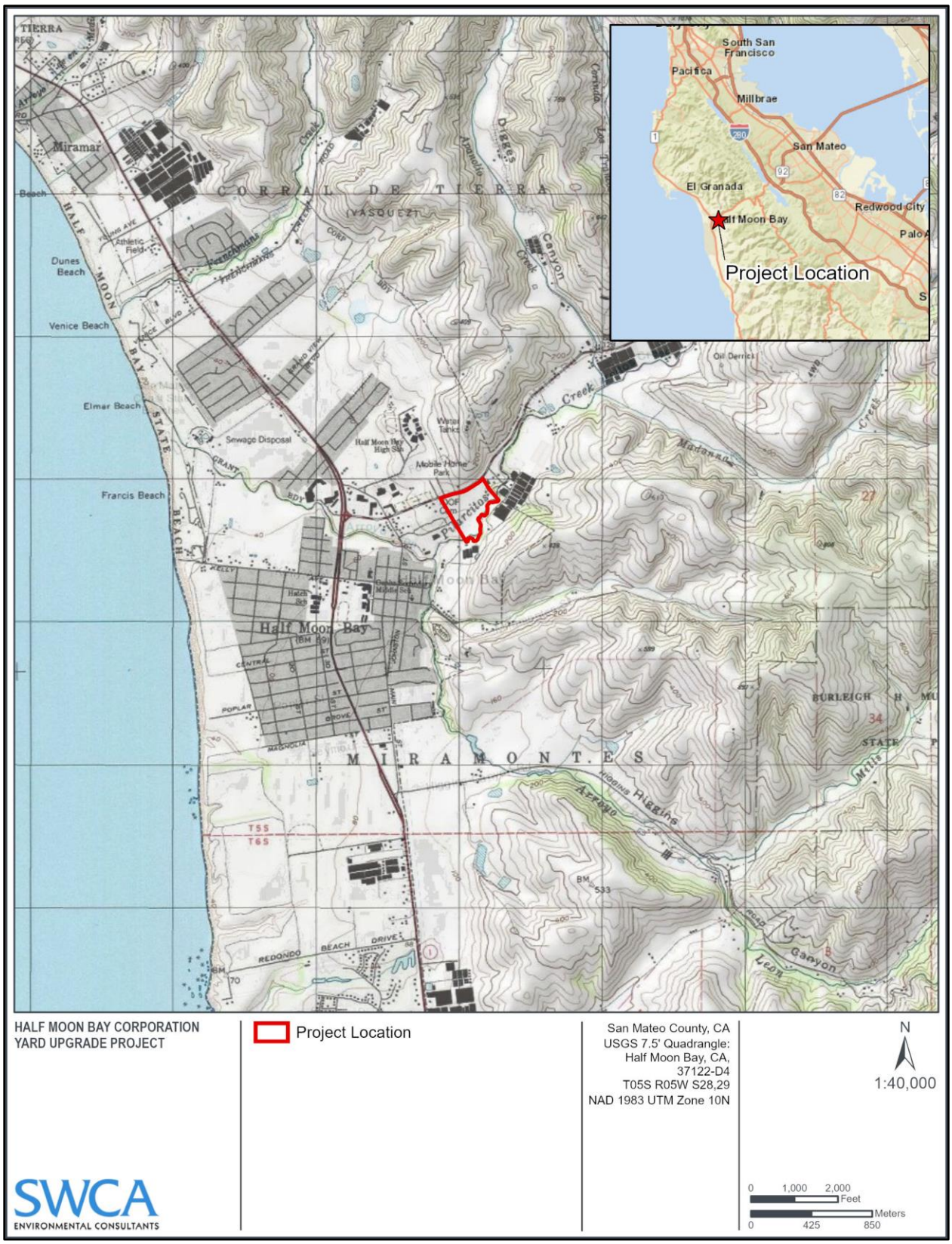


Figure 1-1. Project location map.



Figure 1-2. Project vicinity map.

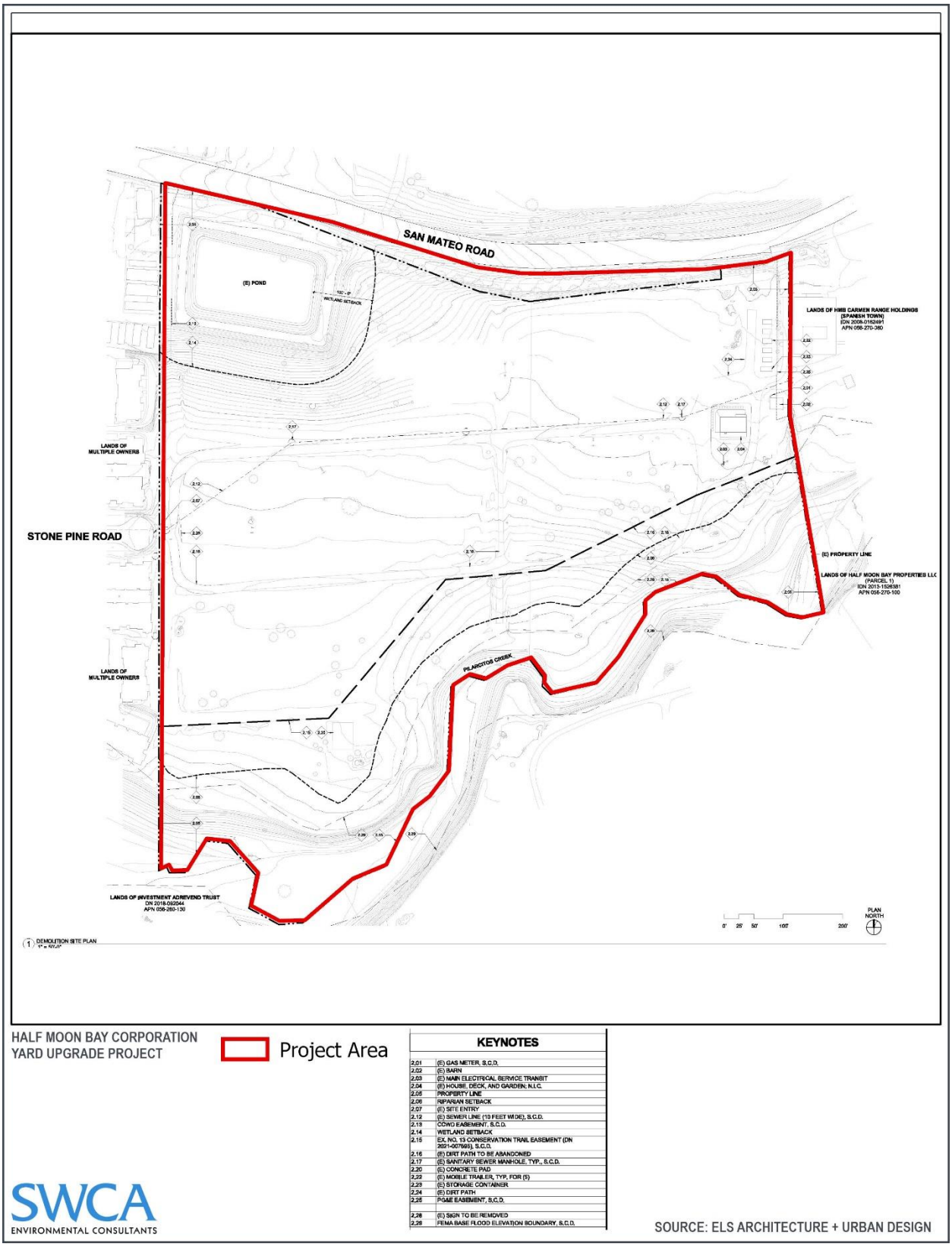


Figure 1-3. Existing facilities.

Existing Use and Facilities

Approximately 6 acres of the project site are currently in use as a Corporation Yard and contain a number of existing facilities (see Figure 1-3). The primary function of the Corporation Yard is storage, including vehicle storage, equipment storage, and trash and materials storage and removal. City vehicles are stored on dirt/graveled parking areas and include dump and haul trucks for construction materials, a backend loader, and other small construction equipment. There are four to five solid waste truck trips every week. Existing gravel roads are covered with re-purposed aggregate.

Trash and construction materials are stored in the existing trash and landscaping materials enclosure. Construction materials include, but are not limited to, sand, gravel, asphalt grindings, and base rock that are being transferred between projects. The yard also acts as a laydown yard for City projects.

Equipment and materials are stored in metal shipping containers. Emergency supplies for City and Coastside agencies are stored on-site. There is an existing building (formerly a ranch house) on-site that serves as office space and restroom facilities for staff. Currently eight employees work at the Corporation Yard. Each staff member makes an average of five round trips per day in and out of the yard. Most of these trips are done in City vehicles.

Many of the storage containers were removed prior to the start of the project. Existing facilities and recent and proposed changes are shown on Table 1-1 and in Figure 1-3.

There is an existing water impoundment at the northwest corner of the property. The impoundment is not in current use but provides breeding habitat for California red-legged frog, as does Pilarcitos Creek on the southern border of the project. There is an existing wildlife corridor that could potentially be used by California red-legged frog and San Francisco garter snake that crosses the parcel between the impoundment in the north and Pilarcitos Creek to the south.

Table 1-1. Existing Facilities and Changes Under the Proposed Project

Existing Facilities	Current Use	Changes Under Proposed Project
Within Corporation Yard Area		
Office, deck	Offices and restrooms	Existing structures would remain. No work would be done as part of the project.
Barn/Garage	Recently rebuilt and used for storage	None
Gravel/dirt access road	Existing Corporation Yard access	Loop road would be abandoned and replaced with single paved access road.
Gravel/dirt parking	Parking for employees and City vehicles	Parking areas would be abandoned and replaced with paved lots.
Trash enclosure, partially within 50-foot riparian setback	Storage for trash, recycling, gravel, and other landscaping and construction materials	Enclosure would be demolished and replaced in a different location.
Nineteen metal containers	Material and equipment storage	Containers owned by others have been removed by others. Containers with City supplies would be replaced by the warehouse.

Existing Facilities	Current Use	Changes Under Proposed Project
Wildlife Corridor	Currently open and undefined between impoundment and Pilarcitos Creek	A minimum 50-foot-wide corridor would be fenced from the impoundment leading east, then south, which would fan out near Pilarcitos Creek and be fenced on the north side of the Conservation Trial Easement along the southern boundary. It would include frog/snake tunnels under the access road. Either permanent or temporary wildlife fencing would extend along the north side of the Conservation Trail Easement from the Corporation Yard to the western border as part of this project. Temporary fencing would be replaced with a permanent solution within 1 year.
Trees	Not Applicable (N/A)	Twelve trees would be removed as part of the project. The City would plant 12 trees on the site or elsewhere in the City to replace at a 1-to-1 ratio.
Outside of Corporation Yard Area		
Water impoundment/wetland	No current use	Portions of the existing southern and eastern fencing around the impoundment would be removed and replaced with wildlife fencing 100 feet from the perimeter that would connect to the proposed wildlife corridor. The impoundment would not be impacted.
Wildlife corridor	N/A	Wildlife corridor would be fenced and provided with a frog/snake tunnels under new road. Portions of the existing fencing inside the 100-foot buffer zone on the south and east sides would be removed to allow access to the wildlife corridor.
Gravel loop road	Access	Would be abandoned and replaced with a single paved access road, including frog/snake tunnels under the road.
Fencing around Corporation Yard	Security	The Corporation Yard is currently fenced on the northern and eastern borders. New fencing would be installed on the western and southern borders of the Corporation Yard to complete the security fencing around City facilities. No existing perimeter fencing will be removed.

Source: ELS Architecture + Urban Design (2020)

1.4 Land Use and Zoning

The project site is owned by the City and located entirely within the City limits. Under the *City of Half Moon Bay Local Coastal Land Use Plan* (LCLUP), the project site is designated as Public Facilities and Institutions. This designation provides for "educational, governmental, agricultural, habitat restoration, and institutional uses, such as public schools, public works and utilities yards and maintenance buildings, community gardens, public hospitals, and quasi-public uses including churches, and healthcare uses such as hospitals, clinics, and assisted living facilities."[1] The LCLUP Land Use Map designates Pilarcitos Creek, adjacent to the project area, as a Greenbelt Stream Corridor.

[1] City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update*. October 20. Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed August 3, 2021.

Under the Half Moon Bay Municipal Code, existing zoning for the entire project site is currently designated Urban Reserve (U-R); however, the intended future zoning of this site is Public/Quasi Public (P-S).[2,3] Permitted uses for the Public/Quasi Public (P-S) districts include fire stations, schools, airports, libraries, churches, civic centers, hospitals, cemeteries, parks, and emergency shelters. Under Zoning Code Section 18.03.040, public and semipublic classifications include Maintenance and Service facilities, defined as: "*Facilities providing maintenance and repair services for vehicles and equipment, and materials storage areas for public or quasipublic entities. This classification includes corporation yards, equipment service centers, and similar facilities for public or quasipublic entities*."[4,5] In certifying the LCLUP, the California Coastal Commission (CCC) specifically noted if there were discrepancies between the LCLUP designations and policies and the zoning code, the LCLUP is the ruling document.

The entire City is in the California Coastal Zone. The project is approximately 1.2 miles east of the Pacific Ocean and is within 50 feet of Pilarcitos Creek at its closest point; therefore, it is in the California Coastal Zone. The California Coastal Zone was established by the California Coastal Act of 1976 and is under the jurisdiction of the CCC. Chapter 3 of the California Coastal Act includes provisions that address the impact of development on public services, infrastructure, traffic, the environment, significant resources, and coastal access.

In October 2020, the City adopted a new LCLUP,[6] which was certified by the CCC on April 15, 2021. The LCLUP together with the City's Zoning Ordinance, Subdivision Ordinance, and zoning map constitute the Local Coastal Program for the City's coastal zone. A Coastal Development Permit (CDP) is required for construction of the project. The City is the designated agency responsible for CDP approval of projects within the City limits.

The property has been used historically as an agricultural operation. The City began to use the land under a license agreement and subsequently under a lease following purchase of the land by Peninsula Open Space Trust (POST) in 2005. The City has maintained the parcel on behalf of POST (until recent purchase by City) and has used a portion of it as a Corporation Yard. In 2020 the City purchased the property from POST. As part of the purchase agreement, for portions of the land which were not developed for municipal uses, the City agreed to "*consider public uses including, but not limited to, passive open space, nature trails, and uses of the land that recognize and are consistent with the property's legacy use as agricultural land.*" In addition, the City agreed to pursue restoration of the portion of Pilarcitos Creek on the parcel and develop a public access trail adjacent to Pilarcitos Creek from the property to Carter Park[7] (refer to Figure 1-3 for the No. 13 Conservation Trail Easement). The proposed project protects these sensitive areas, but solely addresses upgrades to the City's Corporation Yard. Restoration of Pilarcitos

[2] City of Half Moon Bay. 2015. Half Moon Bay Zoning Map. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/129/Zoning-Map-PDF. Accessed August 3, 2021.

[3] City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update*. *Appendix A LUP Implementation.* Table A-1. Zoning Map Amendments. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3765/Appendix-A-LUP-Implementation. Accessed December 15, 2021.

[4] City of Half Moon Bay. 2020. *Half Moon Bay Municipal Code, Chapter 18.09. Public and Quasi Public Land.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay18/HalfMoonBay1809.html#18.09. Accessed December 15, 2021.

[5] City of Half Moon Bay. 2020. *Half Moon Bay Municipal Code, Chapter 18.03.Use Classifications.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay18/HalfMoonBay1803.html#18.03. Accessed December 15, 2021

[6] City of Half Moon Bay. 2020. *City of Half Moon Bay Local Coastal Land Use Plan 2020 Comprehensive Update*. October 20. Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed August 3, 2021.

[7] City of Half Moon Bay. 2020. 880 Stone Pine Purchase and Sale Agreement between Peninsula Open Space Trust and City of Half Moon Bay.

Creek and development of a public trail are not part of the proposed project; however, the City is committed to both restoring portions of Pilarcitos Creek in and adjacent to the boundary of the property and development of a creek-side pedestrian trail.

1.5 Proposed Project

The project would result in the development/redevelopment of approximately 4 acres of the 20.33 acres for use as a City Corporation Yard on the northeast end of the property. Related improvements to the Corporation Yard include a paved access road with frog/toad tunnels under the new access road. Some related improvements would be made to protect the approximately 12 acres of ESHAs on the site. These would include wildlife fencing around the 100-foot buffer for the impoundment, proposed wildlife corridor, and on the north side of the Conservation Trail Easement. Future improvements to the parcel include construction of a pedestrian trail in the Conservation Trail Easement and restoration of the riparian area adjacent to Pilarcitos Creek to the south. The remaining approximately 4 acres of the parcel are not part of the project or proposed to be developed at this time. Improvements would be made to utilities that cross the remainder area (potentially including electrical, water, and sewer lines). The exact locations of the access road and wildlife corridor are still being studied. The road alignment would be located as far to the north as is practicable based on traffic safety, vegetation, avoidance of ESHAs, and landforms. All new utilities will be undergrounded, and the new electrical connection would be undergrounded from the utility pole closest to the existing office (former residence). Proposed improvements are shown in Figures 1-4 and 1-5.

The project is to be developed in two phases. Phase 1 includes construction of the wildlife corridor; clearing, preparation, and grading of the site per the development plans; and development of most of the new facilities. Preparation would include demolition of some existing features, including the existing materials enclosure and portions of the existing fence around the impoundment. Wildlife fencing would be installed. Utilities, including water, sewer, and electrical utilities, would be upgraded. A new roadway and two parking areas, new materials enclosure, and new solar field would be constructed. Under Phase 1, new perimeter fencing with a security gate would be installed on the south and west sides of the Corporation Yard consistent with the defined Corporation Yard boundaries on the development plans. Security lighting would be installed at the gate and on the exterior of the warehouse and materials enclosure.

In addition to road, utility line, and security fencing around the Corporation Yard, the project would add wildlife fencing around the water impoundment and wildlife corridor, designed to guide sensitive species between the water impoundment and Pilarcitos Creek. The wildlife fence would surround a portion of the water impoundment and funnel movement from the impoundment to frog/snake tunnels constructed under the new access road, and then to Pilarcitos Creek. The portion of the existing security fencing around the impoundment on the south and east sides that are within the 100-foot wetland buffer area would be removed, and wildlife fencing would be erected around the impoundment at the 100-foot buffer line or property line, whichever is closer. At the southern end of the wildlife corridor, the wildlife fencing would fan out north of the Conservation Trail Easement and continue on the north side of the Conservation Trail Easement. Temporary wildlife fencing may be installed east of the Corporation Yard. If temporary

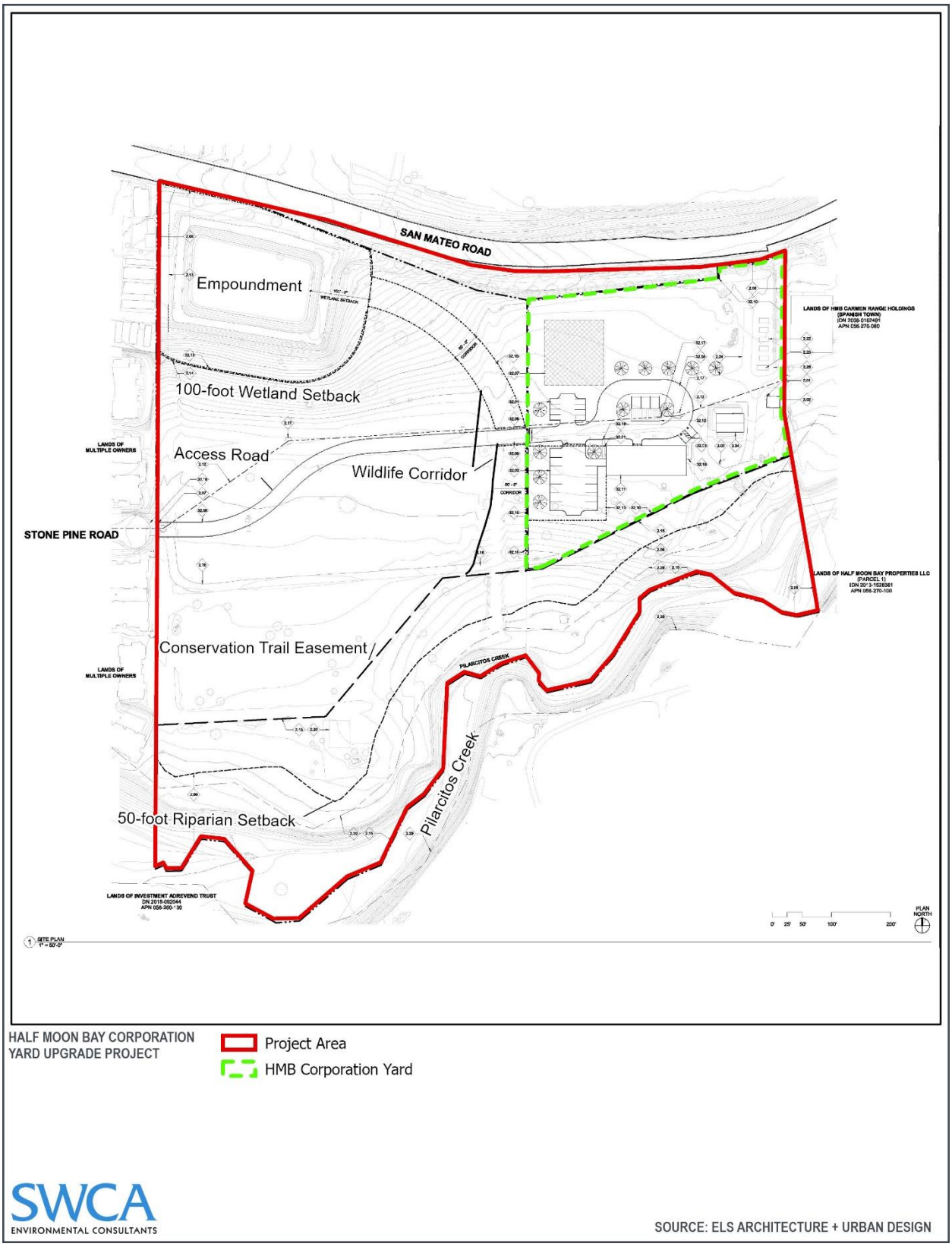


Figure 1-4. Proposed project.

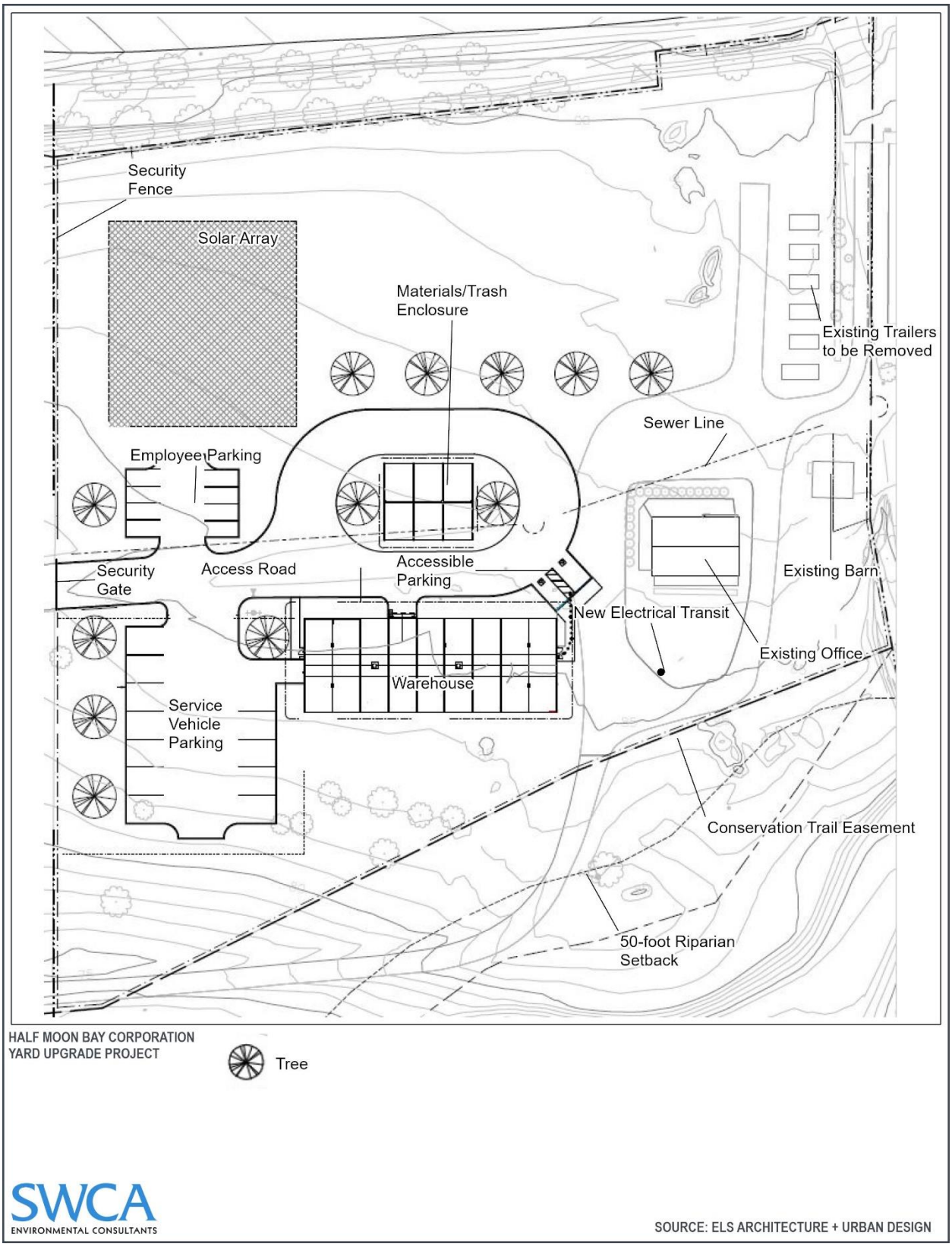


Figure 1-5. Proposed Corporation Yard facilities.

fencing is used, it would be inspected once a week and replaced with a permanent solution within 1 year under a separate project. The wildlife fence would be constructed of chain-link fencing with slats to prevent sensitive species from crossing. The access road would be raised to accommodate four frog/snake tunnels under the road and prevent sensitive species from crossing the road surface. The frog/snake tunnels would be constructed of concrete box culverts. The City would maintain an approximately 10-foot-wide access corridor adjacent to the wildlife corridor to allow access for maintenance.

Under Phase 2, the project would construct the new warehouse with restrooms in the Corporation Yard, including foundation, erection of the warehouse, and installation of fire sprinkler system, and new electrical, water, and sewer utilities. This phase would also include interior improvements to the warehouse, including storage rooms, locker rooms, kitchenette, and restrooms/shower rooms. The proposed project is shown in Figures 1-4 and 1-5.

Potential additional uses of and improvements to the parcel outside the Corporation Yard area could include, but would not be limited to, a trailhead and trail along the No. 13 Conservation Trail Easement, a visitor parking area, and restoration of Pilarcitos Creek. These potential future uses would be conducted under a future project or projects. Potential future improvements to the remainder area, apart from the improvements to utilities, could include, but would not be limited to, an additional potential solar generation field, a community garden, and/or housing. Any improvements to the remainder area would be conducted under a future project or projects.

As the City owns the entirety of the property, no parceling is necessary at this time to implement the project. The City may choose to parcel the property either through a Boundary Line Adjustment or other means provided under the State Subdivision Map Act and in accordance with the Coastal Act.

Phase 1

Phase 1 would include site clearing and preparation; demolition of some existing features; and construction of roads, parking areas, utilities, a materials enclosure, and a solar field. New security fencing would be installed around the south and west sides of the Corporation Yard area, to fully enclose City facilities, with a card-activated gate. Security lighting would be installed at the gate and on the warehouse and material enclosure. Security lighting at the gate may be continuous and would likely be confined to illuminating the keypad for entry. As required by City code, all lighting would be directed downward and shielded to prevent spillover onto neighboring properties. Security lighting will likely be on timers or photocells to turn them on at night. No other nighttime lighting is anticipated.

Specifically, Phase 1 of the project would include the following:

- Removal of existing facilities as described in Table 1-1;
- Grubbing and grading as required for new facilities; construction of an asphalt-paved access road designed to include the frog/snake tunnels under the road; and construction of two accessible parking stalls adjacent to the warehouse. The precise location of the road is being determined and may change slightly from that shown in Figure 1-4;
- Construction of the 50-foot-wide wildlife corridor with wildlife exclusion fencing and 10-foot-wide access paths on either side. The wildlife fence would surround the water impoundment at the 100-foot buffer line or the property line, whichever is closer, and direct movement of sensitive species to frog/snake tunnels under the new access road, prevent sensitive species from crossing the road, and fan out on the north side of the Conservation Easement toward Pilarcitos Creek. The corridor would include four frog/snake tunnels under the access road constructed of four 3-foot-wide by 2-foot-tall concrete box culverts. The road would be elevated to accommodate the frog/snake tunnels;

- Construction of a paved staff parking area with eight parking stalls;
- Construction of a paved service vehicle parking area with 12 parking stalls;
- Construction of a new 11,000-square-foot solar field north of the new parking area with connection to new PG&E service;
- Installation of a new picnic area near the existing on-site office building that was formerly a residence;
- Construction of an approximately 40-foot by 47-foot roofed materials enclosure with six bays, approximately 15 feet in height, that would include a French drain to the existing sanitary sewer that crosses the enclosure footprint, and security lighting;
- Installation of a new electrical service transit and electrical upgrades, to be undergrounded from the utility pole south of the existing offices (former residence);
- Installation of new water service upgrades, including fire hydrants and sprinklers;
- Installation of security fencing around south and west sides of the Corporation Yard, including one automatic rolling gate with keycard entry at the Corporation Yard entrance;
- Installation of drainage improvements that meet the requirements of the *City of Half Moon Bay Green Infrastructure Plan* (GIP)[8] to prevent sediment-laden runoff to Pilarcitos Creek; and
- Protection of the existing No. 13 Conservation Trail Easement and wetland and riparian setbacks.

Some construction equipment, such as a backhoe and haul trucks, is currently stored at the site. During project construction, the existing site, primarily the existing dirt road that runs between the two main roads, would be used to stage equipment. The staging area would be used for equipment storage, materials staging, and parking.

MATERIALS ENCLOSURE

The materials enclosure would include six bays for storage of wood, gravel, sand, compost, trash, and recycling materials. Each bay would be 15 feet by 20 feet and partially enclosed with 5-foot-4-inch-high side walls. The entire structure would be roofed with a metal roof over plywood supported by a metal frame and would be approximately 40 feet by 47 feet and 15 feet in height. The structure would have a continuous French drain to divert runoff to an existing sanitary sewer, which would prevent contaminated drainage from leaving the enclosure.

SOLAR FIELD

The solar power-generating system would include an estimated 80 solar panels, 66 inches by 40 inches in size. They would be mounted in banks of six on angled mounts, with one inverter and interconnection facilities to a new, on-site, PG&E switchboard to support the Corporation Yard. The solar field would provide 100 percent of the electricity required by the Corporation Yard.

The solar field would cover approximately 11,000 square feet. The approximately 80 solar panels would be fixed in a south-facing direction. Each rack would be approximately 10 feet wide. The racking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. Each rack would have a height up to 8 feet, 4 inches above grade. The minimum clearance from the lower edge of the panel to ground level would be approximately 30 inches.

[8] City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. September. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed August 6, 2021.

The installation would include one aboveground inverter station, which would collect the generated power in a central location, convert the power to the appropriate voltage, and feed it into the new PG&E main switchboard south of the current office (former residence). The transmission line would run underground from the inverter to the switchboard in a trench approximately 24 to 36 inches in depth.

WILDLIFE CORRIDOR

The wildlife corridor would be 50 feet wide and directed northeast from the water impoundment, then southeast along the new Corporation Yard fence line to the riparian corridor around Pilarcitos Creek. North of the Conservation Trail Easement it would fan out to create a wider entrance. A wildlife fence line would also be added along the northern border of the Conservation Trail Easement, running east to west to funnel any dispersing wildlife into the wildlife corridor from Pilarcitos Creek.

A portion of the security fencing around the current impoundment would be removed. The northern and western fence lines would be expanded to the current edge of the PG&E easement on the northern edge of the property and to the property boundary on the western edge of the property and remain as a 6-foot-tall fence. The eastern and southern fence lines would be expanded to the 100-foot wetland setback and would be composed of 4-foot-tall chain-link wildlife fence. The access gate located in the northeast corner of the fence would remain in place. All wildlife fencing would be installed with aluminum slats or vinyl slats (with wings) to exclude frogs and snakes. Gaps at the ends of the fencing would be covered with slats bolted together. The bottom of the fencing would be buried in the soil to a depth of 2 inches (except at the entrance to the movement corridor on the east side of the fence line. Here, no slats would be installed, and the fencing would leave a gap of 2 inches at the bottom for frogs and snakes to pass).

The wildlife fencing around the movement corridor itself and along the Conservation Trail Easement would be chain-link fencing 4 feet tall. It would also be buried 2 inches at the bottom and covered with aluminum or vinyl slats. Gaps at the ends of the fencing would be covered with slats bolted together. Access gates would be installed on the west side of the fence lines. This fence would also connect on either side of the roadway to prevent frogs and snakes from entering the roadway.

Wildlife fencing along the Conservation Trail Easement may be constructed of a temporary material (such as ERTEC brand or similar material) during construction and for up to 1 year following the completion of construction. The temporary wildlife fencing would be maintained weekly by Corporation Yard staff. After 1 year, the temporary wildlife fencing must be assessed by a qualified biologist; at that time, the temporary fencing would be replaced with a permanent wildlife fence or a timeline for permanent fence installation would be established.

Where the wildlife corridor crosses the new access road, it would cross under via frog/snake tunnels. The access road would be elevated to admit the frog/snake tunnels. The frog/snake tunnels would be composed of four 3-foot-wide and 2-foot-tall concrete box culverts. They would be spaced under the roadway with culverts on the west and east sides flush against the adjacent wildlife fencing, and the remaining two culverts spaced approximately 14 feet from one another. The culvert bases would be at ground level and installed at a 2 percent slope to drain water. Either a trench or raising the roadway would be required to ensure that the culvert bases are properly aligned on the ground level. Whichever method is used, the end result would be to prevent any water from ponding in the culverts for extended periods. The floor of each culvert would contain an inch or so of natural soil (to cover the concrete base). The level of this soil base would be even with the soil level at the entrance and exit of each box culvert.

There would be a 10-foot-wide path on either side of the wildlife corridor, as well as gates in the fence, to provide access for maintenance. It is anticipated that, if feasible, domestic goats would be used to graze the area around the impoundment and the migration corridor on an annual basis for vegetation fuels

management. If goat grazing is not feasible, vegetation management may be accomplished by using hand tools with a biological monitor present.

Phase 2

Phase 2 includes the construction of the warehouse, which would be a 50-foot by 135-foot tension fabric building, approximately 23 feet 9 inches in height. The warehouse would be erected on a new concrete pad foundation with underslab piping for electrical and future plumbing. A fabric tension structure is made up of a flexible membrane material supported by cables and structural steel members. The structure would have a corrugated steel frame. The exterior would be tan in color (Figure 1-6). Following construction of the structure, the City will complete interior improvements to the structure. The warehouse would include two accessible restrooms with showers, one locker room, one kitchenette, two 220-square-foot offices, two 300-square-foot storage rooms, and related mechanical/plumbing/electrical systems for the interior. All interior rooms would be "stick-built" drywall on metal stud framing within the warehouse. The remainder of the floor space would be used as a workshop and for equipment and materials storage. Security lighting would be added to the outside of the warehouse.

The project would result in approximately 54,260 square feet (approximately 1.25 acres) of new impervious surface area, consisting of new pavement for the access road and parking areas, concrete foundations for the warehouse, and the materials enclosure. The project would be required to comply with the City's GIP to control runoff. Green infrastructure is anticipated to include flow-through, planter-style stormwater channels that would filter contaminants from the stormwater before it enters Pilarcitos Creek.

Construction

Project construction would involve grubbing and grading new construction areas, trenching for new utilities (primarily electrical and water), paving access road and parking areas, pouring concrete foundations, constructing two new structures, constructing the new solar field, and installing GIP stormwater facilities.

The existing ground surface would be grubbed and graded and would require excavation of approximately 1,475 cubic yards (CY) of cut and 3,810 CY of fill. No fill would be imported. The project would require importation of approximately 1,025 CY of aggregate base, 675 CY of asphalt for roadways and parking areas, and 160 CY of concrete for curbs, gutters, and foundations. Excavation depths would not exceed 5 feet. The deepest excavation would occur at the planter located at the Stone Pine entrance. The exported materials would be hauled off for disposal or recycling. The project would generate approximately 59 round-trip haul truck trips (assuming a 10-CY dump truck), or 74 round-trip truck trips, assuming an 8-CY dump truck.

Construction would likely commence in April 2022 and would take approximately 4 to 6 months to complete and may occur over 2 to 3 years. Phase 1 would likely be started in April 2022 and completed by October 15, 2022. Phase 2 may not occur for 2 or 3 years, based on budget considerations. Construction would occur during dry weather only. Construction hours would be limited to 8:00 a.m. to 5:00 p.m., Monday through Friday. Although the City allows construction from 8:00 a.m. to 6:00 p.m. on Saturdays and 10:00 a.m. to 6:00 p.m. on Sundays, weekend construction is not anticipated and would require permission from the City.[9]

[9] City of Half Moon Bay. 2021. Noise Restrictions Webpage. Available at: https://www.half-moon-bay.ca.us/210/Noise-Restrictions. Accessed June 3, 2021.

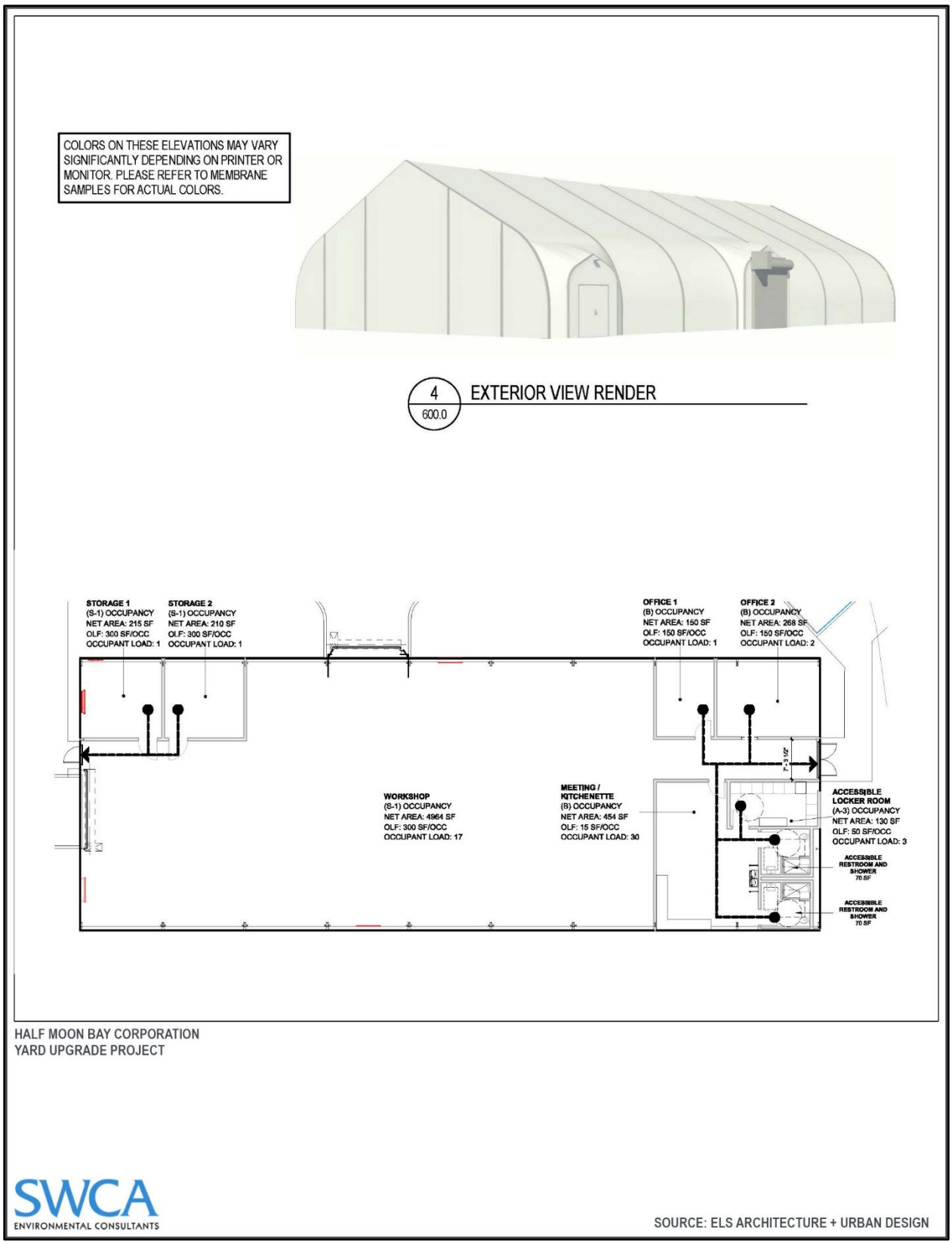


Figure 1-6. Tension fabric warehouse design.

Access for construction would be from Stone Pine Road. Construction staging and materials staging would occur on-site. All work would comply with the Regional Water Quality Control Board (RWQCB) Best Management Practices (BMPs). Construction equipment would likely include the following:

- milling machine
- paver
- asphalt trucks
- hauling trucks (10-CY dump truck)
- cement mixer
- scraper
- bulldozer
- backhoe
- boom truck
- forklift
- rubber-tired loader
- motor grader
- steel drum roller
- crane or scissor lift
- water truck
- hand tools, such as saws and hammers

Construction of the solar field would involve the following activities:

- Site preparation and clearing/grading
- Underground work (trenching)
- Solar array installation
- Inverter installation
- Trench and connection to existing new PG&E switchboard
- Testing and commissioning
- Site cleanup and restoration

Grading for solar field construction is expected to be minor because the site is fairly level. However, grading would be necessary for construction of the racking system and inverter pads. Scrapers, motor graders, water trucks, dozers, and compaction equipment are expected to used for grading.
The photovoltaic (PV) modules would be offloaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed. Construction equipment would be delivered to the site on “low-bed” trucks unless the equipment can be driven to the site (e.g., boom trucks).

Vegetation on-site would be modified only where necessary and would be removed where structures are to be constructed (if necessary). Water use during construction would be minimal and would be required primarily for dust control and concrete mixing.

Operation

Operations and personnel at the Corporation Yard would not change as a result of the project with the exception of the solar field. With the addition of electrical energy from the solar field, the Corporation Yard would have a net zero carbon footprint. Operation and maintenance of the solar field would require periodic maintenance and washing of the solar panels approximately twice a year. Washing the panels would require approximately 2,000 gallons of water per year.

1.6 Requested Action and Required Permits

This IS/MND provides environmental information and analysis in compliance with CEQA, which is necessary for City decision makers to be able to adequately consider the effects of the project. The City, as the CEQA lead agency, has approval authority and responsibility for considering the environmental effects of the project as a whole. The CCC would serve as a Responsible Agency under CEQA. The City is responsible for authorizing and approving the project. The IS/MND, in conjunction with other project documents as necessary, would be used for the CDP discretionary approval.

The project is requesting approval of a Coastal Development Permit (CDP).

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CHAPTER 2. ENVIRONMENTAL CHECKLIST AND RESPONSES

2.1 Aesthetics

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
(a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
(c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (public views are those that are experienced from publicly accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Environmental Evaluation

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista generally provides focal views of objects, settings, or features of visual interest, or panoramic views of large geographic areas of scenic quality, from a fixed vantage point or linear corridor, such as a roadway or trail. A significant impact would occur if a project introduced incompatible scenic elements within a field of view containing a scenic vista or substantially block views of an existing scenic vista.

The project site is located on the south side of SR-92 as it enters the City and is visible from SR-92's eastern gateway to the City where westbound SR-92 enters City limits. SR-92 within City limits is identified as part of the Town Boulevard Corridor in the City's 2020 LCLUP Scenic and Visual Resources Element, and provides a sweeping view of the ocean and town upon entering City limits. Eastbound, SR-92 provides scenic views of the hillsides and ridges of the coastal mountains.[10] Looking south from SR-92 provides views of the Pilarcitos Creek riparian corridor that are often blocked by trees or commercial buildings. The landscape of the project site slopes downward from the road, so the project site is lower than the roadway by 10 to 20 feet and is heavily screened by a row of cypress trees on the project site's northern border. In addition, the new building would be sited as far away from the road as possible to reduce visual massing from the highway and would use neutral colors to further lower its visual impact. Therefore, improvements to the project site would not block scenic views of the coastal hills or the town. There are also interrupted views of Pilarcitos Creek's riparian corridor from SR-92.

[10] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 10, 2021.

These views are partially blocked by the row of cypress trees fronting the highway and currently include Corporation Yard facilities, including a number of temporary structures, in the foreground. Although the warehouse will have a larger footprint, it will replace a number of temporary storage containers and the overall view of Pilarcitos Creek with Corporation Yard facilities in the foreground would be similar to existing conditions (Figures 2-1 and 2-2). Therefore, this impact would be less than significant.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a scenic highway?

The project is adjacent to SR-92, which is an eligible scenic highway.[11] In addition, the project is approximately 0.43 mile east of SR-1, which is an eligible scenic highway as it passes through the City.[12] The 2020 LCLUP identifies the need to protect "significant" views available along SR-92, including the "sweeping view of the ocean and town upon entering city limits."[13] The project is located on the south side of SR-92 as it enters City limits. The project involves improvements to the existing Corporation Yard including the construction of a new warehouse, materials enclosure, solar field, roadway, and parking lots. As discussed in Section 2.1.a, the existing Corporation Yard is largely screened by a row of cypress trees on its northern border and is lower than the roadway by 10 to 20 feet. The project would remove 12 trees on the Corporation Yard site in the footprints of the new warehouse, materials enclosure, fence line, access road, and parking areas. The trees would be replaced at a 1-to-1 ratio on the project site. No trees in the riparian corridor would be removed. There are no rock outcroppings, or historic buildings that are listed or eligible for listing (see Section 2.5, Cultural Resources), on or adjacent to the project site. Therefore, impacts to scenic resources within a scenic highway would be less than significant.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (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?

The project site is located in an urbanized area on the south side of SR-92 as it enters the City, but is lower than the roadway by 10 to 20 feet and is heavily screened by a row of cypress trees on the project site's northern border. The project site is visible from SR-92's eastern gateway to the City where westbound 92 enters City limits. SR-92 within City limits is identified as part of the Town Boulevard Corridor in the City's 2020 LCLUP Scenic and Visual Resources Element, and provides a sweeping view of the ocean and town upon entering City limits.[14]

A visual resource analysis is not required by CEQA; however, visual simulations have been prepared for this project to inform the planning process and to ensure conformity with LCP policies and zoning requirements (see Figures 2-1 and 2-2).

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[11] An eligible state scenic highway is one identified in Section 263 of the Streets and Highways Code and may be nominated by local governments. To be converted to a designated state scenic highway, the local government agency must develop a Corridor Protection Program and submit it to Caltrans.

[12] California Department of Transportation (Caltrans). 2021. Scenic Highways Webpage. Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed September 9, 2021.

[13] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 10, 2021.

[14] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 9 Scenic and Visual Resources.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 10, 2021.



Figure 2-1. Visual simulation from Highway 92 looking southwest.

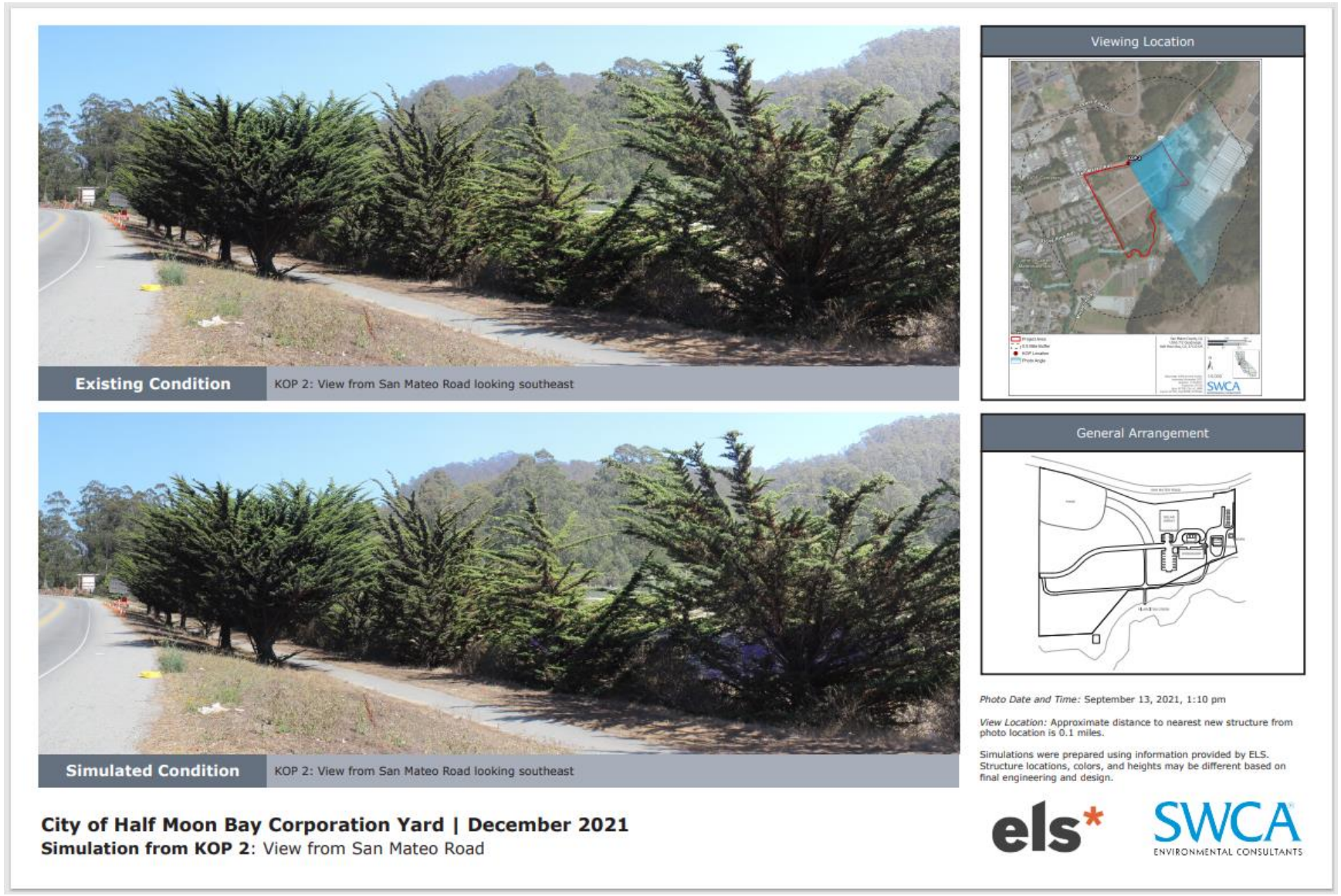


Figure 2-2. Visual simulation from Highway 92 looking southeast

The project's consistency with LCLUP policies is shown in Table 2.1-1.

Table 2.1-1. Project Consistency with LCLUP Policies.

LCLUP Policy	Consistency
Policy 9-5. Visual Impact Evaluation. Where any development is proposed within a scenic and visual resource area, including as designated on Figure 9-1, a site-specific visual impact evaluation shall be required and may include visual simulations, story poles, and/or other means of visual assessment as appropriate based on the type and location of development.	Consistent. Visual simulations were prepared for this project and used to inform the City's planning. This section analyzes the visual impacts of the proposed project. The project will be required to install story poles at least 10 days prior to the public hearing.
Policy 9-10. Fences, Walls and Landscaping. Ensure that fences, walls, and landscaping shall not block public views of or from scenic and visual resource areas including along scenic corridors, at parks and beaches, and other scenic public viewing areas through height restrictions and required landscape maintenance.	Consistent. The project site currently has chain-link security fence between the site and SR-92. The project would include some chain-link fencing farther from and downslope of SR-92, which would not block views of scenic resources. The new warehouse would replace existing smaller temporary structures, is situated downslope and as far from SR-92 as possible while avoiding ESHAs, and includes neutral earth-tone colors and well-designed exterior lighting that reduces glare and offensive spillover. The new facilities would be clustered with existing buildings, including commercial buildings on the adjacent Spanishtown property.
Policy 9-11. Landscape Screening. Prioritize avoidance of development impacts to scenic and visual resource areas through site planning and design alternatives over landscape screening. Landscape screening as mitigation of visual impacts shall not substitute for project alternatives including re-siting or reducing the height or bulk of structures, but may be used where appropriate to soften any unavoidable visual impacts of new development. Where permitted, landscape screening shall be comprised of native and drought tolerant species and shall be maintained such that scenic views are not blocked at maturity.	Consistent. The project has been designed to minimize impacts to scenic resources while upgrading Corporation Yard facilities. The site is currently partially visually screened from view from SR-92 by a row of cypress trees. The new warehouse would replace existing smaller temporary structures, is situated downslope and as far from SR-92 as possible while avoiding ESHAs, and includes neutral earth-tone colors and well-designed exterior lighting that reduces glare and offensive spillover. The new facilities would be clustered with existing buildings, including commercial and industrial buildings on the adjacent Spanishtown property. No additional screening is anticipated.
9-12. Town Boulevard Scenic Corridor. Require that new development in close proximity to or easily visible from the Town Boulevard scenic corridor, including Highways 1 and 92: a. Protects views of visual resource areas as seen from the Town Boulevard, including views to the ocean, upland slopes (i.e. minimizes intrusions into the ridgeline), and the historic Johnston House; b. Incorporates design standards such as screening of commercial parking areas and landscaping provisions; and c. Is visually compatible with the surrounding land and development.	Consistent. The project is downslope from SR-92 and would upgrade existing Corporation Yard facilities. Surrounding development includes a commercial center to the east and mobile home park to the west. The Corporation Yard is largely screened from view by an existing row of cypress trees and is visually compatible with existing development.
Policy 9-30. Dark Night Skies. Protect dark night skies as part of Half Moon Bay's scenic and visual character by preventing light pollution from development. Avoid impacts from exterior lighting on dark night skies, sensitive habitat areas, and agricultural operations by: a. Limiting exterior lighting to low-intensity fixtures that are shielded, down-cast, and concealed so that the light source is not directly visible from public viewing areas, with the exception of traffic lights, navigational lights, and other similar safety lighting	Consistent. The project would comply with all lighting requirements of the municipal code. Lighting would consist of low-intensity fixtures that are shielded, down-cast, and concealed to the extent feasible. from public viewing areas and sensitive habitat. The new facilities would be in the existing Corporation Yard facility and adjacent to a commercial area; therefore, the project would result in minimal changes in exterior lighting levels. All lighting would be downward facing, shielded, and designed to reduce glare and spillover and therefore would not impact adjacent sensitive habitat.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The project would upgrade the existing Corporation Yard facilities and would include installation of building-mounted security lighting on the warehouse and materials enclosure, as well as pole-mounted security lighting at the new gate. All new lighting would be downward-facing and shielded, and would meet all requirements of the City municipal code. The new facilities would be constructed of non-glare materials, including asphalt, tension fabric, concrete block, and metal roof. The metal roof of the material storage and waste enclosure would have a non-glare coating. Solar panels would be oriented in a southwest direction to maximize efficiency, which would orient them away from SR-92 and minimize glare, and screened by existing trees from adjacent residential development. The project would meet all requirements of the City's municipal code; therefore, the project would not add a substantial new source of light or glare, and operational impacts would be less than significant.

Construction impacts would be short-term and temporary, lasting approximately 4 to 6 months. Nighttime construction is prohibited under City regulations; therefore, nighttime construction would not occur and temporary construction lighting would not be required. Therefore, no construction impacts related to light and glare would occur.

2.2 Agriculture and Forestry Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Dept. 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 forest land, 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:				
(a) 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?	☐	☐	☒	☐
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
(c) Conflict with existing zoning for, or cause rezoning of, forest land (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))?	☐	☐	☐	☒
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e) 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 forest land to non-forest use?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

A significant impact may occur if a project were to result in the conversion of state-designated agricultural land from agricultural use to another non-agricultural use. The California Department of Conservation (CDOC) Division of Land Protection lists Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under the general category of "Important Farmland" in California.

The project area contains no land that is designated by the CDOC as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The northern portion of the parcel is designated Other Land, and the southern portion of the parcel is designated Grazing Land.[15] Therefore, the project would have no impact on the conversion of CDOC-designated farmland to non-agricultural uses.

Although the project site does not fall under the CDOC definition of Prime Farmland, a portion of the Project site does fall under the four-part Coastal Act definition (Section 30113) for Prime agricultural land.[16]

However, the Coastal Act specifies that:

> *"Conversions of agricultural land to non-agricultural uses around the periphery of urban areas may only occur where the viability of agriculture is severely limited or where conversion would complete a logical boundary and contribute to a stable urban limit. The conversion of other lands that are suitable for agricultural use is prohibited, unless (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or appropriately concentrate development."*[17]

Agricultural uses were deemed non-viable by the previous owner and discontinued on the Project site prior to the LCLUP update. In 2020, the LCLUP changed the land use designation from Urban Reserve (U-R) to Public Facilities and Institutions, and recommended the zoning designation be changed from Public/Quasi-Public (P-S) (see discussion in Section 2.11. Land Use and Planning). The LCLUP was certified by the Coastal Commission in April 2021. Since the agricultural viability of the land has been shown to be severely limited, and the land use designation for the parcel was changed under the 2020 LCLUP, the Project would not conflict with the Coastal Act policies regarding conversion of agricultural lands and this impact would be less than significant.

[15] California Department of Conservation (CDOC). 2019. *San Mateo County Important Farmland Map. 2018*. Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/SanMateo.aspx. Accessed September 8, 2021.

[16] City of Half Moon Bay. 2021. *Local Coastal Land Use plan. Chapter 4. Agriculture.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3759/Chapter-4-Agriculture. Accessed January 14, 2022

[17] California Coastal Commission. 2017. *Agriculture in the Coastal Zone: An Informational Guide for the Permitting of Agricultural Development.* Available at: https://documents.coastal.ca.gov/assets/agriculture/Informational%20Guide%20for%20Agricultural%20Development%209.29.2017.pdf. Accessed January 14, 2022

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

A significant impact may occur if a project were to result in the conversion of land zoned for agricultural use or under a Williamson Act contract from agricultural use to non-agricultural use. The Williamson Act of 1965 allows local governments to enter into agreements with local landowners with the purpose of trying to limit specific parcels of land to agricultural or other related open space use.

The project site is not zoned for agricultural use and is not subject to a Williamson Act contract. The current zoning is Urban Reserve (U-R); however, the parcel zoning is expected to be changed to Public/Quasi Public (P-S) in order to line up with the LCLUP designation of Public Facilities and Institutions. The nearest agricultural operations are in greenhouses southeast of Pilarcitos Creek, approximately 250 feet east of the project. The nearest land under Williamson Act contract is approximately 0.7 mile northeast of the project.[18] Activities in the Corporation Yard would be buffered from these areas by the riparian corridor and would have no impact on surrounding agricultural operations. Therefore, no impact with respect to land zoned for agricultural use or under a Williamson Act Contract would occur.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (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))?

"Forest land" is defined as land that "can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." "Timberland" is defined as land "which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees." Timberland zoned for Timber Production is defined as land that "is devoted to and used for growing and harvesting timber."

There is no land zoned for timber production within the City limits, although there are several Christmas tree farms in San Mateo County sited in Planned Agriculture Districts. Twelve trees would be removed as part of the project. Some of these may be scattered small cypress trees on the project site. In addition, there is a row of cypress trees planted adjacent to SR-92, which would not be impacted by the project. Although portions of the project site could meet the definition of forest land, these are within the riparian areas and would not be impacted by the project. The project site is not zoned for management of forest or timberland resources; therefore, the project would not conflict with zoning for, or cause the rezoning of, forest land, timberland, or timberland zoned Timberland Production. No impact would occur.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The project site is surrounded by undeveloped lands and urban uses and is not located on forest land (as discussed in Section 2.2.c). Although portions of the project site could meet the definition of forest land, these are within the riparian areas and would not be impacted by the project. No impact related to the loss of forest land or conversion of forest land would occur.

[18] County of San Mateo. 2021. San Mateo County GIS Open Data, Williamson Act Parcels. Available at: https://data.smcgov.org/Housing-Development/Williamson-Act-Parcels/sq6e-7j5j. Accessed September 8, 2021.

e. Would the project 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 forest land to non-forest use?

A significant impact may occur if a project involves other changes to the existing environment that could result in the conversion of farmland to another non-agricultural use or conversion of forest land to non-forest use. As described in Section 2.2.b, the project site is not currently zoned for agricultural use and is expected to be rezoned for Public/Quasi Public (P-S) use. It is surrounded by undeveloped lands, agricultural greenhouses, SR-92, and urban uses. Neither the project site nor the surrounding parcels are utilized for agricultural uses or forest land. The closest land in agricultural production is located approximately 250 feet east of the project area and would buffered from the project site by Pilarcitos Creek. The riparian area surrounding Pilarcitos Creek may meet the definition of forest land; however, the riparian corridor would not be impacted by the project. With the exception of the riparian corridor, there is no forest land in the vicinity of the project site. No impacts related to conversion of farmland to a non-agricultural use or conversion of forest land to non-forest use would occur.

2.3 Air Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
(a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(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?	☐	☐	☒	☐
(c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The screening criteria established by the Bay Area Air Quality Management District (BAAQMD) have been relied upon to make the following significance determinations.

The project is located within the San Francisco Bay Area Air Basin under the jurisdiction of the BAAQMD.[19] The BAAQMD regulates air pollutant emissions, enforces regulations, administers permits governing stationary sources, inspects stationary sources, monitors air quality and meteorological conditions, and assists local governments in addressing climate change.

[19] Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 8, 2021.

The BAAQMD *2017 Clean Air Plan*[20] was adopted in April 2017 and updated the *2010 Clean Air Plan*. The *2017 Clean Air Plan* includes strategies to reduce emissions of ozone precursors and emissions of fine particulate matter and Toxic Air Contaminants (TAC). The plan also provides a framework for long-term planning efforts to reduce greenhouse gas (GHG) emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The BAAQMD has set thresholds of significance for criteria air pollutants and precursors and GHGs for construction-related impacts. If daily average emissions of construction-related criteria air pollutants or precursors would exceed any applicable Threshold of Significance listed in 2017 Air Quality CEQA Guidelines, a project may have a significant impact under CEQA.[21] A project may have a significant impact where project-related emissions would exceed federal, state, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation.

The project would generate temporary emissions from the use of construction vehicles and equipment. The BAAQMD *2017 Clean Air Plan* contains various control measures to reduce stationary and mobile sources of air pollutants. Transportation Control Measure TR22 applies to Construction, Freight and Farming Equipment and encourages early deployment of electric, Tier 3, and Tier 4 off-road engines to be used in construction, freight, and farming equipment.[22] The *2017 Clean Air Plan* also addresses construction impacts and specifies construction emission control measures to be implemented. Additionally, the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) have established standards for off-road equipment. CARB regulations for off-road diesel equipment include the following:

- limits on vehicle idling to not more than 5 minutes unless necessary, and a requirement for a written idling policy for medium and large fleets;
- a requirement for all vehicles to be reported to CARB in the online reporting system (DOORS) and labeled with Equipment Identification Numbers;
- a requirement for fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (VDECS) (i.e., exhaust retrofits); and
- a ban on adding Tier 2 engines to fleets beginning January 1, 2018, for large and medium fleets, and January 1, 2023, for small fleets.[23]

CARB regulations also include a portable engine registration program (PERP) for portable diesel engines 50 horsepower or greater. Under this program, owners or operators of portable engines and other types of equipment register their units under PERP in order to operate their equipment throughout California.

[20] BAAQMD. 2017. *2017 Clean Air Plan.* Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed September 8, 2021.

[21] BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 8, 2021.

[22] The USEPA and CARB established emission standards for new engines found in off-road equipment. There are four tiers of emission standards, which become increasingly more stringent the higher the tier. Tier 3 and 4 emission standards are met through advanced engine design with no or minimal use of exhaust gas after combustion

[23] California Air Resources Board (CARB). 2021. *Off-Road Diesel Regulation Webpage.* Available at: https://www.arb.ca.gov/msprog/offroadzone/landing/offroad.htm. Accessed September 8, 2021.

PERP requires phase-out of lower engine emission tiers and replacement with Tier 3 or Tier 4 standards on an established schedule.[24]

To reduce emissions, project applicants are required to comply with USEPA and CARB standards for off-road equipment, including DOORS and PERP registration requirements. Compliance with USEPA and CARB standards would reduce emissions of ozone precursors and particulate matter. As a result, the project would not conflict with or obstruct compliance with Transportation Control Measure TR22 or any other control measure provided in the *2017 Clean Air Plan*, or conflict with or obstruct the implementation of the *2017 Clean Air Plan*.

The BAAQMD's *CEQA Air Quality Guidelines* establishes screening criteria for analyzing projects.[25] If a project meets the screening criteria, then its air quality impacts may be considered less than significant. The project would improve the existing Corporation Yard, including addition of a solar field. These facilities would most closely fall under the "General light industry*"* categories in the BAAQMD's *CEQA Air Quality Guidelines.* The screening criteria related to General light industry are shown in Table 2.3-1, below. It is clear that the project is small in scope when compared to the screening criteria for light industry projects. Screening size for construction-related air quality impacts includes 259,000 square feet, 11 acres and/or 549 employees for light industry development. The area of construction disturbance would cover approximately 1.78 acres, which is relatively small and would not exceed any of the construction emissions thresholds in Table 2.3-1. Standard conditions of approval for all CDPs in the City include all air quality BMPs and dust control measures required by the BAAQMD, which would further reduce these less-than-significant construction impacts.

Table 2.3-1. Operational-Related Criteria Air Pollutant and Precursor Screening Level Sizes for General Light Industry

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size	Project Size
General light industry	541,000 square feet (NO_x)	121,000 square feet	259,000 square feet (NO_x)	77,325 square feet
General light industry	72 acres (NO_x)	—	11 acres (NO_x)	1.78 acres
General light industry	1,249 employees (NO_x)	—	540 employees (NO_x)	8 existing employees (Corporation Yard only – no change anticipated)

Note: NO_x = nitrogen oxides

Source: Bay Area Air Quality Management District 2010[26]

[24] California Air Resources Board (CARB). 2018. *Statewide Portable Equipment Registration Program (PERP). 2018 Regulatory and Program Changes.* Available at: https://ww2.arb.ca.gov/sites/default/files/2018-11/perp_booklet_2018_1_0.pdf. Accessed September 8, 2021.

[25] Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 8, 2021.

[26] BAAQMD. 2010. *Bay Area Air Quality Management District CEQA Guidelines*. Table 3-1. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/draft_baaqmd_ceqa_guidelines_may_2010_final.pdf. Accessed September 8, 2021.

The project would comply with all measures required by the BAAQMD's *CEQA Air Quality Guidelines*.[27] These measures shall be included in the construction contract and plans and would be the responsibility of the construction contractor. They include the following:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measures in California Code of Regulations [CCR] Title 13, Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- All roadways, driveways, and sidewalks shall be paved as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publicly visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

The scope and intensity of operational activities at the Corporation Yard would not change as a result of the project. However, abandoning the existing unpaved roads and construction of the proposed paved access road would reduce dust emissions. Electricity generated by the solar panels would be fed into the electrical grid via the PG&E transmission line that crosses the project site, to offset electrical use at the Corporation Yard and, potentially, Carter Park. Therefore, no operational impacts would occur.

b. Would the project expose sensitive receptors to substantial pollutant concentrations?

The BAAQMD *CEQA Air Quality Guidelines* recommend assessment of risks and hazards on sensitive receptors within 1,000 feet of the project. Existing sensitive receptors within this radius include residences on Patrick Way, Erin Lane, and at Hilltop Mobile Home Park. Potential future receptors that are not part of this project could include recreational users of a community garden and the Pilarcitos Creek trail alignment. The feasibility of developing an affordable housing project on a portion of the property is also being explored. If any of these uses are approved in the future, it is anticipated that this would be after Corporation Yard construction is completed. Consequently, they would not be affected by construction emissions. Construction of the project would generate emissions that could expose existing sensitive receptors to substantial pollutant concentrations.

However, as discussed under Section 2.3.a, the project would not generate criteria air pollutants in excess of threshold levels. The project would upgrade infrastructure (driveways, parking lots, and electrical) and construct new facilities for the Half Moon Bay Corporation Yard. The project would be under the 11-acre

[27] BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 8, 2021.

screening threshold for construction emissions; therefore, the project would not produce construction emissions that would exceed the BAAQMD's recommended localized standards of significance for reactive organic gases (ROG), nitrogen oxides (NO_x), particulate matter with a diameter of 10 micrometers or less (PM_{10}), or particulate matter with a diameter of 2.5 micrometers or less ($PM_{2.5}$) during the construction phase.

Nearby residential receptors could be exposed to localized pollutants from construction of the project. Given the relatively small size of the project and the temporary nature of construction, the project would not generate substantial levels of air emissions. Sensitive receptors within 1,000 feet of the project would not be adversely affected based on implementation of standard City conditions of approval, requiring implementation of BAAQMD air quality BMPs. Since the project size is relatively small, potential construction impacts to sensitive receptors would be less than significant.

Operations at the Corporation Yard would not change as a result of the project; therefore, there would be no increase in operational emissions. Abandoning the existing unpaved roads and replacing them with the proposed paved access road would reduce future fugitive dust emissions. Operational emissions from the solar field would result from activities consisting of routine inspection and maintenance. Off-site operational emissions related to electrical use would be reduced as a result of the solar field, which is expected to supply all electricity required by the Corporation Yard. Therefore, operational impacts related to air quality would be less than significant.

c. Would the project 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?

According to the BAAQMD's *CEQA Air Quality Guidelines*:

> "No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant."[28]

A project would have a cumulative significant impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius (or beyond where appropriate) from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- An excess cancer risk level of more than 100 in one million or a chronic hazard index greater than 10 for TACs; or
- 0.8 micrograms per cubic meter annual average $PM_{2.5}$.[29]

Under the BAAQMD's *CEQA Air Quality Guidelines*, if a project meets the screening criteria in Table 2.3-1, then the project would not result in the generation of criteria air pollutants and/or precursors that exceed the Thresholds of Significance.

The construction-related screening size for light industrial facilities is 11 acres, or 259,000 square feet. The project is relatively small (the Corporation Yard is approximately 4 acres and would include 54,260

[28] BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 9, 2021.

[29] BAAQMD. 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed September 9, 2021.

square feet of new facilities, including roads and parking lots) and falls under the screening threshold for generating significant construction emissions. Existing activities and operational emissions at the Corporation Yard would not change as a result of the project. Operational emissions from the solar field would result from routine inspection and maintenance activities. Abandoning the existing unpaved roads and construction of the proposed paved access road would reduce fugitive dust emissions. Off-site operational emissions related to electrical use would be reduced as a result of the solar field, which is expected to supply all electricity required by the Corporation Yard. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant, and this impact would be less than significant.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Odors are usually associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. The project would upgrade the existing Corporation Yard facilities and add a solar field. The project would not include any land uses typically associated with unpleasant odors and local nuisances (e.g., rendering facilities, dry cleaners). Therefore, no impact would occur.

2.4 Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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 Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐
(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?	☐	☒	☐	☐
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Environmental Evaluation

The analysis of biological resources is based on the following documents: *Biological Resources Report for 880 Stone Pine Road Project, Half Moon Bay, California* (BRR), completed by H.T. Harvey & Associates (June 2021); *Preliminary Delineation of Wetlands and Other Waters/Delineation of Coastal Zone Wetlands Within California Coastal Commission Jurisdiction,* completed by H.T Harvey (October 2020); *BRR Peer Review,* conducted by SWCA (November 2021); and the *Draft Frog and Snake Tunnel Design Proposal,* supplied by Dr. Mark Jennings (November 2021). All reports are included in Appendix B.

a. Would the project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

A significant impact would occur if a project were to remove or modify habitat for any species identified or designated as a candidate, sensitive, or special-status species in regional or local plans, policies, or regulations, or by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Wildlife (CDFW).

The BRR was conducted for Parcels 1 and 2 and included the parcel areas (see Figure 1-2) plus a 200-foot buffer area surrounding the project. The BRR was circulated to federal and state agencies, including USFWS, U.S. Army Corps and Engineers (USACE), CDFW, San Francisco Regional Water Quality Control Board (RWQCB), and CCC. Minor comments were received from the CCC and addressed. No other agency comments were received. The 2020 LCLUP was certified by the CCC on April 15, 2021.[30] This discussion includes information from the BRR as well as updated information from the 2020 LCLUP.

The project would upgrade facilities at the existing Corporation Yard, including construction of a new access road and parking areas, warehouse, materials enclosure, solar field, and security and wildlife fencing. The project includes creation of a fenced wildlife corridor and removal of some of the existing security fencing around the impoundment. The project is located on a marine terrace approximately 60 to 85 feet above mean sea level, and approximately 1.2 miles east of the Pacific Ocean. The project site is relatively flat, but drains generally to the southwest toward Pilarcitos Creek and the Pacific Ocean. The project site is bounded by Pilarcitos Creek on the south, which is a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains, through Pilarcitos Canyon, and discharges into the Pacific Ocean. The project is the site of a former plant nursery, and there is some evidence of the former nursery still present at the site, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete-lined ditches, and irrigation pumps and pipes. A man-made impoundment is located in the northwest corner of the project site. Water was previously pumped into this impoundment from Pilarcitos Creek and used for nursery operations. The impoundment continues to hold water and extensive emergent vegetation and has been classified as a perennial freshwater marsh by H. T. Harvey in the BRR.

The project site consists of a mix of ruderal grassland, and developed or landscaped areas. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats are adjacent to the project area, but not located within the project area. No work would occur in these habitats. Habitats within and adjacent to the project area are described in more detail below.

[30] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 10, 2021.

- **Developed/Landscaped Habitat**. Developed/landscaped habitat includes areas where permanent structures and/or pavement have been placed along with planted landscaping. Such landscaping includes native Monterey pine (*Pinus radiata*) and Monterey cypress (*Hesperocyparis macrocarpa*) trees. These trees have been installed as part of a landscape plan and do not naturally occur on-site and are therefore not considered sensitive species.
- **Ruderal**. The most abundant species in the ruderal grassland are wild oat (*Avena* sp.), Italian rye grass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*), and Chile tarweed (*Madia sativa*). Additionally, there were scattered small patches of other facultative hydrophytic vegetation, including curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), and bird's foot trefoil (*Lotus corniculatus*), all occurring in upland habitat positions and intermixed with upland grassland species. Similarly, scattered arroyo willow (*Salix lasiolepis*) and red alder (*Alnus rubra*) occur in the grassland in upland areas, and likely were able to establish due to irrigation, as no indicators of hydric soils or wetland hydrology occur in these areas.
- **Riparian Woodland**. Riparian woodland habitat is found adjacent to the south side of the project site along Pilarcitos Creek and around the perennial freshwater marsh habitat in the impoundment in the northwest corner. Trees observed in the riparian woodland habitat include arroyo willow, red willow (*Salix laevigata*), red alder, and blue gum eucalyptus (*Eucalyptus globulus*). The understory includes Himalayan blackberry (*Rubus armeniacus*), cape ivy (*Delairea odorata*), poison hemlock, common horsetail (*Equisetum arvense*), French broom (*Genista monspessulana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), bristly ox-tongue, pampas grass (*Cortaderia jubata*), and Italian rye grass.
- **Aquatic Riverine**. Pilarcitos Creek flows outside the project area through the dense riparian woodland and provides unvegetated aquatic habitat.
- **Perennial Freshwater Marsh**. The dominant vegetation in the impoundment is freshwater marsh consisting of common cattail (*Typha latifolia*). Other species in the freshwater marsh vegetation include duckweed (*Lemna* sp.), rabbitsfoot grass (*Polypogon monspeliensis*), and tall flatsedge (*Cyperus eragrostis*).

Desktop review identified 73 special-status plant species and 34 special-status wildlife species within 5 miles of the survey area (see Appendix B for details of the desktop review). Only one of the special-status plant species was determined to have a moderate to high potential to occur in the freshwater marsh habitat and dense riparian woodland—harlequin lotus (*Hosackia gracilis*); California Rare Plant Rank 4.2), This species is not anticipated to be impacted by the project because it was not observed during the field-level reconnaissance survey conducted in June 2018 at the height of its bloom period. In addition, the freshwater marsh vegetation in the impoundment and riparian woodland vegetation would not be impacted by the project.

Of the special-status wildlife species identified within 5 miles of the project area, there are eight species that could potentially occur in or adjacent to the project area: white-tailed kite (*Elanus leucurus*; State–Fully Protected), Central California coast steelhead (*Oncorhynchus mykiss irideus*; Federal–Threatened [T]), California red-legged frog (*Rana draytonii*; Federal–T, State–Species of Special Concern [SSC]), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*; Federal–Endangered [E], State–E), western pond turtle (*Actinemys marmorata*; Federal–None, State–SSC), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*; Federal–None, State–SSC), San Francisco common yellowthroat (*Geothlypis trichas sinuosa*; Federal–None, State–SSC), and yellow warbler (*Setophaga petechia*; Federal–None, State–SSC). Of these species, three species—the California red-legged frog, San Francisco garter snake, and white-tailed kite—have the potential to be present within the project site. The remaining five, if present, are expected to be located in Pilarcitos Creek, riparian habitat, or freshwater marsh habitat

in the impoundment adjacent to the project. Additional detail on the eight special-status species with potential to occur within or adjacent to the project area is provided below.

CALIFORNIA RED-LEGGED FROG

California red-legged frog, a federally threatened species and CDFW SSC, occurs in various habitat types depending on its life cycle stage. Breeding areas include aquatic habitats, such as lagoons, streams, and natural and human-made ponds. The species prefers aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to approximately 2 feet, and the presence of emergent vegetation (e.g., cattails and bulrush). During periods of wet weather, some individuals may make overland dispersals through adjacent upland habitats of distances up to 1 mile. Upland habitats, including small mammal burrows and woody debris, can also be used as refuge during the summer if water is scarce or unavailable. California red-legged frogs typically travel between sites and are unaffected by topography and vegetation types during migration. Dispersal habitat makes it possible for California red-legged frogs to locate new breeding and non-breeding sites, and is crucial for conservation of the species. California red-legged frog adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 miles northwest of the project area as recently as 2016; California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mile west of the project area in 2006; and California red-legged frog adults and juveniles were observed in the perennial freshwater marsh habitat in the impoundment within the project area in 2005. Due to the presence of juvenile frogs, it is likely there was active breeding in the perennial freshwater marsh habitat in the impoundment during the 2005 observation. Since 2005, no recent species-specific surveys of this species have been conducted in the project area.

Based on the above information and the number of known California red-legged frog occurrences on-site and within 2 miles of the project area, there is a high potential for California red-legged frog to occur in the project area during the wet season (October 15 to May 31) and the dry season (June 1 to October 15). If present, California red-legged frog could forage and disperse in Pilarcitos Creek and forage, disperse, or breed in the perennial freshwater marsh habitat in the impoundment. In addition, California red-legged frog could disperse through the upland habitat in the project area to move between the Pilarcitos Creek and the impoundment. California red-legged frogs are most likely to disperse in the spring and early summer when juveniles would leave the impoundment, and adults may move to and from the perennial freshwater marsh habitat in the impoundment during warm winter rains. During the wet season, frogs may be found in upland areas around the creek and impoundment. This species is generally considered to forage up to 300 feet from aquatic habitat.

The project includes installation of wildlife fencing and a wildlife corridor which would include frog/snake tunnels under the access road to prevent impacts to California red-legged frog. The wildlife fencing would be installed around the existing impoundment (see Figure 1-4). The wildlife corridor would start at the impoundment, narrow to a 50-foot-wide corridor through the project area, and then fan out towards Pilarcitos Creek (including wildlife fencing along the riparian corridor of Pilarcitos Creek). Mitigation Measure BIO-1 (worker awareness training) and BIO-2 (biological monitor presence during ground-disturbing activities and pre-construction surveys before start of work each morning, as well as burrow protection, and additional measures for work in the wet season) would be implemented to reduce any impacts to California red-legged frog. Therefore, the implementation of Mitigation Measures BIO-1 and BIO-2 would reduce a potentially significant impact to this special-status species to a less-than-significant level.

SAN FRANCISCO GARTER SNAKE

The federally and state endangered/fully protected San Francisco garter snake's historical range is entirely within San Mateo County. The two main components of San Francisco garter snake habitat are (1) wetlands supporting its prey species (e.g., California red-legged frog, Pacific chorus frog); and (2) surrounding uplands that are adjacent to waterways and support small mammal burrows used by the snakes for escape cover. San Francisco garter snakes inhabit various aquatic habitats, including reservoirs, freshwater marshes, creeks, drainage ditches, ponds, and lakes. Less ideal habitats can also be used by San Francisco garter snake, such as ditches and other waterways or floating algal or rush mats. Suitable breeding habitat includes shallow marshlands with an abundance of emergent vegetation. Grasslands and low ground cover are also an important upland habitat for this species, as they provide areas for thermoregulation and cover. Small mammal burrows are used by San Francisco garter snake during hibernation. During the warm days of summer, most activity occurs during the morning and afternoon. Preferred nocturnal retreats are thought to be holes, especially mammal burrows, crevices, and surface objects.

San Francisco garter snakes have been documented within the region of the project as recently as 2008. Exact California Natural Diversity Database (CNDDB) locations of San Francisco garter snakes are suppressed because of concern about illegal collection of the species. However, there are two CNDDB records for the Half Moon Bay U.S. Geological Survey (USGS) quadrangle, both associated with Pilarcitos Creek, with the closest one at approximately 0.5 mile downstream of the project area in 2004.[31] Because the primary prey species of the snake is the California red-legged frog, an established population of California red-legged frogs in the perennial freshwater marsh habitat in the impoundment would elevate the likelihood that the snake could occur in the project area.

San Francisco garter snakes can move into upland habitats during summer to prey on amphibians aestivating in small mammal burrows. They could potentially forage on amphibians in Pilarcitos Creek and the impoundment and disperse and/or aestivate throughout the project area. The San Francisco garter snake is, therefore, considered potentially present throughout the project area.

Based on the above information, there is high potential for San Francisco garter snake to occur within the project area during both the wet season (October 15 to May 31) and the dry season (June 1 to October 15). The project includes installation of wildlife fencing and a wildlife corridor which would include frog/snake tunnels under the access road to prevent impacts to San Francisco garter snake. Mitigation Measure BIO-1 (worker awareness training) and BIO-2 (biological monitor presence during ground-disturbing activities and pre-construction surveys before start of work each morning, as well as burrow protection, and additional measures for work in the wet season) would be implemented to reduce any impacts to San Francisco garter snake. Therefore, the implementation of Mitigation Measures BIO-1 and BIO-2 would reduce a potentially significant impact to this special-status species to a less-than-significant level.

WHITE-TAILED KITE

White-tailed kite is a State-listed, fully protected species. White-tailed kites are common residents in the vicinity of the project area where open grassland, ruderal, or agricultural habitats are present. Large trees on and adjacent to the project area provide suitable nesting sites. The open habitats (e.g., ruderal grasslands and agricultural areas) on and adjacent to the project area provide potential foraging opportunities for this species. Although the developed nature and high levels of human disturbance within

[31] California Natural Diversity Database (CNDDB). 2021. Rarefind 5.0. California Department of Fish and Wildlife. Available at: from http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed June 7, 2021, and other dates.

the project area make it less attractive to nesting kites, an individual was observed in the vicinity of the impoundment in 2014. Therefore, this species could potentially forage or nest in the project area.

White-tailed kite is protected while nesting by the Migratory Bird Treaty Act (MBTA) as well as by the California Fish and Game Code. Direct impacts to white-tailed kite nests could occur if a kite were to nest within or adjacent to the project area during construction, where the nest could be disturbed by noise, dust, or equipment. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, would be implemented to reduce any impacts to white-tailed kite. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to nesting birds to a less-than-significant level.

The remaining species could be located in the riparian habitat or within Pilarcitos Creek adjacent to the project area and therefore would not be directly impacted by the project. However, indirect impacts could occur from project activities including, but not limited to, construction noise and sedimentation in Pilarcitos Creek.

CENTRAL CALIFORNIA COAST STEELHEAD DISTINCT POPULATION SEGMENT

Steelhead in the Central California Coast Distinct Population Segment (DPS) are federally threatened, and are winter-spawning steelhead, maturing in the ocean and spawning shortly after entering freshwater. Winter steelhead enter rivers and streams in the late fall and winter months when higher flows and associated lower water temperatures occur. Adult female steelhead will prepare a redd (or nest) in gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter, and are usually free of rooted or aquatic vegetation. The length of the incubation period is dependent on water temperature. Fry emerge from the gravel and rear along the stream margins, moving gradually into pools and riffles as they grow larger. Young juveniles feed primarily on aquatic invertebrate drift.

Habitat conditions in Pilarcitos Creek adjacent to the project area are suitable to support freshwater migration of adult and juvenile Central California coast steelhead. Pilarcitos Creek does not support suitable habitat for spawning, rearing, or feeding during most times of the year due to the lack of channel complexity, gravels, or connectivity with an adjacent floodplain. As a result, steelhead are only expected to be present in this portion of Pilarcitos Creek during upstream and downstream migration, which occurs late fall into spring. Designated critical habitat for Central California Coast steelhead includes aquatic habitat within Pilarcitos Creek. Although Pilarcitos Creek would not be directly affected by project activities, water quality in the creek could be affected by runoff and sedimentation during construction and operation of the project. However, the project would be required to comply with San Mateo Countywide Pollution Prevention Program (SMCWPPP), discussed in Section 2.10, Hydrology and Water Quality. In addition, project construction would disturb more than 1 acre of land; therefore, it would be required to implement a Storm Water Pollution Prevention Plan (SWPPP) to control runoff during construction. The project would relocate the existing materials enclosure further from the creek (outside of the 50-foot riparian buffer zone) and upgrade it to meet current drainage and design requirements. In addition, Mitigation Measure BIO-3 would be implemented to reduce impacts and requires measures to protect surrounding habitat from runoff of stormwater and construction chemicals and debris. Therefore, the implementation of Mitigation Measure BIO-3 in addition to compliance with the SMCWPPP and SWPPP would reduce a potentially significant impact to Central California Coast steelhead to a less-than-significant level.

DUSKY-FOOTED WOODRAT

The San Francisco dusky-footed woodrat (CDFW SSC) occurs in a variety of woodland and scrub habitats from the San Francisco Peninsula south to the Pajaro River in Monterey County. Woodrats prefer riparian and oak woodland forests with dense understory cover, or thick chaparral habitat. Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years. Woodrats are also very adept at making use of human-made structures, and can nest in electrical boxes, pipes, wooden pallets, and even portable storage containers. Woodrat nest densities increase with canopy density and with the presence of poison oak. The breeding season for the dusky-footed woodrat begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year.

A San Francisco dusky-footed woodrat nest was observed near Pilarcitos Creek over 3 miles east-northeast of the project area in 2007. The riparian forest adjacent to the project area provides suitable habitat for dusky-footed woodrats. Although no nests were observed in the riparian woodland habitat adjacent to the project area during the reconnaissance survey, this species could potentially nest and forage in, and disperse through, the riparian habitat along Pilarcitos Creek and around the freshwater marsh habitat in the impoundment. If woodrat nests are present within riparian woodland habitat they may be disturbed by noise or dust resulting from nearby construction activities. Foraging woodrats may enter the project site and be injured or killed by construction equipment. Mitigation Measure BIO-7 requires pre-construction surveys for nests, and protection and buffers for any nests found. Therefore, the implementation of Mitigation Measure BIO-7 would reduce impacts to San Francisco dusky-footed woodrat to a less-than-significant level. However, with the exception of removing the existing materials enclosure, project activities would not occur in the 50-foot buffer surrounding riparian habitat. Under Mitigation Measure BIO-2, all sensitive habitat would be fenced with exclusion fencing prior to project construction. Therefore, the project would have no impact on dusky-footed woodrat.

WESTERN POND TURTLE

The western pond turtle (CDFW SSC) occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico. The central California population was historically present in most drainages on the Pacific slope. The perennial freshwater marsh habitat in the impoundment within the project area is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species. The reach of Pilarcitos Creek adjacent to the project area is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in this area. However, suitable nesting habitat for pond turtles is not present in the project area in upland areas adjacent to Pilarcitos Creek because the riparian habitat is too dense for nest construction and the adjacent upland grassland habitat is degraded and frequently disturbed due to the human use of the area. In addition, the nearest CNDDB recorded observations are over 4 miles from the project area in the area of the Crystal Springs Reservoir. Thus, there is some potential for pond turtles to be present adjacent to the project area, though they are likely present in low numbers and/or infrequently as dispersers, but not as resident turtles prone to breeding and nesting in the upland habitats adjacent to the creek. The perennial freshwater marsh habitat in the impoundment is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species

The western pond turtle may be present in low numbers and/or infrequently as dispersers in the project area. The wildlife corridor and wildlife fencing that would be installed along the riparian corridor of Pilarcitos Creek would prevent this species from dispersing into upland habitat within the project area. Furthermore, the proposed project would not directly impact the riparian vegetation surrounding either Pilarcitos Creek or the impoundment. As a result, the impacts to western pond turtle are expected to be less than significant.

YELLOW WARBLER

In California, the yellow warbler (CDFW SSC) occupies wooded riparian habitats. This species prefers riparian corridors with an overstory of mature cottonwoods (*Populus* sp.) and sycamores (*Platanus occidentalis*), a midstory of box elder and willow, and a substantial shrub understory, particularly in areas with more open space adjacent to the riparian habitat. Yellow warblers construct open-cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation.

The yellow warbler is an uncommon to rare breeder in wooded riparian habitats, occurring primarily in association with alders and willows, in San Mateo County. Riparian woodlands in the County provide suitable nesting and foraging habitat for this species, but the species is scarce and local, being particularly scarce as a breeder on the immediate coast. Nevertheless, it is possible that one or two pairs could potentially breed in riparian habitat along Pilarcitos Creek and around the freshwater marsh, both of which are not within the project area. Otherwise, this species is expected to occur as a common migrant adjacent to the project area during the spring and fall.

The yellow warbler is protected while nesting by the MBTA and California Fish and Game Code. The project would not include Pilarcitos Creek, its surrounding riparian vegetation, or the freshwater marsh; therefore, this species would not be directly impacted by the project. Indirect impacts related to construction noise and disturbance could occur. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, would be implemented to reduce any indirect impacts. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to yellow warbler to a less-than-significant level.

SAN FRANCISCO COMMON YELLOWTHROAT

The San Francisco common yellowthroat (CDFW SSC) inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* and *Juncus* spp.), cattails, willows, and other emergent vegetation

Nesting San Francisco common yellowthroats have been recorded in the vicinity of the project area, and observations of individuals have been recorded within the Pilarcitos Creek riparian habitat less than a mile west of the project area as recently as 2017. The species may nest in taller vegetation within the impoundment adjacent to the project area, and possibly in riparian habitat along Pilarcitos Creek.

San Francisco common yellowthroat is protected while nesting by the MBTA and California Fish and Game Code. The project would not include Pilarcitos Creek, its surrounding riparian vegetation, or the impoundment; therefore, this species would not be directly impacted by the project. Indirect impacts related to construction noise and disturbance could occur. Mitigation Measure BIO-4, which requires a nesting bird survey for any construction performed during the nesting season between February 15 and September 15, will be implemented to reduce any direct impacts. A nesting bird survey and compliance with the MBTA and California Fish and Game Code would reduce impacts to San Francisco common yellowthroat to a less-than-significant level.

OTHER SPECIES

In addition, the BRR determined that six special-status wildlife species have the potential to occur in the project area: monarch butterfly (*Danaus plexippus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), American peregrine falcon (*Falco peregrinus anatum*), northern harrier

(*Circus cyaneus*), and mountain lion (*Puma concolor*). These species are expected to occur only as visitors, migrants, or transients and are not expected to reside or breed, or occur in large numbers, or otherwise make substantial use of the project area. As a result, the project is expected to have a less-than-significant impact on these species.

Under the 2020 LCLUP ruderal areas may contain foraging habitat for migratory birds and raptor species.[32] Migratory birds and raptors are protected while nesting by the MBTA and California Fish and Game Code. Project construction would be short-term, lasting approximately 4 to 6 months. Should nesting birds be identified, they would be protected by measures for nesting birds under Mitigation Measure BIO-4. Therefore, Mitigation Measure BIO-4 would mitigate potentially significant impacts to nesting birds to a less-than-significant level. Additionally, while no large tree cavities or caves suitable for large maternity bat roosts were identified within the project area, individual bats may forage and roost in trees on-site. Tree removal proposed may cause disturbance, injury or harm to individual roosting bats. Implementation of Mitigation Measure BIO-6, which requires pre-construction bat surveys, would ensure that impacts to roosting bats would be less than significant.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The BRR completed for the project area identified the habitat within and immediately surrounding the project area as consisting of a mix of ruderal grassland, developed or landscaped areas, and non-native woodland. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats are adjacent to, but outside of the project area.

The City's LCLUP has identified Environmentally Sensitive Habitat Areas (ESHA), which are defined as "*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.*" The LCLUP mapping identified three ESHAs and one potential ESHA within and adjacent to the project site:

- The Central Coast Riparian Scrub adjacent to the project area in the riparian corridor adjacent to Pilarcitos Creek is identified as "*California Red-legged Frog Upland, Foraging, and Dispersal Habitat and San Francisco Garter Snake Habitat (ESHA);*"
- The emergent freshwater marsh adjacent to the project area in the impoundment is identified as "*California Red-legged Frog Breeding Site (ESHA);*"
- The aquatic habitat adjacent to the project area in Pilarcitos Creek is identified as "*Final Critical Habitat for Steelhead Designated by National Marine Fisheries Service under the Federal Endangered Species Act (ESHA);*" and
- The ruderal grassland within the project area is identified as "*Potential San Francisco Garter Snake Habitat and/or California Red-legged Frog Upland, Foraging, and Dispersal Habitat (Potential ESHA).*"

The former agricultural impoundment still contains water, likely a combination of groundwater and surface runoff, and has perennial freshwater marsh vegetation. The freshwater impoundment is surrounded by riparian vegetation. The freshwater marsh habitat in the impoundment has been identified

[32] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed April 30, 2021.

as a known breeding site for California red-legged frog; therefore, it has been identified as an ESHA under the LCLUP. As a result, the LCLUP requires that the project maintain a 100-foot buffer from the freshwater marsh/impoundment. As part of the improvements related to the wildlife corridor, the project would remove the existing chain-link fence around the freshwater marsh and install wildlife fencing to delineate the 100-foot buffer or to the property boundaries where the 100-foot buffer goes beyond the parcel limits. The wildlife fencing would include aluminum or vinyl slates to prevent the frogs and other wildlife from leaving the protected area. As a result, the project would not disturb the freshwater marsh or riparian habitat associated with the freshwater marsh, and no impact to freshwater marsh habitat would occur.

Riparian woodland habitat is found adjacent to the south side of the project site along Pilarcitos Creek and around the impoundment in the northwest corner. Trees observed in the riparian woodland habitat include arroyo willow, red willow, red alder, and blue gum eucalyptus. The LCLUP has mapped this area as Central Coast Riparian Scrub. Riparian scrub can support a wide diversity of wildlife due to the availability of important features such as nesting sites, close proximity to water, escape and thermal cover, food, and dispersal corridors. As required by the LCLUP, the project would establish a 50-foot buffer zone from the edge of the riparian vegetation and Mitigation Measure BIO-2 requires that the buffer zone be clearly marked with signage and tape and that disturbance to vegetation be kept to a minimum. Therefore, the project would not directly impact riparian vegetation. The project would also be required to comply with the SMCWPPP and project SWPPP to prevent stormwater runoff from impacting adjacent areas. In addition, Mitigation Measure BIO-3 contains measures to ensure that no spoils, sedimentation, hazardous materials from fueling and maintenance of vehicles, or invasive plant materials enter the riparian areas. As a result, all impacts to riparian habitat would be reduced to a less-than-significant level.

The City has developed the *City of Half Moon Bay GIP*, which requires that stormwater runoff designs implement "more resilient, sustainable stormwater management which reduces runoff volumes, disperses runoff to vegetated areas, harvests and uses runoff where feasible, promotes infiltration and evapotranspiration, and utilizes natural processes to detain and treat runoff."[33] Green infrastructure limits the discharge of pollutants to the storm drain system and promotes the infiltration of stormwater into the groundwater basin. Runoff from the project site drains toward Pilarcitos Creek. Project operations would be required to comply with the City's GIP and would direct stormwater runoff from the Corporation Yard through vegetated channels or swales prior to reaching the riparian habitat adjacent to Pilarcitos Creek. Therefore, compliance with the City's GIP, SMCWPPP, and implementation of Mitigation Measures BIO-2 and BIO-3 would reduce potential impacts related to operational runoff into riparian habitat to a less-than-significant level.

Pilarcitos Creek is a perennial freshwater stream with a connection to groundwater that flows overland adjacent to the southern portion of the project area. In the LCLUP, Pilarcitos Creek is identified as a perennial stream with well-developed canopy and critical habitat for Central California Coast steelhead, known occupied habitat for California red-legged frog and San Francisco garter snake, and past nesting for San Francisco common yellowthroat. As discussed above regarding the riparian habitat, the project would maintain a 50-foot buffer zone from the edge of the riparian habitat surrounding Pilarcitos Creek and would not directly impact the aquatic habitat. Potentially significant indirect impacts related to construction runoff would be reduced to a less-than-significant level by compliance with the City's GIP, SMCWPPP, and implementation of Mitigation Measures BIO-2 and BIO-3. Therefore, impacts to aquatic habitat would be less than significant.

[33] City of Half Moon Bay. 2019. *Green Infrastructure Plan. Pg 87.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed November 12, 2021.

Non-native grassland may be considered a sensitive habitat if it is found to be especially valuable for its role in an ecosystem pursuant to the City's LCLUP. The project site is mapped as ruderal land in the LCLUP and is considered to have limited habitat value. Species that may be associated with ruderal habitat include foraging bats and migratory bird and raptors.[34] At the project site, the grassland may provide a wildlife corridor for California red-legged frog and San Francisco garter snake between the freshwater marsh and Pilarcitos Creek. Therefore, the ruderal grassland is considered a potential ESHA. The project would construct a fenced wildlife corridor to direct any potentially dispersing California red-legged frogs and San Francisco garter snakes from the freshwater marsh to Pilarcitos Creek. The wildlife corridor would also pass under the new access road through four frog/snake tunnels. The corridor would be a minimum of 50 feet wide, would fan out in the vicinity of the Pilarcitos Creek, and would include a wildlife barrier fence along the southern boundary of Parcel 2 for the extent of the riparian buffer along Pilarcitos Creek. Therefore, the project would not cause potentially significant impacts to the potential wildlife corridor in the upland grassland, and impacts to non-native grassland dispersal habitat would be less than significant.

c. Would the project 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?

The wetland delineation conducted on June 12, 2020, by H.T. Harvey identified a total of 0.91 acre of potentially jurisdictional features as defined by the USACE and RWQCB in the study area. These included approximately 0.29 acre of Section 404 and Section 401 waters situated below the ordinary high water mark (OHWM) line of Pilarcitos Creek, which forms the southeastern edge of the project property, but is outside the project area. Section 401 Waters of the State extend farther up to the top of the bank from Pilarcitos Creek, for an additional 0.24 acre. Sections 404 and 401 wetlands totaling approximately 0.38 acre are also present within the impoundment, which is perennially inundated and presently occupied by emergent freshwater marsh habitat. In addition, the wetland delineation identified a total of 3.52 acre of potentially jurisdictional one-parameter wetlands (having either [1] the presence of hydric soils, or [2] the presence of a predominance of wetland plants) potentially subject to jurisdiction of the CCC. This includes approximately 0.38 acre of perennial freshwater marsh, 0.29 acre of aquatic riverine, and 2.85 acres of riparian woodland. During the June 2020 wetland delineation, H.T. Harvey also determined that the willow-alder stands identified within the ruderal grassland habitat on-site were located on upland terraces and likely persisting due to a high groundwater table on-site, and were therefore not determined to be potential CCC jurisdictional wetlands. As discussed under Section 2.4.b, no work or staging would occur within the freshwater marsh habitat in the impoundment, riparian habitat, or aquatic riverine habitat. As required by the LCLUP, the project would maintain a 50-foot buffer zone from all riparian habitat and a 100-foot buffer zone from the impoundment. As a result, no direct impacts to these features would occur.

Stormwater runoff from excavation, grading, and construction activities could impact water quality in Pilarcitos Creek. Stormwater from the construction area would be unlikely to enter the freshwater marsh/impoundment, as the construction area drains away from this feature. Standard conditions of approval for all CDPs in the City include all stormwater quality BMPs required by the SMCWPPP (see Section 2.10, Hydrology and Water Quality). All construction activities would be required to implement BMPs to comply with the SMCWPPP and project SWPPP, which would prevent sediment-laden runoff and/or pollutants from entering the riparian area or Pilarcitos Creek. In addition, Mitigation Measure BIO-3, which would require management of exposed soils and vehicle fueling and maintenance, would further reduce these impacts to less than significant.

[34] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update*. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 12, 2021.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The grassland area of the project site may provide dispersal habitat for California red-legged frog and San Francisco garter snake to move between Pilarcitos Creek and California red-legged frog breeding habitat in the freshwater marsh. The project would abandon two existing unpaved access roads and construct a single new paved access road, reducing the number of potential conflicts between vehicles and wildlife. However, the new road could still impede dispersal for these species. In order to ensure that dispersal habitat remains available and that these species are able to move between Pilarcitos Creek and the freshwater marsh safely, the project includes construction of a protected, fenced, minimum 50-foot-wide wildlife corridor, which would include four frog/snake tunnels under the access road (see Section 1.5. Proposed Project). As a result of construction and maintenance of the protected wildlife corridor, the project would have a less-than-significant impact on native species wildlife corridors.

The project site contains suitable nesting and foraging habitat for avian species protected under the MBTA and California Fish and Game Code Sections 3511 and 3513. Although no nesting was observed during the BRR field survey due to the timing of the survey, avian species protected by the MBTA and California Fish and Game Code observed in the project area during the BRR field survey included American crow (*Corvus brachyrhynchos*), house finch (*Haemorhous mexicanus*), song sparrow (*Melospiza melodia*), Savannah sparrow (*Passerculus sandwichensis*), white-crowned sparrow (*Zonotrichia leucophrys*), and red-winged blackbird (*Agelaius phoeniceus*). The project has the potential to impact potential eggs or young of avian species covered under the MBTA and California Fish and Game Code. The developed portion of the project area could be used for nesting by native species such as the American crow, Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), bushtit (*Psaltriparus minimus*), and California scrub-jay (*Aphelocoma californica*). In addition, unused dilapidated structures present within the grassland and adjacent to the riparian habitat, may be attractive to other nesting and/or roosting bird species in the area, such as the black phoebe. Further, the several Monterey cypress and Monterey pine trees around the west, east, and north perimeters of the project area may provide suitable nesting habitat for raptors, such as red-tailed hawks (*Buteo jamaicensis*). The riparian woodland provides suitable nesting habitat for a variety of common, resident bird species such as the California scrub-jay, American robin (*Turdus migratorius*), American crow, lesser goldfinch (*Spinus psaltria*), and bushtit. Numerous species of migratory birds also use this riparian woodland. These include species such as the black-headed grosbeak (*Pheucticus melanocephalus*), Wilson's warbler (*Cardellina pusilla*), and Swainson's thrush (*Catharus ustulatus*) that breed in this habitat but migrate south for winter. While potential nesting sites for migratory birds could be removed through removal of vegetative ground cover on the project site, hundreds of acres of suitable nesting and foraging habitat are present near the project and would remain undisturbed by project activities. Therefore, suitable nesting habitat would remain within and in the vicinity of the project. If work occurs during avian nesting season, implementation of Mitigation Measure BIO-4, which requires nesting bird surveys and construction modifications if active nests are identified, would ensure that impacts to nesting birds would be less than significant.

An examination of trees and structures in the project area and surrounding 200-foot-wide buffer did not detect any large cavities that might provide suitable bat roosting habitat. Therefore, large roosting or maternity colonies of bats are not expected to occur in the project area. Individual bats may be attracted to riparian areas to roost in trees and forage over nearby water sources and grassland habitat within the project site. Tree removal proposed may cause disturbance, injury, or harm to individual roosting bats. Implementation of Mitigation Measure BIO-6, which requires pre-construction bat surveys, would ensure that impacts to roosting bats would be less than significant.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

The project would have a significant impact if it would conflict with the City's Heritage Tree Ordinance under Municipal Code Chapter 7.40[35] or the City's Coastal Resource Conservation Standards under Municipal Code Chapter 18.38.[36] Section 7.40.020 of the Heritage Tree Ordinance defines heritage trees as:

A. A tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of 12 inches or more, or a circumference of at least 38 inches measured at 48 inches above ground level.

B. A tree or stand of trees so designated by resolution of the city council based on its finding of special historical, environmental or aesthetic value, including a resolution adopted under former Chapter 12.16.

The project would remove 12 trees on the project site and would replace them by planting 12 new trees—a 1-to-1 ratio, as required by the LCLUP. No riparian trees would be impacted. To comply with Section 7.40.020 of the Heritage Tree Ordinance, Mitigation Measure BIO-5 requires that a tree survey be conducted by a certified arborist, and that removal of trees be avoided or replaced where feasible. With implementation of Mitigation Measure BIO-5, impacts to heritage trees would be less than significant.

The Coastal Resource Conservation Standards in the LCLUP require any proposed project within 100 feet of a "sensitive habitat area" to prepare a biological report. Sensitive habitat is defined as sand dunes, marine habitats, sea cliffs, riparian areas, wetlands, rocky intertidal zones, coastal scrub, and habitats supporting rare and endangered species defined by the California State Fish and Game Commission. The project site is mapped as having three ESHAs and one Potential ESHA on the City's ESHA maps in the 2020 LCLUP (see Section 2.4.b above).[37] A BRR was prepared for the project site specifying mitigation measures to protect potential sensitive species and habitats. The BRR measures have been incorporated into the mitigation measures listed below. The project would remove the existing materials enclosure, which is partially within the 50-foot riparian buffer. The new enclosure would be located farther away and constructed to meet all current stormwater and other design standards. The project would also remove the existing security fence around the impoundment, which is within the 100-foot wetland buffer zone, and replace it with wildlife fencing establishing a 100-foot buffer area around the impoundment and guiding wildlife into the wildlife corridor. The project would maintain a fenced 100-foot buffer around the impoundment. The project would also maintain a 50-foot buffer area from the riparian vegetation and construct a protected wildlife corridor with frog/snake tunnels under the new access road. Therefore, any impacts to ESHA would be less than significant with implementation of mitigation measures. As a result, the project complies with the 2020 LCLUP and Municipal Code Chapter 18.38.

[35] City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code Chapter 7.40. Heritage Trees.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay07/HalfMoonBay0740.html. Accessed November 12, 2021.

[36] City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code Chapter 18.38. Coastal Resource Conservation Standards.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay18/HalfMoonBay1838.html#18.38. Accessed November 12, 2021.

[37] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 6. Natural Resources, Figure 6-2. Environmentally Sensitive Habitat Areas.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 12, 2021.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no Habitat Conservation Plans or Natural Community Conservation Plans that apply to the project. Therefore, no impact would occur.

Mitigation Measures

The project shall comply with all of the following relevant measures. These measures have been developed based on measures identified in the BRR and BRR Peer Review:

BIO-1 The following mitigation measures shall be implemented during the project:

a. Prior to the start of the project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure describing special-status species, project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features shall be distributed to the crew members during the training. Trainees shall sign an environmental training attendance sheet. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act and the California Endangered Species Act. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site.

b. Disturbance to vegetation shall be kept to the minimum necessary to complete the project activities. To minimize impacts to vegetation, a qualified biologist shall work with the contractor to designate the work area and any staging areas as well as delineate areas that shall be avoided with signage and tape. Areas that shall be avoided include Pilarcitos Creek, the impoundment, riparian habitat, and the wildlife corridor. Specifically, the buffer shall be 50 feet outward from the limit of riparian vegetation along Pilarcitos Creek or 100 feet from the top of bank within Pilarcitos Creek (whichever is greater) and 100 feet outward from the impoundment. The identified buffer shall be clearly depicted on any construction plans. Work may occur within these buffer areas under the supervision of a qualified biologist, and shall be limited to removal of the existing materials enclosure and the existing fencing around the impoundment. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the impoundment, associated riparian habitat, and annual grassland to be avoided shall be flagged or fenced.

c. All riparian habitat and the 50-foot riparian buffer area to be avoided shall be shown on project design plan sets, and prior to project activities, these areas shall be protected with high-visibility fencing.

d. If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.

e. During project activities, all trash that may attract predators such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site. Following construction, trash/construction debris shall be removed from work areas.

f. The area of disturbance shall be limited to the minimum necessary to complete the project. Project boundaries shall be clearly demarcated, and these areas shall be outside of sensitive areas.

g. No firearms shall be allowed on the project site, except for federal, state, or local law enforcement, or security guards. No pets shall be allowed on the project site.

h. Project-related vehicles shall observe a 10 mile-per-hour speed limit in all project areas, except on City and County roads, and state highways; this is particularly important on rainy nights when California red-legged frogs are most active.

i. Nighttime construction shall be avoided.

BIO-2 The following measures shall be implemented to minimize impacts to special-status amphibians and reptiles:

a. The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.

b. A qualified biological monitor (or as required by project permits) shall be on-site during all project construction activities that may result in take of any special-status species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist exercises this authority, the USFWS and CDFW shall be notified by telephone and electronic mail within twenty-four (24) hours.

c. A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area, and shall remain in place until all development activities have been completed. This barrier shall be

inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.

d. Plastic mono-filament netting (erosion control matting), rolled erosion control products, or similar material shall not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species.

e. Within 24 hours of the planned start of project activities, a focused preconstruction survey for sensitive and listed species, including but not limited to California red-legged frog and San Francisco garter snake, shall be conducted by a qualified biologist within the impact area. The qualified biologist shall investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows. Construction activities shall not take place until the survey is completed.

f. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground for more than 24 hours shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the qualified biologist or construction foreman/manager, the protocol in Mitigation Measure BIO-2(h) shall be followed.

g. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the qualified biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the qualified biologist. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the qualified biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the qualified biologist or anyone else, the steps in Mitigation Measure BIO-2(i) shall be followed.

h. If a California red-legged frog or San Francisco garter snake, or any animal that construction personnel believes may be either of these species, is encountered during project construction, the following shall be followed:

    i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease;

    ii. The foreman and qualified biologist shall be immediately notified; and

    iii. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow

Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO-2i for San Francisco garter snake.

i. If any California red-legged frogs are found during implementation of Mitigation Measures BIO-2(a), BIO-2(b), BIO-2(c), BIO-2(d), BIO-2(e), BIO-2(f), or BIO-2(g) the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

j. The qualified biologist shall monitor any individual San Francisco garter snake encountered within the impact area, but allow it to leave the impact area on its own. If the qualified biologist determines that the snake cannot leave on its own then the USFWS and CDFW shall be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes shall be handled without explicit agency approval.

k. Planting of western mosquitofish (*Gambusia affinis*) within the impoundment shall be prohibited. Treatment of the impoundment for mosquito larvae by the Mosquito Abatement District will be conducted utilizing alternative treatments approved by the District (e.g., insect growth regulators).

l. The use of any pesticides in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the project area, and the depletion of food items on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. Furthermore, pesticide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.

m. The use of herbicides shall not be permitted unless approved by CDP amendment. Future approval of herbicide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.

n. The use of rodenticides (i.e., anticoagulants) for controlling rodents, such as rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*), shall be prohibited. If rodent control is required by the City, localized trapping efforts shall be conducted.

o. Construction activities (e.g., grubbing, grading) shall occur during dry weather conditions only, and to the extent feasible, during the dry season (June 1 to October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake.

p. Regardless of the season, construction shall adhere to SMCWPPP BMPs, and no construction shall occur during and within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any project activities.

q. A wildlife corridor shall be constructed as part of the Project and would funnel any potentially dispersing California red-legged frog or San Francisco garter snake into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact California red-legged frog or San Francisco garter snake. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual California red-legged frog and San Francisco garter snake would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent California red-legged frog or San Francisco garter snake from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both California red-legged frog and San Francisco garter snake to provide a safe and suitable movement corridor without any further management actions required.

r. The wildlife corridor fencing shall be maintained as a boundary to allow for safe wildlife movement between the impoundment and Pilarcitos Creek by funneling any dispersing wildlife through tunnels beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The wildlife fencing, tunnel, and corridor shall be maintained over the lifetime of its use, and any portion that is observed to be broken or not functioning property shall be repaired immediately by the City.

s. A temporary material may be used for the wildlife fencing, such as ERTEC or similar material, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing, it shall be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife fencing (e.g., chain-link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist.

t. Installation of the wildlife corridor and associated fencing should take place during dry weather conditions to ensure that no dispersing California red-legged frogs or San Francisco garter snakes are trapped in upland areas.

u. The wildlife corridor shall be maintained and repaired annually or more frequently as needed. The tunnels beneath the access road shall be inspected to ensure that it is not blocked by vegetation or sediment. Vegetation fuels management within the wildlife corridor shall use low impact methods (such as goat grazing or using hand tools) on an annual basis. Any mechanical

maintenance activities (including using hand tools for vegetation maintenance) within the wildlife corridor shall be closely monitored by an approved biologist.

BIO-3 The following measures shall be implemented to minimize impacts to Pilarcitos Creek and riparian habitat in the vicinity of the project:

a. The project shall comply with the SMCWPPP, Municipal Regional Stormwater National Pollution Discharge Elimination System (NPDES) Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which shall prevent stream downcutting, riparian bank erosion, or other downstream impacts.

b. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during project activities shall be placed where they cannot enter any drainage ditch, culvert inlet, or nearby vernal marshes. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the work area and disposed of lawfully at an appropriate facility.

c. All exposed soils in the work area resulting from project activities shall be stabilized immediately following the completion of work to prevent erosion. Erosion and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas.

d. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any drainages and other water features, including Pilarcitos Creek. Crew members shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the construction contractor shall prepare a plan to be approved by the City before construction begins to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur.

e. All exposed surfaces shall be wetted periodically to prevent significant dust.

f. All stockpiled soil shall be covered during periods of rain.

g. The following BMPs shall be implemented to limit the spread of invasive species into sensitive habitats:

    i. All ground-disturbing equipment used adjacent to the riparian habitat shall be washed (including weeks, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site;

    ii. All applicable construction materials used on-site, such as straw wattles, mulch, and fill material, shall be certified weed free;

    iii. The project shall follow the SMCWPPP and a SWPPP as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable;

    iv. All disturbed soils shall be stabilized and planted with a native seed mix from a local source following construction;

v. If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) shall not be used in general soil stockpiles and shall not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil shall be disposed of off-site at a landfill.

BIO-4 The following measures shall be implemented to minimize impacts to nesting birds, as required by the MBTA and California Fish and Game Code:

a. If project activities, including, but not limited to, grubbing and grading, are conducted during nesting bird season (generally February 15 to September 15), preconstruction nest surveys shall be conducted in and near the project (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to be determined by the qualified project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.

b. If construction activities shall not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project shall be removed prior to the start of the nesting season (e.g., prior to February 15), to the extent feasible. This shall preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.

BIO-5 The following measures shall be implemented to minimize impacts to heritage trees:

a. During detailed design of the project, removal of trees protected by the City heritage tree ordinance shall be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the project area. Where removal of trees cannot be avoided, the City shall comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

BIO-6 The following measures shall be implemented to minimize potential impacts to individual roosting bats:

a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.

b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal shall begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking

forage). Trees shall be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.

BIO-7 The following measures shall be implemented to minimize potential impacts to San Francisco dusky-footed woodrat nests:

a. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat shall be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation shall be warranted. If nests are found, then Mitigation Measures b and c shall be implemented.

b. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-foot buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat shall be avoided by the project, high-visibility fencing shall be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.

c. If avoidance of occupied nests is not feasible, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist shall disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks shall be relocated; these materials shall be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests shall not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.

2.5 Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Environmental Evaluation

SWCA conducted a cultural resources investigation that included background research, a sacred lands file (SLF) search, and a field survey in support of the project. SWCA presented the findings of this investigation in a cultural resources memorandum in October 2021. In addition, SWCA conducted a historical resources evaluation of the existing farmhouse and adjacent garage in November 2021. The information below is based on these two memoranda.

a. Would the project cause a substantial adverse change in significance of a historical resource as defined in State CEQA Guidelines §15064.5?

A significant impact would occur if the project were to impact a historical resource defined as (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (CRHR); (2) a resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC, or (3) any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant.[38]

A review of the records received from the Northwest Information Center (NWIC) and historical maps suggest that there is one built environment resources within the project area. These resources were previously determined to be ineligible for inclusion in the National Register of Historic Places (NRHP) or CRHR, and survey confirmed that two of these resources are, in fact, located outside of the project area. The third built-environment property is a one-story Ranch House-style residence constructed in 1961; it is currently used as offices by City staff. The residence would not be altered, relocated, or demolished as part of the project. The residence was previously evaluated in 1998 before it had reached the 50-year mark, generally signaling the need for evaluation. SWCA completed a due-diligence historic resource evaluation to ascertain the current historic resource status of the residence. The due-diligence evaluation determined that the subject property is not eligible at the federal, state, or local level and therefore does not qualify as a historical resource pursuant to CEQA. Therefore, the proposed project would not result in significant adverse impacts to historical resources, and no impact would occur.

b. Would the project cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

A significant adverse effect would occur if grading or excavation activities associated with a project were to disturb previously unknown archaeological resources. The project site is mapped as archaeologically sensitive on the LCLUP Archaeological Sensitivity Areas Map.[39] The NWIC-conducted records search indicated that there is one previously recorded archaeological resource within the project area. The SWCA intensive archaeological pedestrian survey did not result in the identification of surface constituents of this resource. However, the absence of known archaeological resources on the surface does not preclude their existence at the subsurface level. Although the project site is previously disturbed, with project activities to include grading and limited excavation for new utilities and road and slab foundations for new structures, subsurface deposits related to this resource may be encountered during ground-disturbing activities. Therefore, the City is presently conducting archaeological testing for the purpose of gaining additional information regarding the presence or absence of cultural constituents

[38] 14 CCR Section 15064.5. September 17, 2021. Available at: https://casetext.com/regulation/california-code-of-regulations/title-14-natural-resources/division-6-resources-agency/chapter-3-guidelines-for-implementation-of-the-california-environmental-quality-act/article-5-preliminary-review-of-projects-and-conduct-of-initial-study/section-150645-determining-the-significance-of-impacts-to-archaeological-and-historical-resources. Accessed September 30, 2021.

[39] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 8. Cultural Resources, Figure 8-1. Archaeological Sensitivity Areas.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed September 30, 2021.

within the parcel, the results of which will be included in the Final IS/MND. Based on the available information, it is considered likely that the archaeological testing will provide negative results. However, in the event that cultural materials are identified during archaeological testing, these materials will be cataloged and subject to in-field analysis, and the records and results will be presented in a report to be submitted to the NWIC. The level of analysis will be scaled appropriately based on the volume and likely significance of materials collected. Identification of a long-term cultural repository for recovered archaeological materials is not anticipated at this time. However, if archaeological material is found to require curation in a storage facility, the City will coordinate with a qualified curatorial facility as defined in the Curation of Federally-Owned and Administered Archaeological Collections (36 Code of Federal Regulations [CFR] Part 79) and the State of California Guidelines for the Curation of Archaeological Collections (1993).

Prior to the initiation of project activities, an environmental awareness training will be presented by a qualified archaeologist (CUL-1). This training will detail the types of cultural resources that may be encountered, as well as procedures to occur in the event of accidental discovery, in agreement with the standard unanticipated discovery condition, below. Mitigation Measure CUL-2 will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities.

Standard Condition: *If undiscovered cultural resources are encountered during project implementation, all work within 50 feet of the discovery shall be stopped. The project applicant will retain a qualified archaeologist to assess the finds to determine whether they qualify as an historical or unique archaeological resource as defined by CEQA Guidelines § 15064.5. If the find is determined to be an historical or unique archaeological resource, avoidance is preferred. However, if avoidance is not feasible, measures to avoid adverse effects shall developed and mitigation implemented. No work shall proceed within 50-feet of the find until the qualified archaeologist, the project applicant, and the City are in written agreement that avoidance or mitigation measures have been satisfied.*

Potential impacts to archaeological resources would be considered less than significant with the implementation of the standard condition, Mitigation Measure CUL-1, and Mitigation Measure CUL-2.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

A significant adverse effect would occur if grading or excavation activities associated with a project were to disturb previously interred human remains.

The disposition of burials falls first under the general prohibition on disturbing or removing human remains under California Health and Safety Code Section 7050.5. More specifically, remains suspected to be Native American are treated under State CEQA Guidelines Section 15064.5, and California PRC Section 5097.98 illustrates the process to be followed in the event that remains are discovered. If human remains are discovered during construction, no further disturbance to the site shall occur, and the County of San Mateo Coroner must be notified (CCR 15064.5 and PRC 5097.98).

The records search conducted for the project did not reveal any known Native American burial sites. The absence of Native American sacred places does not preclude their existence at the subsurface level. Project activities include grading and limited excavation to install the new utilities and road and slab foundations for new structures. Therefore, subsurface deposits related to this resource may be encountered during ground-disturbing activities. Environmental impacts may result from project discovery of unrecorded human remains during grading and excavation. Although not anticipated, it is possible that discoveries of human remains may occur during ground-disturbing activities associated with project construction. Disturbance of unanticipated human remains would be a potentially significant impact. In the event that previously undiscovered human remains are encountered during the project,

the project would be required to implement the following standard City condition of approval that is applicable to all CDPs:

Standard Condition: *Pursuant to Section 7050.5 of the Health and Safety Code and Section 5097.94 of the Public Resources Code, in the event of the discovery of human remains during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The County Coroner shall be notified immediately and shall make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he shall notify the NAHC who shall attempt to identify descendants of the deceased Native American(s). If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this State law, then the permittee shall reinter the human remains, and items associated with Native American burials on the property in a location not subject to further subsurface disturbance.*

With implementation of the above standard condition of approval, and Mitigation Measures CUL-1 and CUL-2, the project would have a less-than-significant impact to human remains.

Mitigation Measures

There is one recorded archeological resource in the project area. The following measures are provided to avoid and/or reduce impacts to a less-than-significant level in the event unknown or subsurface resources are encountered during project implementation.

CUL-1 Prior to the start of the project, all construction crew members will attend an environmental awareness training. This environmental awareness training will be conducted by a qualified archaeologist and will address cultural situations that may be encountered. An archaeologist will prepare an archaeological brochure to be distributed to the construction crew at the on-site environmental awareness training. The brochure will identify the types of cultural resources that may be encountered and the procedures to be followed in the event of accidental discovery.

CUL-2 The project will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities. The CRMP shall include provisions for stop-work by the archaeologist, ownership and proper handling of archaeological resources upon and following discovery, reporting format and frequency, and a project specific communications plan will need to be completed prior to start of work.

2.6 Energy

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Energy use during project construction would be short term and temporary. Construction of the project would require the use of construction equipment and worker vehicles that would use energy. There are no established thresholds of significance for construction-related energy use; therefore, energy use during construction activities was not estimated. As discussed in Section 2.8, Greenhouse Gas Emissions, the project would implement the following BMPs, as required by the BAAQMD and the California Green Buildings Standard to reduce construction-related GHG emissions, which would also improve energy efficiency:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measures in 13 CCR Section 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- To the extent feasible, off-road construction diesel engines shall meet Tier 3 or Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines.
- At least 65 percent of all construction waste or demolition material shall be recycled.[40]

Recycling construction waste would reduce the amount of energy used in the production of new materials.

Due to the relatively small scale and short duration of construction activities, the project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, and construction impacts would be less than significant.

Operation of the Corporation Yard would not change as a result of the project. The new solar field would require minimal maintenance, including panel washing and manual vegetation removal. The facility would be monitored remotely, and maintenance activities would only be conducted when needed. Maintenance activities would not require excessive or wasteful use of energy that could lead to potentially significant environmental impacts. Consumption of energy during operation would be less than or equal to the amount of renewable energy generated by the solar facility. Electricity generated by the solar field would be used to make operation of the Corporation Yard carbon neutral. Therefore, the project would not result in the wasteful or inefficient use of energy, and this impact would be less than significant.

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Operation of the project would have little or no new energy use, and energy use during project construction would be short term and temporary. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

[40] California Department of Resources Recycling and Recovery (CalRecycle), 2002. *Frequently Asked Questions: California Green Building Code.* Available at: https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/faq#diversion. Accessed September 9, 2021.

2.7 Geology and Soils

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(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 substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☐	☒
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
(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, liquefaction or collapse?	☐	☐	☒	☐
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Environmental Evaluation

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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 substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The project site is located in a seismically active region, and moderate to strong earthquakes can occur on numerous local faults. Surface rupture is defined as surface displacement that occurs along the surface trace of the causative fault during an earthquake. The project site is approximately 2.5 miles east the

San Gregorio-Seal Cove Fault Zone[41] and 4.5 miles west the San Andreas Fault Zone.[42] No known active faults cross the project site, and the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone.[43] Based on these considerations, the potential for surface rupture at the project site is considered low. The project would upgrade the existing facilities at the Corporation Yard, including construction of a solar field. It would not construct any facilities for human habitation. Since the project is over 2 miles from the nearest known earthquake fault, the project would have no impacts related to rupture of a known earthquake fault.

ii. Strong seismic ground shaking?

The project site has experienced generally moderate-to-high levels of shaking during past earthquakes. The site's relatively close proximity to two active faults (2.5 miles from the San Gregorio-Seal Cove Fault and 4.5 miles from the San Andreas Fault Zone) means it would likely experience moderate to occasionally high ground shaking from future earthquakes.

The design and construction of the project is required to comply with the building codes related to seismic risk such as the California Building Code (CBC) and Half Moon Bay Municipal Code, which incorporates the International Building Code. The City would be required to submit a soils report in order to obtain a building permit from the City Community Development Department, which would ensure that project plans and specifications comply with the CBC and local amendments to the code, where applicable. Among many seismic requirements, the CBC requires foundations and structures to be designed and constructed to withstand the ground motions (i.e., peak ground accelerations [g]) that have a 10 percent chance of being exceeded in 50 years (equivalent to a 1/475 annual chance of being exceeded). The project area is estimated to have a 10 percent probability of experiencing a ground motion of 0.513 g in 50 years, which is an intensity that would present severe perceived shaking and has the potential to cause moderate to heavy structural damage.[44]

The project would upgrade the existing facilities at the Corporation Yard, including construction of a solar field. It would not construct any facilities for human habitation. The 2019 CBC and standard geotechnical engineering practice requires identification of seismic design parameters to inform all earthwork requirements, foundation designs, and concrete/building material specifications. Design and construction of the project in accordance with the CBC would be sufficient to ensure public exposure to earthquake risks would remain minimal. Therefore, this impact would be less than significant

[41] California Department of Conservation (CDOC). 1976. State of California Special Studies Zones, Half Moon Bay Quadrangle. CDOC, Division of Mines and Geology. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed September 10, 2021.

[42] California Department of Conservation (CDOC). 1974, 2019. Earthquake Zones of Required Investigation, Woodside Quadrangle. CDOC, California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed September 10, 2021.

[43] California Department of Conservation (CDOC). 1974, 2019. Earthquake Zones of Required Investigation, Woodside Quadrangle. CDOC, California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/. Accessed September 10, 2021.

[44] California Department of Conservation (CDOC). 2008. Ground Motion Interpolator Website. CDOC, California Geological Survey. Available at: https://www.conservation.ca.gov/cgs/ground-motion-interpolator. Accessed September 10, 2021.

iii. Seismic-related ground failure, including liquefaction?

The project site has a low-to-medium potential for liquefaction.[45] As discussed above, the City would be required to submit a soils report that complies with the CBC. As stated above, 2019 CBC and standard geotechnical engineering practice requires identification of seismic design parameters to inform all earthwork requirements, foundation designs, and concrete/building material specifications. Design and construction of the project in accordance with the CBC would be sufficient to ensure public exposure to risks related to seismic-induced ground failure would remain minimal. Therefore, this impact would be less than significant.

iv. Landslides?

The project site is essentially flat and has no landslide potential. No impact would occur.

b. Would the project result in substantial soil erosion or the loss of topsoil?

A significant impact would occur if a project would expose large areas to the erosional effects of wind and water for a protracted period of time, resulting in substantial erosion and/or the loss of topsoil. The project site has a low-to-moderate erosion risk.[46] Since the majority of the project work area is essentially flat, clearing, excavation, and grading activities at the project site are unlikely to result in significant short-term erosion impacts. In addition, project construction would comply with the SMCWPPP, which would include BMPs to prevent stormwater erosion from leaving the site. The project would replace gravel and dirt roads and parking areas with a paved road and two paved parking areas, reducing the overall operational erosion potential of the Corporation Yard. Therefore, impacts related to soil erosion would be less than significant.

The project would not require large amounts of excavation for road and construction of Corporation Yard improvements. The project would require a total of approximately 1,475 cubic yards of cut and 3,810 CY of fill. Approximately 590 cubic yards of soil and debris would be hauled off-site for disposal.

As required by the San Francisco RWQCB and the SMCWPPP, the project would implement BMPs to reduce erosion during construction. Since the total area of disturbance is more than 1 acre (approximately 1.78 acres), the City would be required to implement a SWPPP, according to the requirements of the San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit and the SMCWPPP. The plan would include BMPs to control erosion and sedimentation impacts and stabilize disturbed bare earth areas. Any bare earth areas would be reseeded prior to the end of construction. Section 2.10, Hydrology and Water Quality, provides additional information about the SWPPP and Municipal Regional Stormwater NPDES Permit requirements and related permits.

The addition of approximately 54,260 square feet (1.25 acres) of impervious surface area for Corporation Yard improvements and access road could increase the stormwater runoff volume and rate compared with existing conditions, which could in turn accelerate soil erosion and loss of topsoil if stormwater were conveyed into Pilarcitos Creek. The City has developed the GIP, which requires construction projects to prioritize green infrastructure to capture stormwater. Stormwater from the project site flows overland to Pilarcitos Creek. Stormwater runoff would be directed into new vegetated channels or swales, which

[45] City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Figure 5-13, Liquefaction Susceptibility. Available at: General Plan | Half Moon Bay, CA (half-moon-bay.ca.us). Accessed September 10, 2021.

[46] City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Figure 5-10, Erosion Risk. Available at: General Plan | Half Moon Bay, CA (half-moon-bay.ca.us). Accessed September 10, 2021

would provide biotreatment of stormwater prior to entering Pilarcitos Creek and meet the requirements of the GIP.[47] All disturbed areas would be reseeded prior to the end of construction. The new drainages would be adequate to handle the additional volume of stormwater from 1.25 acres of impervious surface area. Therefore, impacts resulting from water-related erosion would be less than significant.

c. Would the project 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, liquefaction, or collapse?

The work area of the project site is essentially flat and has no potential for landslide and little potential for lateral spreading. Farallone loam, Gazos and Lobitos soils, and Tierra loam, which underlay the majority of the project site, have moderate potential for liquefaction. Farallone coarse sandy loam has low potential for liquefaction. Seismic settlement is not mapped for the project area, but considering the alluvial nature of most soils within the planning area, there is potential for seismic settlement.[48] All new roads and structures would meet the requirements of the CBC and be engineered to meet requirements for seismic and geotechnical stability. This impact would be less than significant.

d. Would the project be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The expansion potential of soils underlying the project area varies but is generally considered low to moderate, depending on the clay content. The Farallone loam, Gazos and Lobitos soils, and Tierra loam have generally low clay content; therefore, the project would have a low-to-moderate shrink-swell potential.[49]

The project would comply with the Uniform Building Code and would include a geotechnical analysis of the underlying soils and recommendations to avoid damage related to expansive soils. Therefore, this impact would be less than significant.

e. Would the project 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?

The Corporation Yard is tied into the City sewer system. The project would not use septic tanks or alternative wastewater disposal systems; therefore, no impact would occur.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Geologic units from a geological map of the county were analyzed for their potential paleontological sensitivity. Paleontological sensitivity is defined as the potential for a geological unit to produce scientifically significant fossils. In *Standard Procedures for the Assessment and Mitigation of Adverse*

[47] City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed April 23, 2021.

[48] City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends and Opportunities Assessment Report*. Available at: General Plan | Half Moon Bay, CA (half-moon-bay.ca.us). Accessed September 10, 2021

[49] U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). 2021. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed November 12, 2021.

Impacts to Paleontological Resources,[50] the Society of Vertebrate Paleontology (SVP) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential. No records searches or field surveys were conducted as part of the paleontological review. The project is located in the geologic units Qyf and Qmt. These are Pleistocene era and described as younger alluvial fan deposits and marine terrace deposits.[51] There have been no paleontological resources discovered in the project area, and the project would include only minor grading for roads, parking areas, and foundations; therefore, the project is unlikely to disturb a paleontological resource.

The 2020 LCLUP indicates that no paleontological resources of known significance have been identified in the City, and they are extremely limited in the entire county coastal zone.[52] The project has the potential to impact paleontological resources if the work affects sensitive, previously undisturbed surficial sediment or sedimentary rock. The potential for significant paleontological discovery and impact are anticipated to be low within the proposed work area because the project is on flat land and includes minor grading. In the unlikely event that a paleontological resource is discovered, the City would implement Mitigation Measure GEO-1. As a result, project activities would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, and impacts would be less than significant with mitigation.

Mitigation Measures

GEO-1 In the unlikely event that a paleontological resource is discovered, the City shall comply with PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the State or any county, city, district, authority, or public corporation, or any agency thereof. To be consistent with these PRC sections, in the event that paleontological resources are exposed during construction, work in the immediate vicinity of the find must stop until a qualified paleontologist can evaluate the significance of the find. Construction activities may continue in other areas. If the discovery proves significant under the provisions of CEQA, the paleontologist shall prescribe and the City shall implement additional measures, such as testing or data recovery, to avoid impacts to the resources.

2.8 Greenhouse Gas Emissions

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

[50] Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. SVP Impact Mitigation Guidelines Revision Committee. Available at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf. Accessed November 2021.

[51] U.S. Geological Survey (USGS). 1983. *Geologic Map of San Mateo County, California*. Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_49.htm. Accessed November 12, 2021.

[52] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 8. Cultural Resources.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 12, 2021.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHGs are compounds in the earth's atmosphere that play a critical role in determining the earth's surface temperature. Specifically, these gases allow high-frequency solar radiation to enter the earth's atmosphere, but retain the low-frequency energy, which is radiated back from the earth to space, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Increased concentrations of GHGs in the earth's atmosphere are thought to be linked to global climate change, causing rising surface temperatures, melting icebergs and snowpack, rising sea levels, and the increasing frequency and magnitude of severe weather. GHGs include carbon dioxide (CO_2), methane, ozone, water vapor, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Although CO_2 is the most abundant GHG, other GHGs are less abundant but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as carbon dioxide equivalent (CO_2e). GHGs are the result of natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

The project would construct improvements to the City's existing Corporation Yard, including the addition of an electrical energy generating solar field. Based on the size of the project, there would be minimal construction-related GHG emissions. Construction of the project would require the use of construction equipment and worker vehicles that would generate GHG emissions. As previously described in Section 2.3.a, the BAAQMD has not established screening thresholds for construction-related GHG emissions general light industry projects. Therefore, GHG emissions during construction activities were not estimated. The project is relatively small compared with other screening criteria and would result in approximately 1.78 acres of ground disturbance. To reduce emissions, the BAAQMD requires that all project applicants ensure that all off-road vehicles and equipment comply with Transportation Control Measure TR22 of the *2017 Clean Air Plan*, which requires all off-road engines to comply with Tier 3 or Tier 4 standards.[53] The project would comply with all measures required by the BAAQMD *CEQA Air Quality Guidelines*.[54] These include the following for GHG reduction:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxic Control Measures in 13 CCR Section 2485). Clear signage shall be provided for construction workers at all access points.

[53] The EPA and CARB established emission standards for new engines found in off-road equipment. There are four tiers of emission standards, which become increasingly more stringent the higher the tier. Tier 3 and 4 emission standards are met through advanced engine design with no or minimal use of exhaust gas after combustion

[54] Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines.* Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed April 23, 2021.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- To the extent feasible, off-road construction diesel engines shall meet Tier 3 or Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines.

Compliance with the required BAAQMD measures combined with the size of the project would ensure that impacts are less than significant. In addition, the project would implement the following BMP to further reduce construction-related GHG emissions, as required by the California Green Building Standards Code:

- At least 65 percent of all construction waste or demolition material shall be recycled.[55]

With implementation of BMPs required by the BAAQMD and California Green Building Standards Code, construction-related GHG emissions would be less than significant.

As previously described in Section 2.3.a, the BAAQMD has established screening thresholds for operational GHG emissions from general light industry projects at 121,000 square feet. The project would create approximately 8,360 square feet of new facilities, including 6,750 square feet for the tension fabric warehouse and 1,880 square feet for the materials and waste enclosure. However, operational activities and emissions at the Corporation Yard would not change as a result of the project. The new solar field would offset electrical use, creating a zero carbon footprint for the Corporation Yard. Therefore, operational activities would have no impact on GHG emissions.

b. Would the project conflict with an applicable plan, policy or regulations adopted for the purpose of reducing the emissions of greenhouse gases?

The project would upgrade existing facilities at the City's Corporation Yard and construct a new solar field, which would create minimal construction-related GHG emissions and would not change operational GHG emissions. Therefore, the project would not conflict with an applicable plan, policy, or regulation related to GHGs, and no impact would occur.

2.9 Hazards and Hazardous Materials

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
(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?	☐	☐	☒	☐

[55] California Department of Resources Recycling and Recovery (CalRecycle), 2002. *Frequently Asked Questions: California Green Building Code.* Available at: https://www.calrecycle.ca.gov/lgcentral/library/canddmodel/instruction/faq#diversion. Accessed April 23, 2021.

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
(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?	☐	☐	☐	☒
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

A significant impact may occur if a project would involve the use or disposal of hazardous materials as part of its routine operations or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors.

Construction of the project would involve the transport, use, and disposal of potentially hazardous materials. These materials include paints, adhesives, surface coatings, cleaning agents, fuels, and oils that are typically associated with development of any construction project. As described in Chapter 1, Project Description, construction activities would be temporary, lasting approximately 4 to 6 months. These temporary construction activities involving the use, transport, storage, and disposal of hazardous materials would be conducted in compliance with all health and safety requirements, such as County and City General Plan policies, CCR Sections 337 through 340, Chapter 6.95 of California Health and Safety Code Article 1, and CCR Title 19, Public Safety, Division 2 (if required). Because the City and contractor would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, the exposure of the public, construction workers, and environment to hazardous materials would be less than significant.

Operation at the Corporation Yard would not change as a result of the project. The project would result in better storage facilities for the hazardous materials stored on-site (primarily a small amount of fuel, less than 100 gallons of fuel stored in appropriate containers); therefore, no operational impact would occur.

b. Would the project 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?

A significant impact may occur if a project could create an upset or accident condition involving hazardous materials. No hazardous contamination sites are located within the vicinity of the project site. The closest hazardous contamination site is approximately 0.35 mile southwest of the project area, and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination.[56,57] Construction of the project would use small amounts of hazardous materials, such as diesel fuel. The BMPs implemented for the SMCWPPP (discussed further in Section 2.10, Hydrology and Water Quality) would contain minor spills during construction. Operation of the Corporation Yard would not change as a result of the project, with the exception of operation of the new solar field. Therefore, the project would not 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, and the impact would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

A project-related significant adverse effect may occur if a project site is within 0.25 mile of an existing or proposed school site, and the project is projected to release hazardous emissions that would exceed regulatory thresholds and would pose a health hazard. The closest school is Half Moon Bay High School, located approximately 0.20 mile northwest of the project. As discussed under Sections 2.9.a and 2.9.b above, the project would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, and would not create a significant hazard to the public or the environment related to hazardous materials. Therefore, the project would not handle hazardous materials in a way that would emit hazardous emissions. Common handling of small amounts of materials such as vehicle fuel is unlikely to impact the high school located uphill of the project. Therefore, this impact would be less than significant.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

California Government Code Section 65962.5 requires various State agencies to compile lists of hazardous waste disposal facilities, unauthorized release from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste, and to submit such information to the Secretary for Environmental Protection on at least an annual basis. In meeting the provisions in California Government Code Section 65962.5, commonly referred to as the "Cortese List," database resources such as EnviroStor and GeoTracker provide information regarding identified facilities. According to EnviroStor[58] and GeoTracker,[59] no hazardous contamination sites are

[56] State Water Resources Control Board (State Water Board). 2021. GeoTracker. Available at: https://geotracker.waterboards.ca.gov/map/. Accessed September 10, 2021.

[57] California Department of Toxics Substances Control (DTSC). 2021. EnviroStor. Available at: https://www.envirostor.dtsc.ca.gov/public/map. Accessed September 10, 2021.

[58] California Department of Toxics Substances Control (DTSC). 2021. EnviroStor. Available at: https://www.envirostor.dtsc.ca.gov/public/map. Accessed September 10, 2021.

[59] State Water Resources Control Board (State Water Board). 2021. GeoTracker. Available at: https://geotracker.waterboards.ca.gov/map/. Accessed September 10, 2021.

located within the vicinity of the project site. The closest hazardous contamination site is approximately 0.35 mile southwest of the project area, and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination. Therefore, no impact would occur.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The project site is not located within an airport land use plan or within 2 miles of a public airport. Therefore, the project would not result in a safety hazard for people using the project area, and no impact would occur.

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan or would generate sufficient traffic to create traffic congestion that would interfere with the execution of such a plan.

The nearest emergency evacuation route is SR-92.[60] SR-1 and SR-92 provide the only evacuation routes into and out of the City. Construction of the Corporation Yard upgrades would result in minimal amounts of traffic related to worker trips, delivery of materials, and disposal of excavated soils. The project would be constructed at the eastern end of Stone Pine Road, approximately 0.1 mile south of SR-92. Construction traffic would not impede public access and would not interfere with any adopted emergency response plan or emergency evacuation plan. The proposed improvements to the Corporation Yard would not generate additional traffic. Construction activities and staging would occur on the project parcel and would not affect the public right-of-way. As required by Section 506.1.4 of the Fire Code Ordinance, the electric gate would be provided with Key Switch for fire access. Therefore, the project would not impair the implementation of or physically interfere with an emergency response plan or emergency evacuation plan, and no impact would occur.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. The project is served by the Coastside Fire Protection District (CFPD). The Half Moon Bay Fire Station is approximately 1.2 miles southwest of the project area.

The project site is located on the eastern edge of an established residential development and is located adjacent to a Very High Fire Hazard Severity Zone (VHFHSZ).[61] The closest VHFHSZ is at the eastern edge of the property. According to the Association of Bay Area Governments, the majority of the project area is also in the wildland urban interface (WUI).[62] The WUI is best described as an area where housing developments are interspersed in an area dominated by wildland vegetation subject to wildfire.

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[60] City of Half Moon Bay. 2013. *General Plan. Circulation Element.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/187/2013-Circulation-Element-PDF. Accessed November 12, 2021.

[61] California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zone Viewer. Available at: https://egis.fire.ca.gov/FHSZ/. Accessed September 10, 2021.

[62] Association of Bay Area Governments. 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: https://mtc.maps.arcgis.com/home/item.html?id=d45bf08448354073a26675776f2d09cb. Accessed September 10, 2021.

However, the improvements to the existing Corporation Yard facilities would improve the safety of the Corporation Yard by including upgrades to meet CFPD requirements, particularly new water service, sprinklers, and fire hydrant. The paved access road would improve access for emergency vehicles. Therefore, the project would not expose more people or infrastructure to danger from wildland fires, and no impact would occur.

2.10 Hydrology and Water Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(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	☐	☐	☒	☐
(iv) Impede or redirect flood flows?	☐	☐	☐	☒
(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Activities associated with construction of the project could have a significant impact if they resulted in violation of waste discharge requirements under the San Francisco Bay RWCQB's Municipal Regional Stormwater NPDES Permit from contaminated runoff entering the stormwater system.

The SMCWPPP is a partnership of the City and County Association of Governments, each incorporated city and town in the county, and the County, which share a common NPDES permit. The Municipal

Regional Stormwater NPDES Permit was issued by the San Francisco Bay RWQCB[63] in compliance with the San Francisco Bay Basin Water Quality Control Plan[64] and the NPDES Program. Participating agencies (including the County and City) must comply with the provisions of the countywide permit by ensuring that new development and redevelopment mitigate, to the maximum extent practicable, water quality impacts from stormwater runoff during both construction and operational periods of projects.

CONSTRUCTION

Construction of the Corporation Yard improvements would be required to implement a SWPPP under the State Water Boards Construction General Permit Order 2009-009-DWQ,[65] Municipal Regional Stormwater NPDES Permit,[66] and SMCWPPP.[67] The SWPPP must include site-specific BMPs that are designed to prevent runoff from construction areas to reduce potential impacts to surface water quality during project construction. The SWPPP would also include design elements and BMPs for construction areas, such as fueling and equipment washing areas and trash and hazardous material storage areas. No construction would occur during major rain events, minimizing any chance of runoff from the site. Major rain events would be considered as a prediction of 0.25 inch or more in 24 hours.

Construction of the Corporation Yard improvements would require excavation and grading for the access road and parking areas and foundations for the new warehouse and materials enclosure. Excavation would also be required for the solar panel supports and fenceposts. Excavation and grading could result in an increase in erosion and sedimentation from the project area into Pilarcitos Creek. Construction materials and construction waste, such as old asphalt and other debris, could enter Pilarcitos Creek. The freshwater marsh located in the northwest corner of the project site is upslope of construction areas, would be fenced, and would not be impacted. Construction activities associated with the Corporation Yard improvements would require the presence of construction vehicles, heavy equipment and materials, and construction crews. In addition to stormwater runoff and potential resulting water quality and sedimentation impacts, there is the potential for hazardous materials, including petroleum products associated with diesel vehicle and equipment use and contaminants from paving materials, concrete mixing, pouring and washout, and sanitary facilities, to enter Pilarcitos Creek and contribute pollutants to Pilarcitos Creek that can affect water quality and may violate water quality standards if left uncontrolled. Construction activities for the Corporation Yard improvements would last approximately 4 to 6 months and would occur only during dry weather conditions to the extent feasible.

[63] San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit.* California Regional Water Quality Control Board, San Francisco Bay Region. Order No. R2-2015-0049. NPDES Permit No. CAS612008. November 19. Available at: https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf. Accessed November 15, 2021.

[64] San Francisco Regional Water Quality Control Board (RWQCB). 2017. *San Francisco Bay Basin Water Quality Control Plan.* California Regional Water Quality Control Board, San Francisco Bay Region. May 4. Available at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf. Accessed November 15, 2021.

[65] California Water Boards. 2021. *Construction Stormwater Program Website*. Available at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html. Accessed November 15, 2021.

[66] San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit.* California Regional Water Quality Control Board, San Francisco Bay Region. Order No. R2-2015-0049. NPDES Permit No. CAS612008. November 19. Available at: https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf. Accessed November 15, 2021.

[67] County of San Mateo. 2020. *San Mateo Countywide Water Pollution Prevention Program. Construction Webpage*. Available at: https://www.flowstobay.org/construction. Accessed November 15, 2021.

The project would be required to comply with the Construction General Permit and SMCWPPP and to develop a SWPPP. The project would create approximately 54,260 square feet of new impervious surface. Stormwater BMPs under the SWPPP include, but are not limited to:

- Attach the SMCWPPP's construction BMP plan sheet to project plans and require the contractor to implement applicable BMPs on the plan sheet.
- Create temporary erosion controls to stabilize all denuded areas until permanent erosion controls are established.
- Perform clearing and earth-moving activities only during dry weather.
- Trap sediment on-site using BMPs, such as sediment basins or traps, earthen dikes or berms, silt fences, check dams, compost blankets or jute mats, covers for soil stockpiles, etc.
- Protect adjacent properties and undisturbed areas from construction impacts using vegetative buffer strips, sediment barriers, dikes, mulching, or other areas, as appropriate.
- Limit construction access routes and stabilize designated access points.
- Do not clean, fuel, or maintain vehicles on-site, except in a designated area where wash water is confined and treated.
- Store, handle, and dispose of construction materials/wastes properly to prevent contact with stormwater.
- Train and provide instruction to all employees/subcontractors regarding construction SWPPP BMPs.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, rinse water from architectural copper, and non-stormwater discharges to storm drains or watercourses.

Implementation of the SWPPP, as required by law, would prevent construction of the Corporation Yard upgrades from violating any water quality standards or waste discharge requirements or otherwise substantially degrading surface water or groundwater quality, and would reduce potentially significant impacts to a less-than-significant level.

OPERATION

The project would add approximately 54,260 square feet (1.25 acres) of impervious surface area to the Corporation Yard. This additional impervious surface area would increase the stormwater runoff volume and rate compared with existing conditions, which could in turn accelerate soil erosion and loss of topsoil if stormwater were conveyed onto adjacent undeveloped land.

The project would be required to comply with the C.3 Regulated Projects Checklist, as required by the SMCWPPP. A C.3 regulated project is one that creates or replaces 10,000 or more square feet of impervious surface.

In addition, the project would be required to adhere to the City's Low Impact Development requirements. The City has developed the GIP, which requires construction projects to prioritize green infrastructure to capture stormwater. Stormwater from the project site drains overland to Pilarcitos Creek. Stormwater runoff would be channeled through swales or channels lined with natural vegetation before entering Pilarcitos Creek, which would provide biotreatment of stormwater and meets the requirements of the

GIP.[68] Under the GIP and C.3 Regulated Projects Guide, the swales or channels would be sized to contain a flow of runoff resulting from a rainfall intensity of 0.2 inch per hour. This method of sizing requires the surface treatment area to be 4 percent of the total impervious surface area.[69] The Corporation Yard, including the approximately 54,260 square feet of new impervious surface area, would have total of approximately 57,165 square feet of impervious surface area (including the new construction and existing house and barn). Therefore, the project would require approximately 2,286 square feet (4 percent) of stormwater channels.

The project would remove the existing materials enclosure, which is within the 50-foot riparian buffer area, and construct a new materials enclosure that is outside of the 50-foot riparian buffer and drained to the sewer system; therefore, pollutant runoff from the materials enclosure would be reduced or eliminated. Therefore, project operation would not violate any water quality standards or waste discharge requirements or degrade water quality, and operational impacts would be less than significant.

Erosion and sedimentation may temporarily increase post-construction because of soils that have been loosened and changes in drainage patterns. Improvements to the Corporation Yard could temporarily result in an increase in the levels of urban pollutants and litter entering Pilarcitos Creek. Pollutants in post-construction runoff from the Corporation Yard could include sediment and materials such as vehicle fuel, oils, and lubricants used in Corporation Yard vehicles. However, all earth-moving aspects of the project is anticipated to be completed by October 15, which is the start of the rainy season. The construction of the warehouse may be completed at a later date. Therefore, the project site is anticipated to be stabilized by reseeding with native seeds prior to October 15. If the project is not completed and stabilized by October 15, the contractor would employ the required site-specific BMPs included in the SWPPP that are designed to prevent runoff from construction areas (see Appendix A). Once complete; construction equipment, building materials, and chemicals, including cleaning materials and fuel, oils, and lubricants, would be stored inside the warehouse, and the location and drainage of new materials enclosure would lead to an overall decrease in runoff pollutants. Therefore, post-construction runoff from the Corporation Yard improvements would not result in a violation of any water quality standards or waste discharge requirements, and this impact would be less than significant.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

A potentially significant impact would occur if a project includes deep excavations resulting in the potential to interfere with groundwater movement, the withdrawal of groundwater, or paving of existing permeable surfaces important to groundwater recharge. The project would include minor excavation and grading (to a maximum depth of 5 feet) for roads, a parking area, and concrete foundations for the warehouse and materials enclosure, which would not impact the groundwater table. No impact would occur from excavation.

Project construction would be served by the Coastside County Water District (CCWD) water supply system. The Corporation Yard has existing water service from CCWD. Additional operational water use would include periodic washing of solar panels, which would require approximately 2,000 gallons per year over existing use. The project would upgrade existing Corporation Yard facilities. It would not

[68] City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed November 15, 2021.

[69] San Mateo Countywide Water Pollution Prevention Program. January 2020. *C.3 Regulate Projects Guide.* Available at: https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res_021220_0.pdf. Accessed November 15, 2021.

increase the density or population of the City and would not reduce water supply reliability or impact groundwater withdrawal. Development of the project would not include any groundwater wells.

The project area is located within the State Water Board San Francisco Bay Hydrologic Region. The project area is underlain by an alluvial aquifer referred to as the Half Moon Bay Terrace groundwater basin, which supplies limited water for domestic and municipal uses (golf courses). Groundwater in the project area flows from east to west, discharging into the Pacific Ocean.[70,71]

The project would result in an increase in impervious surface area, adding approximately 64,000 square feet (1.47 acres) of impervious surface area to the existing Corporation Yard. Impervious surfaces prevent the infiltration of runoff into the underlying soil and can interfere with groundwater recharge. According to the CCWD, there are no municipal water supply wells in the vicinity of the project.[72] Runoff from the Corporation Yard drains to Pilarcitos Creek or percolates into the groundwater table. Therefore, the project would not substantially interfere with groundwater recharge, and no impact would occur.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

Planned earthwork and grading activities on the project site would involve a total cut and fill of approximately 5,285 cubic yards. The project site slopes gradually to the southwest to Pilarcitos Creek, and all project components would be required to implement erosion control measures as discussed under Section 2.10.a.

Construction of the project would include implementation of SWPPP BMPs under the State Water Board General Construction Permit and SMCWPPP. In addition, the project would comply with Mitigation Measure BIO-3 to minimize impacts to Pilarcitos Creek. The existing impoundment in the northwest corner of the project area is upslope of the construction areas and would be protected during construction. As discussed under Section 2.10.a, operational stormwater flows would continue to be directed to Pilarcitos Creek through new vegetated channels or swales. Operation of the project would result in an increase of impervious surface compared with existing conditions (approximately 54,260 square feet). However, this includes replacing two existing unpaved access roads and parking/materials storage areas with paved surfaces. The existing unpaved areas are potentially more susceptible to erosion. The Corporation Yard improvements would include construction of vegetated stormwater channels that would have adequate capacity for the increase in drainage; therefore, the project would not substantially alter the existing drainage pattern in a manner that would cause erosion. The project site would not alter the course of a stream or river. Therefore, the project would not substantially alter the existing drainage pattern of the site resulting in substantial erosion or siltation, and the impact would be less than significant.

[70] California Department of Water Resources (DWR). 2021. Groundwater Basin Boundary Assessment Tool. Available at: https://gis.water.ca.gov/app/bbat/. Accessed November 15, 2021.

[71] California Department of Water Resources (DWR). 2014. *Bulletin 118 – Half Moon Bay Terrace Groundwater Basin*. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_022_HalfMoonBayTerrace.pdf. Accessed April 26, 2021.

[72] Coastside County Water District (CCWD). 2020. *District Maps Webpage.* Available at: http://www.coastsidewater.org/distribution/district-maps.html. Accessed November 15, 2021.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

A significant impact may occur if a project results in increased runoff volumes during construction or operation of the project that would result in flooding conditions affecting the project site or nearby properties. There are no flooding hazards in the project area. As described in Sections 2.10.a and 2.10.b, the project would result in a relatively small increase in impervious surface area (approximately 64,000 square feet) and would construct new vegetated stormwater swales or channels that would have adequate capacity to contain runoff from the additional square footage. Therefore, the project would not increase the rate or amount of surface runoff in a manner that would result in flooding, and the impact would be less than significant.

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?

Stormwater from the project site flows overland to Pilarcitos Creek, which is in an area of minimal flood hazard, and FEMA maps do not show a flood hazard zone outside the banks of Pilarcitos Creek downstream of the project.[73] There is no known history of flooding from Pilarcitos Creek on the project site.[74] As described in Sections 2.10.a and 2.10.b, the project would result in a relatively small increase in impervious surface area (approximately 54,260 square feet). Stormwater improvements would meet the requirements of the City's GIP and have capacity to contain runoff from the increase in impervious surface area. Therefore, the project would not increase the rate or amount of surface runoff in a manner that would exceed the capacity of the City's stormwater system, and the impact would be less than significant.

iv. Impede or redirect flood flows?

A significant impact may occur if a project were located in a flood hazard area and would impede or redirect flood flows. The project is not mapped in a flood hazard zone and is not located in an area with known localized flooding issues;[75] therefore, the project would not impede or redirect flood flows, and no impact would occur.

d. Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The project is not located in a flood hazard or seiche zone.[76] The project is approximately 1.2 miles from the Pacific Ocean. According to the Department of Conservation *San Mateo County Tsunami Hazard Areas* viewer, tsunami floodwaters would travel up Pilarcitos Creek to within 100 feet of the project site

[73] Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center. Available at: https://msc.fema.gov/portal/search?AddressQuery=909%20Grandview%20Boulevard%20Half%20Moon%20Bay%20CA#searchresultsanchor. Accessed November 15, 2021

[74] Seeley, Todd, Director of Public Works, City of Half Moon Bay. 2021. Personal Communication. Response to RFI #3.

[75] Federal Emergency Management Agency (FEMA). 2020. FEMA Flood Map Service Center. Available at: https://msc.fema.gov/portal/search?AddressQuery=909%20Grandview%20Boulevard%20Half%20Moon%20Bay%20CA#searchresultsanchor. Accessed November 15, 2021.

[76] City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends, and Opportunities Assessment*. pp. 5-79 to 5-87. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/174/HMB-Existing-Conditions-Report-PDF. Accessed November 15, 2021.

and 1,000 feet of existing Corporation Yard facilities but would not enter the project site.[77] The project would upgrade existing Corporation Yard facilities but would not change existing operations at the Corporation Yard. Therefore, the project would not risk the release of pollutants due to project inundation from a tsunami, and no impact would occur.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project is located in the Lower Pilarcitos Creek Subbasin of the Half Moon Bay Terrace groundwater basin. The Half Moon Bay Terrace groundwater basin does not have a sustainable groundwater management plan and is on the list of groundwater basins with low priority for developing such a plan. The project would rely on municipal water sources for construction operation and would not obstruct groundwater recharge. Therefore, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan, and no impact would occur.

The project would abide by all requirements of the SMCWPPP, San Francisco Bay RWQCB Municipal Regional Stormwater NPDES Permit, and the City's GIP.[78,79] The project would not conflict with the Water Quality Control Plan for the San Francisco Bay Basin because it would comply with all applicable requirements of both the Municipal Regional Stormwater NPDES Permit and the SMCWPPP permit, and no impact would occur.

Mitigation Measures

The project shall comply with Mitigation Measure BIO-3 to minimize impacts to wetlands and waters.

2.11 Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Physically divide an established community?	☐	☐	☐	☒
(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?	☐	☐	☒	☐

[77] State of California. 2021. *Tsunami Hazard Area Map. San Mateo County.* Produced by California Geological Survey, California Governor's Office of Emergency Services, and AECOM. Available at: https://www.conservation.ca.gov/cgs/tsunami/maps/san-mateo. Accessed November 15, 2021.

[78] San Francisco Regional Water Quality Control Board (RWQCB). 2015. *Municipal Regional Stormwater NPDES Permit.* Order No. R2-2015-0049. NPDES Permit No. CAS612008. Available at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2-2015-0049.pdf. Accessed November 15, 2021.

[79] City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed November 15, 2021.

Environmental Evaluation

a. Would the project physically divide an established community?

The project would upgrade the existing Corporation Yard facilities. It would not include any lot line adjustment or change in existing parcels. It would not physically divide an established community, and no impact would occur.

b. Would the project 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?

A project would normally have a significant impact related to land use consistency if it would be inconsistent with the General Plan or its elements, a local coastal plan, or adopted environmental goals or policies, or if it would require a General Plan amendment or zone change.

The project would upgrade the City's existing Corporation Yard facilities and enhance environmental protections. The property is currently zoned as Urban Reserve (U-R) and, under the LCLUP, is designated as Public Facilities and Institutions, which includes educational, governmental, agricultural, habitat restoration, and institutional uses, such as public works and utilities yards and maintenance buildings. The LCLUP recommends rezoning this property to Public/Quasi Public (P-S). Per CCC guidance, the LCLUP is the primary guiding land use document and takes precedence when there are inconsistencies between the LCLUP and the zoning code. The proposed improvements to the City-owned property are consistent with the LCLUP land use designation and the Public/Quasi Public (P-S) zoning designation. The project is located within the California Coastal Zone.

The project would add a solar field that would provide electricity to the existing Corporation Yard facilities. The Corporation Yard would eliminate natural gas service upon completion of solar (PV) facilities. The project would allow the City to increase sustainability and shift away from fossil fuels by providing solar electrical energy to its Corporation Yard.

As shown in Table 2.11-1, the project was reviewed for consistency with policies relating to the 2020 LCLUP and City Zoning Ordinance (Title 18),[80] and the project was found to be consistent with City policies and development regulations. With the exception of the new solar field, the project would not change operations at the existing Corporation Yard, which is an approved use under the LCLUP Public Facilities and Institutions land use category. As discussed in Section 2.4, Biological Resources, the project would comply with policies related to ESHAs, special-status species, and heritage trees, and would improve protection of sensitive habitat and species by relocating the materials enclosure out of the 50-foot riparian setback and constructing a wildlife corridor with frog/snake tunnels under the access road. Operationally, the project would improve the City's sustainability by increasing reliance on solar energy and would not otherwise conflict with any other environmental policy expressed in the 2020 LCLUP. Additionally, the project does not propose any other new, expanded, or modified land use in the project area and would not conflict with the existing and surrounding uses. Therefore, the project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

[80] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 2. Development.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed November 15, 2021.

Table 2.11-1. Project Consistency with LCLUP Policies and Municipal Code

Policy or Code	Consistency
Policy 2-24. Infrastructure Capacity and Design. Design public infrastructure, including water, sewer, stormwater management, communications, energy, and transportation systems, to meet the needs of anticipated development without inducing growth, support new technology, and shift away from fossil fuels. Infrastructure shall be designed according to best practices for sustainability, maintenance, aesthetics, resilience, and durability. As applicable, new infrastructure shall be undergrounded.	Consistent. The project would remove existing gas infrastructure and include a solar field, which would generate adequate electrical energy to achieve a net zero carbon footprint for the Corporation Yard.
Policy 6-8. Biological Study. For development proposed in and adjacent to ESHA and projects for which the preliminary biological inventory indicates the presence or potential for sensitive species or habitat, require the preparation of a detailed biological study by a City-approved, qualified professional to be submitted prior to development review and prior to any ground disturbance.	Consistent: The existing access road crosses a wildlife corridor potentially used by California red-legged frog. The City and its consultants prepared a BRR and preliminary wetland delineation. On the basis of these, the City consulted with an expert on California red-legged frog to design a wildlife corridor to protect special-status snakes and frogs from the new access road (see Section 2.4, Biological Resources).
Policy 6-15. Wildlife Corridors. Preserve, protect, and enhance wildlife corridors, including watercourses, connecting ESHA and open space areas to allow for seasonal migration as well as daily movements for foraging and dispersal.	Consistent: The existing access road crosses a wildlife corridor potentially used by California red-legged frog. The City consulted with an expert on California red-legged frog to design a wildlife corridor to protect special-status snakes and frogs from the new access road (see Section 2.4, Biological Resources).
Policy 6-18. Standards in Terrestrial ESHA and Terrestrial ESHA Buffers. Site and design new development permitted in or adjacent to terrestrial ESHA to avoid adverse impacts to ESHA. Methods for avoiding impacts include, but are not limited to, utilizing raised boardwalks, installing informative signage and exclusion fencing, and implementing construction best management practices.	Consistent: The new access road includes a fenced wildlife corridor with frog/snake tunnels under the road to protect ESHAs, potential ESHAs, and special-status frogs and snakes (see Section 1.5, Proposed Project).
Policy 6-41. Wetland Buffer Zones. Wetland buffer zones for proposed development shall extend a minimum of 100 feet landward from the edge of the delineated wetland.	Consistent. The project would provide a 100-foot buffer zone around the existing freshwater marsh impoundment. Removal of the existing fencing within the 100-foot buffer zone would increase the habitat available to special-status species and assist in directing them into the wildlife corridor.
Policy 6-49. Riparian Corridor Buffers. Buffer zones shall be required for development proposed along both sides of riparian corridors to provide habitat protection and space for meander belts and vegetation growth. Riparian buffer zones shall apply as follows: a. For all perennial watercourses (i.e., Pilarcitos Creek), buffer zones shall extend a minimum of 50 feet from the outer limit of the riparian vegetation or 100 feet from the top of bank, whichever is greater.	Consistent. The project would provide a 50-foot buffer zone around the existing riparian corridor and would relocate the materials enclosure outside of the 50-foot buffer zone.
Municipal Code 7.40 Heritage Trees. The Heritage Tree Ordinance requires permits for the removal of heritage trees and replacement of such trees on a one-to-one basis. It also requires a tree protection plan be prepared by a certified arborist if grading, excavation, demolition, or construction activity is performed within the drip line of a heritage tree.	Consistent. The project would remove 12 trees and replace them at a 1-to-1 ratio. Mitigation Measure BIO-5 would require compliance with the Heritage Tree Ordinance. The City would have a tree protection plan prepared by a certified arborist prior to construction.

2.12 Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
(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?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

A significant impact may occur if a project site is located in an area used or available for extraction of a regionally important mineral resource, if a project would convert an existing or future regionally important mineral extraction use to another use, or if a project would affect access to a site used or potentially available for regionally important mineral resource extraction.

The project is located in an area zoned Mineral Resource Zone (MRZ)-3 for aggregate mineral resources.[81] MRZ-3 is defined as an area containing mineral deposits, the significance of which cannot be evaluated from available data. Neither the project site nor the surrounding area is identified as an area containing mineral deposits of statewide or regional significance. The closest identified aggregate resource section is at Pilarcitos Quarry, approximately 2.2 miles northeast. Therefore, no impacts to mineral resources of statewide or regional significance would occur.

b. Would the project 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?

A significant impact would occur if a project were located in an area used or available for extraction of a locally important mineral resource and the project converted an existing or potential future locally important mineral extraction use to another use, or if a project affected access to a site in use or potentially available for locally important mineral resource extraction.

Neither the project site nor the surrounding area is identified as an area containing mineral deposits of local significance.[82] Therefore, no impacts to mineral resources of local significance would occur.

[81] California Department of Mines and Geology (CDMG). 1982. Mineral Resource Sectors. South San Francisco Bay Production-Consumption Region, Half Moon Bay Quadrangle, Special Report 143, Plate 2.3 and Plate 2.73. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed November 15, 2021.

[82] City of Half Moon Bay. 2014. *Plan Half Moon Bay. Existing Conditions, Trends, and Opportunities Assessment.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/174/HMB-Existing-Conditions-Report-PDF. Accessed November 2021.

2.13 Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in 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?	☐	☐	☒	☐
(b) Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project result in 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?

The residential uses west of the project area represent the majority of the sensitive receptors in the vicinity of the project. The nearest residences are approximately 75 feet from the project site.

The City has established restrictions limiting construction and similar noise-generating activities from 7:00 a.m. to 6:00 p.m., Monday through Friday; 8:00 a.m. to 6:00 p.m., Saturdays; and 10:00 a.m. to 6:00 p.m., Sundays and holidays. The City Engineer may approve exceptions to these hours, if necessary, to facilitate the orderly completion of work and minimize disruption to the community.[83] The project contractor would be required to comply with construction hour restrictions.

Construction activities would generate noise that would vary over the 4-to-6-month construction period and would include equipment such as milling machine, paver, dump truck, asphalt trucks, cement mixer, motor grader, scraper, bulldozer, backhoe, boom truck, forklift, rubber-tired loader, motor grader, steel drum roller, crane or scissor lift, water truck, and hand tools such as saws and hammers. Much of this equipment is kept on-site. There would be secondary noise from construction worker vehicles and vendor deliveries. During construction, noise-generating activities would be limited to the allowable hours in the City's noise ordinance. No nighttime construction would occur. Because construction noise would comply with local noise regulations, impacts related to construction noise would be less than significant.

The existing activities of the Corporation Yard would not change as a result of the project, with the exception of the new solar yard. The solar panels would be fixed and would not emit noise. Therefore,

[83] City of Half Moon Bay. 2019. *Chapter 14.40. Hours of Construction.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1440.html#14.40. Accessed April 21, 2021.

stationary or operational noise would not change compared with existing conditions, and no operational impacts would occur.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activities (e.g., ground-disturbing activities, including movement of heavy construction equipment and hauling of demolition debris and soil from the project site) may generate localized groundborne vibration and noise. Blasting or pile-driving activities would not occur during construction of the project. Generally, construction-related groundborne vibration is not expected to extend beyond 25 feet from the generating source. The activities closest to the adjacent residences include constructing a new roadway and gate entrance for the Corporation Yard, and installing wildlife fencing around the impoundment in the northwest corner of the property. Construction equipment for the roadway could include a compactor machine (vibratory pad or drum roller). The closest sensitive receptors are residences approximately 75 feet from the western edge of the project area. Based on the distance of more than 25 feet to sensitive receptors, groundborne vibration from on-site construction is not anticipated for residences. Hauling of soils and debris could generate vibrations along local haul routes. The project is anticipated to require a total of between 49 and 74 round-trip trucks trips over the 4- to-6-month construction period depending on truck capacity; approximately 49 haul truck round trips based on a 12-CY capacity truck, 59 round trip truck trips based on a 10-CY capacity truck, or 74 round trip truck trips based on an 8-CY capacity truck. The project would be required to adhere to the City Noise Ordinance as a standard condition of approval. Therefore, any annoyance to residents along local haul routes would be short term and temporary, and impacts related to groundborne noise or vibration would be less than significant.

Operations at the existing Corporation Yard would not change as a result of the project; therefore, no impacts related to operational vibrations would occur.

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 two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project is located approximately 4.3 miles from the nearest airport, Half Moon Bay Airport. It is not located within an area with an airport land use plan or within 2 miles of an airport; therefore, no impact would occur.

2.14 Population and Housing

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(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)?	☐	☐	☐	☒
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project 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)?

City and County General Plans develop growth plans and projections for the areas in their jurisdictions. A significant impact would occur if a project included a General Plan amendment, which could result in an increase in population over that projected in the adopted General Plan, or if a project would induce substantial growth on the project site or surrounding area.

Construction job opportunities created as a result of the project are not expected to result in substantial population growth in the area. The work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time frame during which their specific skills are needed. Additionally, the construction workers would likely be supplied from the region's labor pool. Construction workers would not be likely to relocate their household as a consequence of working on the project, and as such, significant housing or population impacts would not result from construction of the project. Therefore, there would be no construction-related population growth, and no impact would occur.

The project would construct improvements to the City's existing Corporation Yard. Operations at the Corporation Yard would not change as a result of the project, and the project would not result in an increase in employment. Therefore, the project would not introduce new persons to the population, and no impact would occur.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project would upgrade facilities at the City's existing Corporation Yard. Therefore, the project would not displace people or housing, and no impact would occur.

2.15 Public Services

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
(a) Fire protection?	☐	☐	☐	☒
(b) Police protection?	☐	☐	☐	☒
(c) Schools?	☐	☐	☐	☒
(d) Parks?	☐	☐	☐	☒
(e) Other public facilities?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 fire protection?

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or introduce a hazard and would not increase the need for fire protection services. The existing water distribution system on-site would be upgraded to include fire hydrants and sprinklers and would require approval from the CFPD.

A significant impact may occur if the CFPD could not adequately serve a project, and a new or physically altered fire station would be necessary. The project area receives fire protection services from the CFPD, a California Department of Forestry and Fire Protection (CAL FIRE) agency. The CFPD has three fire stations, the nearest of which (Fire Station 40) is at 1911 Main Street, Half Moon Bay, approximately 1.2 miles southwest of the project site. Fire Station 40 is staffed with one fire captain and two fire apparatus engineers and can provide a minimum response time of 2 minutes and maximum response time of 8 minutes to all portions of the City.[84,85] The project would not increase population or cause an increase in employees, and no impact to fire protection services would occur.

b. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 police protection?

A significant impact may occur if the San Mateo County Sheriff's Department (Sheriff's Department), could not adequately serve a project, and a new or physically altered sheriff or police station would be necessary. The project area receives law enforcement services from the Coastside Patrol Bureau of the Sheriff's Department. The Coastside Patrol Bureau provides law enforcement services for over 60 percent of San Mateo County, including Half Moon Bay; has two substations, located in Half Moon Bay and Moss Beach; and is staffed with 27 full-time Deputy Sheriffs, four Sergeants, and one Lieutenant, as well as two full-time Community Policing deputies. The Half Moon Bay Substation is located approximately 0.9 mile southeast of the project site.

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or introduce a hazard. The project would not cause an increase in employees. Therefore, the project would not increase the demand for public services, including police protection, and no impacts to police protection would occur.

[84] Coastside Fire Protection District (CFPD). 2008. About Us. Available at: https://www.coastsidefire.org/about-us. Accessed October 18, 2021.

[85] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 7.Environmental Hazards.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/3784/Full-Combined-2020-HMB-LCLUP. Accessed October 18, 2021.

c. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 schools?

The project area is served by the Cabrillo Unified School District (CUSD). A significant impact may occur if the CUSD could not adequately serve a project, and a new or physically altered school or schools would be necessary. The CUSD has four elementary schools, one middle school, one high school, one alternative high school, and an adult education program. Between 2017 and 2019, enrollment in the district as a whole declined by approximately 200 students.[86] Enrollment in the school district as a whole is expected to decline by 51 elementary, 94 middle school, and 96 high school students, for a combined drop of 241 students between 2020 and 2024.[87]

The project would upgrade existing facilities at the City's existing Corporation Yard; therefore, it would not increase the population in the area or cause an increase in employees. The project would not increase the demand for public services, including schools, and no impact would occur.

d. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 parks?

A significant impact may occur if the project would result in the need for new or improved parks. Parks and recreation facilities that could be used by the residents of the project include parks operated by the City (Coastal Trail, Frenchman's Creek Park, Kehoe Park, Carter Park, Fernandez Park, Mac Dutra Plaza, Oak Avenue Park, Ocean View Park, Skate Park, and Smith Field), the County Parks Department (Pillar Point Bluff, Quarry Park, Mirada Surf, Moss Beach Park, Fitzgerald Marine Reserve, and Devil's Slide Trail are located between Half Moon Bay and Montara; and Tunitas Creek Beach, Memorial Park, Pescadero Creek Park, and Sam McDonald Park are located south of the City),[88] the California Department of Parks and Recreation (Half Moon Bay State Beach, including Dunes, Roosevelt, and Venice beaches; Montara State Beach and Gray Whale Cove State Beach to the north; and Burleigh H. Murray Ranch, Cowell Ranch State Beach, Año Nuevo State Park, and Big Basin Redwoods State Park to the south),[89] and Midpeninsula Regional Open Space District (Purisima Creek Redwoods, Skyline Ridge, and La Honda Creek Preserves on or near the coast).[90]

The City completed a Parks Master Plan in January 2019. The Master Plan provides planning for a 15-year period (2018 to 2033). The City currently provides approximately 5 acres of developed parks per

[86] Cabrillo Unified School District (CUSD). 2019. *Cabrillo Unified School District Audit Report*. June 30. Available at: https://app.eduportal.com/documents/view/739216. Accessed October 18, 2021.

[87] Enrollment Projection Consultants. 2020. Enrollment Forecast Findings and Projections. October 31. Available at: https://www.cabrillo.k12.ca.us/UserFiles/Servers/Server_18664976/File/Budget%20Advisory/2020-21%20Forecast%20Demographer%20Report%20for%20CUSD%20for%20Board%20Meeting.pdf. Accessed April 21, 2021.

[88] County of San Mateo Parks Department. 2021. County Parks by Location. Available at: https://parks.smcgov.org/county-parks. Accessed October 18, 2021.

[89] California Department of Parks and Recreation. 2020. Find a California State Park. Available at: https://www.parks.ca.gov/ParkIndex/. Accessed October 18, 2021.

[90] Mid-Peninsula Open Space Trust. 2020. Find an Open Space Preserve. Available at: https://www.openspace.org/preserves. Accessed October 18. 2021.

1,000 residents, which includes pocket and neighborhood parks and community and special parks. It does not include trails, county parks, natural open spaces, or beaches in the project area. The recommended standard identified in Chapter 5, Coastal Access and Recreation, of the 2020 LCLUP and the draft General Plan Healthy Community Element is 5 acres per 1,000 people.[91]

The project would upgrade existing facilities at the City's Corporation Yard; therefore, it would not increase the population or the number of employees in the area. The project would not create a need for new or improved parks. No impact would occur.

e. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 other public facilities?

A significant impact may occur if the project would result in the need for other new or improved public facilities. Other public facilities include the Half Moon Bay Library, which is part of the San Mateo County Libraries system. The Half Moon Bay Library, rebuilt in 2018, is a 22,000-square-foot facility that serves a 270-square-mile area. The new library provides both physical and digital collections from the San Mateo County Libraries system; technology services, including three-dimensional (3D) printing; free Wi-Fi hotspots; multilingual collections; literacy services; online high school; and space for community programs and events.[92]

The project would upgrade existing facilities at the City's Corporation Yard; therefore, it would not increase the population or the number of employees in the area. Therefore, the project would not increase the demand for public services, including libraries, and no impact would occur.

2.16 Recreation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

[91] City of Half Moon Bay. 2019. *Parks Master Plan.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2161/Final-Master-Plan_12419v6. Accessed October 18, 2021.

[92] City of Half Moon Bay. 2020. Half Moon Bay Library. Available at: https://www.half-moon-bay.ca.us/322/Library. Accessed October 18, 2021.

Environmental Evaluation

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

A project would result in a significant impact to parks and recreation services if it would result in a significant increase in population from adding residential units. The project would upgrade existing facilities at the City's Corporation Yard; therefore, it would not increase the population or the number of employees in the area. Therefore, the project would not increase the use of existing parks, and no impact would occur.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The project would upgrade existing facilities at the City's Corporation Yard; therefore, it would not increase the population or number of employees in the area. The project does not include recreational facilities and would not require the construction or expansion of recreational facilities. No impact would occur.

2.17 Traffic and Circulation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
(b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
(d) Result in inadequate emergency access?	☐	☐	☐	☒

Environmental Evaluation

REGIONAL AND LOCAL ACCESS

Regional access is provided by SR-92, located adjacent to and north of the project site, and SR-1, located approximately 0.5 mile west of the project. SR-1 and SR-92 are the only roads that provide connections to other parts of the county. Most neighborhoods connect to SR-1 but do not connect with each other. Local access is provided by Main Street and Stone Pine Road. Traffic on SR-92, SR-1, and Main Street can back up during peak hours, including rush hours on weekdays and tourist traffic on weekends.

PUBLIC TRANSIT

The project site is served by San Mateo County Transit District(SamTrans) Bus Routes 17 and 294, which have stops approximately 0.1 mile north at Hilltop Mobile Home Park, 0.37 mile southwest at the junction of Main Street and Kelly Avenue, 0.4 mile northwest on SR-92 between Main Street and SR-1, and on Main Street between SR-92 and SR-1. The bus routes offer connections to Linda Mar in the City of Pacifica (via Bus Route 17) and Hillsdale Caltrain Station in the City of San Mateo (via Bus Route 294).

PEDESTRIAN/BICYCLE TRANSIT

The City's existing multi-use trails—including the California Coastal Trail, Naomi Patridge Trail, and Pilarcitos Creek Trail—provide linkages that support coastal access for bicyclists and pedestrians. The project site is approximately 0.5 mile east of the Naomi Patridge Trail, which is a multi-use trail that parallels SR-1. The Naomi Patridge Trail is currently approximately 3.4 miles long and extends from Wavecrest Road in the south to Ruisseau Francais Avenue in the north on the west side, and from Ruisseau Francais Avenue to Roosevelt Boulevard on the east side. The nearest connection to the Naomi Patridge Trail is the Pilarcitos Creek Trail, approximately 0.36 mile west of the project site. The City plans to extend the Pilarcitos Creek Trail as a Class I multi-use trail from the California Coastal Trail in the west to John L. Carter Memorial Park in the east.[93,94] As discussed in Section 1.4, Land Use and Zoning, as a condition of the City's purchase agreement with POST, the City agreed to develop a public access trail adjacent to Pilarcitos Creek from the project property to connect to Carter Park (see Figure 1-3).[95] The proposed project solely addresses upgrades to the City's Corporation Yard. Development of a public trail is not part of the proposed project but would be pursued under a future project.

In addition to the Naomi Patridge Trail, the project is approximately 1.1 miles east of the 11.5-mile California Coastal Trail, a paved, Class 1 multi-use path that extends from Seymour Bridge 4.7 miles north to Pillar Point Harbor. An additional, partially paved segment of the trail extends approximately 2 miles south from Seymour Bridge to the Ritz Carlton Hotel. In the south, the multi-use path connects to the Cowell-Purisima Coastal Trail, an additional 3.6-mile segment of the California Coastal Trail.[96]

a. Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Under the 2019 revisions to the State CEQA Guidelines, changes to Levels of Service are no longer identified as an impact under CEQA. The new 2019 State CEQA Guidelines require analysis of impacts related to vehicle miles traveled (VMT) as a result of a project. VMT is the amount and distance of automobile traffic attributable to a project. The project would upgrade facilities at the existing Corporation Yard. It would not generate new operational traffic. Therefore, the project would not conflict with any plan, ordinance, or policy related to transportation, and no impact would occur.

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[93] City of Half Moon Bay. 2020. *Local Coastal Land Use Plan. 2020 Comprehensive Update. Chapter 2.3 Coastal Access and Recreation.* Available at https://www.half-moon-bay.ca.us/DocumentCenter/View/2337/Chapter-23-Coastal-Access-and-Recreation. Accessed October 18, 2021.

[94] City of Half Moon Bay. 2019. *City of Half Moon Bay Bicycle and Pedestrian Master Plan.* Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2243/Bicycle-and-Pedestrian-Master-Plan-Final?bidId=. Accessed October 18, 2021.

[95] City of Half Moon Bay. 2020. 880 Stone Pine Purchase and Sale Agreement between Peninsula Open Space Trust and City of Half Moon Bay.

[96] Peninsula Open Space Trust. 2020. *Cowell-Purisima Coastal Trail webpage.* Available at: https://openspacetrust.org/hike/cowell-purisima-trail/. Accessed October 18, 2021.

Project construction would result in vehicle worker trips, haul trips, and vendor trips. The cut and fill could generate a total of about 49 to 74 haul trips over the 4- to-6-month construction period. The increase in traffic as a result of worker and haul trips would negligibly increase traffic at nearby traffic intersections and roadway segments, and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness. In addition, haul and vendor trips would primarily occur during off-peak hours (9:00 a.m. to 3:00 p.m.). No impact would occur.

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

State CEQA Guidelines Section 15064.3 includes criteria for analyzing transportation impacts. Under Section 15064.3(b)(2), for transportation projects:

> Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact.

The project would upgrade facilities at the City's existing Corporation Yard. It would not increase the number of employees or the amount of vehicle use at the Corporation Yard and thus would not impact VMT. Therefore, the project would be consistent with State CEQA Guidelines Section 15064.3, and no impact would occur.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project does not include any design features that would increase hazards. The project would upgrade facilities at the existing Corporation Yard, including construction of a paved access road and paved parking areas. The road alignment is still under review but would be designed to avoid sharp curves and be safe for Corporation Yard, emergency vehicle, and other traffic. The use of the road would be limited to Corporation Yard operations. Therefore, no impact would occur.

d. Would the project result in inadequate emergency access?

The project would upgrade facilities at the existing Corporation Yard, including construction of a paved access road and paved parking areas. The access road would be built to CFPD requirements, and as required by Section 506.1.4 of the City's Fire Code Ordinance, the electric gate would be provided with a key switch for fire access. Therefore, the project does not have any elements that would result in inadequate emergency service, and no impact would occur.

2.18 Tribal Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project 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, 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:				

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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), or	☐	☐	☐	☒
(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.	☐	☐	☐	☒

Environmental Evaluation

a. Would the project 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, 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)?

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?

Under Assembly Bill (AB) 52, Native American correspondence and tribal consultation would be performed by the City. To date, there has been no response from tribal representatives regarding AB 52, and there are no known Tribal Cultural Resources within the project. Therefore, the project will have no impact to Tribal Cultural Resources.

2.19 Utilities and Service Systems

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
(c) Result in a determination by the wastewater 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?	☐	☐	☒	☐
(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?	☐	☐	☒	☐
(e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Environmental Evaluation

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

WATER

Water for project construction and operation is supplied by the CCWD, which obtains its water supply from four sources. Water contained in Pilarcitos Lake and Crystal Springs Reservoir is purchased from the San Francisco Public Utilities Commission (SFPUC), and local water supplies are drawn from Pilarcitos Well Field and the Denniston Project (well and surface water). The CCWD serves 18,738 people in a 14-square-mile area, which has an average demand of 1.83 million gallons per day (mgd).[97] The CCWD has an Individual Supply Guarantee of 2.175 mgd, or approximately 794 million gallons per year, from the SFPUC, and purchases an average of 511 million gallons per year. In addition to the water from the SFPUC, CCWD obtains approximately 256 million gallons per year, or 0.70 mgd, from local sources during a non-drought year.[98] Per capita use in the district is approximately 57 and 110 gallons per capita per day for residential and gross water uses, respectively.

[97] Bay Area Water Supply and Conservation Agency. 2020. Coastside County Water District Service Area Webpage. Available at: http://bawsca.org/members/profiles/coastside. Accessed October 20, 2021.

[98] Coastside County Water District (CCWD). 2021. *2020 Urban Water Management Plan.* Available at: https://www.coastsidewater.org/reports_and_studies/2020-Urban-Water-Management-Plan.pdf. Accessed October 20, 2021.

Construction activities would require a minimal amount of water for dust control and cement mixing. Water would be delivered to the project site by water truck. Operations at the Corporation Yard would not change as a result of the project with one exception—the solar field would require maintenance, including periodic washing of solar panels. Panel washing is expected to occur approximately twice a year and would require approximately 2,000 gallons of water per year, which is less than 0.001 percent of CCWD's annual supply. Therefore, the project would not result in the relocation or construction of new or expanded water treatment facilities, and no impact would occur.

WASTEWATER

Wastewater collection and treatment is provided by Sewer Authority Mid-Coastside (SAM), which receives average dry weather flow of approximately 1.5 mgd. The plant has capacity to treat up to 4 mgd in average dry weather flow and 15 mgd in peak wet weather flow (which includes infiltration of stormwater). The plant has not experienced flows that reached or exceeded maximum peak wet weather capacity since its expansion in the late 1990s.[99]

Construction of the project would produce minimal wastewater from construction crew use of portable toilets. The project would add two bathroom/shower rooms in the new warehouse; however, it would not change the number of Corporation Yard staff who currently use facilities in the existing on-site building. The project would also relocate the materials enclosure and add a French drain with connection to the existing sanitary sewer. The materials enclosure would be roofed, and the French drain would drain the enclosed area; therefore, the volume of drainage would be minimal. Therefore, operation of the project would produce a minimal permanent change in wastewater production, and the project would not result in the relocation or construction of wastewater treatment facilities. No impact would occur.

STORMWATER

The project would demolish the existing trash and materials storage area, which is undrained and located partially within the 50-foot riparian buffer zone. This would be replaced by a new materials enclosure that would be roofed and supplied with a French drain connecting to the sanitary sewer system, thus drainage from the materials enclosure would not enter the storm drain system. The project would include a total of 54,260 square feet of new impervious surface area, which would drain by overland flow toward Pilarcitos Creek. The project would also include drainage improvements that meet the requirements of the GIP[100] to prevent sediment-laden runoff to Pilarcitos Creek. Therefore, the construction of new storm drainage facilities would not cause significant environmental impacts, and this impact would be less than significant.

The project would be required to implement a SWPPP under the Municipal Regional Stormwater NPDES Permit[101] and the SMCWPPP.[102] The SWPPP must include site-specific BMPs that are designed to prevent runoff from construction areas to reduce potential impacts to surface water quality during project construction. The plan would also include design elements and BMPs for construction areas, such as

[99] Sewer Authority Mid-Coastside (SAM). 2019. *Sewer System Management Plan.* Available at: https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item_4D_Attachment_B_SSMP_2019(2).pdf. Accessed October 21, 2021.

[100] City of Half Moon Bay. 2019. *City of Half Moon Bay Green Infrastructure Plan*. September. Available at: https://www.half-moon-bay.ca.us/DocumentCenter/View/2305/HalfMoonBayGIPlan09-2019Final1. Accessed October 21, 2021.

[101] San Francisco Regional Water Quality Control Board (RWQCB). 2015. Municipal Regional Stormwater NPDES Permit. Order No. R2-2015-0049. NPDES Permit No. CAS612008. Available at: https://www.cleanwaterprogram.org/images/uploads/R2-2015-0049.pdf. Accessed October 21, 2021.

[102] County of San Mateo. 2020. San Mateo Countywide Water Pollution Prevention Program. Construction Webpage. Available at: https://www.flowstobay.org/construction. Accessed October 21, 2021.

fueling and equipment washing areas, and trash and hazardous material storage areas. Therefore, construction impacts would be less than significant.

GAS AND ELECTRICITY

New electrical demands would include facilities in the warehouse (roll up doors, power tool outlets, lighting, etc.), two automatic rolling gates, and night lighting at the warehouse; materials enclosure; and gate entrance. The solar field would be used to supply electricity to the Corporation Yard, and the project would result in net zero electricity use at the project site. Therefore, no impact related to electricity use would occur.

The project would not result in a change in Corporation Yard activities or personnel and would remove existing gas infrastructure; therefore, no impact related to natural gas use would occur.

TELECOMMUNICATIONS

The project would upgrade facilities and add a solar field at the City's existing Corporation Yard. The project would extend new telecommunications infrastructure (provided by Comcast) to the warehouse; however, it would not change existing telecommunications use.

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

As required by the California Department of Water Resources (DWR), CCWD has analyzed the long-term reliability and vulnerability of its water supplies and developed a combination of supply alternatives and conservation planning efforts to meet the water supply needs of its customers. CCWD has developed water supply estimates for normal year, single dry year, and multiple dry year scenarios. Table 2.19-1 shows the projected water balance for a normal dry year through 2045. Table 2.19-2 shows the water balance for the first 5 years of a multiple dry year sequence under the *2020 Urban Water Management Plan*.[103]

As shown in Table 2.19-1, CCWD has adequate water supplies to meet a normal year demand.

As shown in Table 2.19-2, CCWD's multiple dry year supplies are not adequate to meet projected multiple dry year demands. Significant supply shortfalls, ranging from 22 to 29 percent in the first year of the 5-year dry period to 53 to 59 percent in the fifth year of the 5-year dry period, are projected. This shortfall is primarily due to significant cutbacks in CCWD's supply from the SFPUC.

Table 2.19-1. CCWD Water Supply and Demand Estimates for Normal Water Years

Drought Year	Supply/Demand Totals[1]	2025	2030	2035	2040	2045
First Year	Supply Totals	767	760	752	741	741
	Demand Totals[2]	704	697	690	668	664
	Difference	*63*	*63*	*63*	*74*	*77*

[1] All numbers are in million gallons per year.

Source: CCWD (2021), Table 7-12. Normal Year Supply and Demand Comparison (DWR Table 7-2 Retail).

[103] Coastside County Water District (CCWD). 2021. *2020 Urban Water Management Plan.* Available at: https://www.coastsidewater.org/reports_and_studies/2020-Urban-Water-Management-Plan.pdf. Accessed October 20, 2021.

Table 2.19-2. CCWD Water Supply and Demand Estimates for Multiple Dry Years

Drought Year	Supply/Demand Totals[1,2]	2025	2030	2035	2040	2045
First Year	Supply Totals	533	529	522	518	471
	Demand Totals	704	697	690	668	664
	Difference	*-171*	*-168*	*-168*	*-150*	*-193*
Second Year	Supply Totals	416	409	405	401	398
	Demand Totals	704	697	690	668	664
	Difference	*-288*	*-288*	*-285*	*-267*	*-266*
Third Year	Supply Totals	376	369	365	361	358
	Demand Totals	704	697	690	668	664
	Difference	*-328*	*-328*	*-325*	*-307*	*-306*
Fourth Year	Supply Totals	348	341	337	301	290
	Demand Totals	704	697	690	668	664
	Difference	*-356*	*-356*	*-353*	*-367*	*-374*
Fifth Year	Supply Totals	331	324	298	284	273
	Demand Totals	704	697	690	668	664
	Difference	*-373*	*-373*	*-393*	*-384*	*-391*

[1] All numbers are in million gallons per year.

[2] CCWD's multiple dry year demands are assumed to be the same as CCWD's normal year demands.

Source: CCWD (2021), Table 7-18. Multiple Dry Year Supply and Demand Comparison (DWR Table 7-4 Retail).

In Table 2.19-2, CCWD's multiple dry year demands are assumed to be the same as CCWD's normal year demands. However, CCWD has developed a Water Shortage Contingency Plan that includes specific actions to reduce water consumption and losses. Specific actions are triggered by specific percent supply storages and include expanding public information campaigns, restricting landscape irrigation, implementing moratoriums on new connections, implementing drought rate structures or surcharges, increasing water waste patrols, and reducing system water loss. The District intends for its Water Shortage Contingency Plan to be an adaptive management plan so that it may assess response action effectiveness and adapt to foreseeable and unforeseeable events. CCWD assumes that under any given stage of water shortage, the identified actions would reduce the supply deficit up to and greater than a 50 percent shortage.

Construction activities would require a minimal amount of water for dust control and cement mixing. Water would be delivered to the project site by water truck.

Existing operational activities and water use under the project would not change from existing conditions with one exception. Maintenance of the solar panels would include washing them approximately twice a year. This would be expected to use approximately 2,000 gallons of water per year, which is less than 0.001 percent of the normal water use from the CCWD supply.

The minimal change from existing water use, combined with the City's Water Shortage Contingency Plan, would ensure that impacts related to increased water demand would remain less than significant.

c. Would the project result in a determination by the wastewater 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?

As discussed under Section 2.19.a, SAM receives average dry weather flow of approximately 1.5 mgd and has a wastewater treatment plant capacity of up to 4 mgd in average dry weather flow.[104] The project would not change the existing uses or personnel at the Corporation Yard and would result in a minimal increase in wastewater production, primarily from the French drain under the materials enclosure; therefore, impacts related to increased wastewater production would be less than significant.

d. Would the project 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?

Solid waste pickup is provided to the project area and City by Republic Services, which provides pickup of residential and commercial garbage, recyclable material, and organic waste, as well as motor oil, oil filters, and batteries. Republic Services also has drop-off locations for electronic waste and hazardous materials, including medications and paint.[105]

Solid waste goes to the Corinda Los Trancos Ox Mountain Sanitary Landfill for recycling, composting, and disposal. The landfill is permitted to receive 3,598 tons of waste per day and has an anticipated closure date of 2034.[106,107] In the second quarter of 2019, the landfill received an average of 160,253 tons of solid waste (approximately 1,780 tons per day, or 49 percent of its permitted throughput).

CONSTRUCTION

The trash and materials storage area is used by the City to hold construction soils, gravel, and debris for use at other construction sites and holding before recycling. Construction of the project would require clearing and grubbing, and soils excavation resulting in approximately 590 cubic yards of soil and debris to be hauled off-site for disposal over a 4-month period. This would weigh between 620 tons and 885 tons (between approximately 7.3 and 10.4 tons/day, or between 0.20 percent and 0.28 percent of Ox Mountain Landfill's permitted daily tonnage of 3,598 tons/day.[108,109] The project contractor would be required to

[104] Sewer Authority Mid-Coastside (SAM). 2019. *Sewer System Management Plan.* Available at: https://samcleanswater.org/vertical/sites/%7B1307B359-C05A-436D-AC1C-9EB8D6FFB4A3%7D/uploads/Item_4D_Attachment_B_SSMP_2019(2).pdf. Accessed October 21, 2021.

[105] Republic Services. 2021. Republic Services of Half Moon Bay, CA Webpage. Available at: https://www.republicservices.com/municipality/half-moon-bay-ca#resi. Accessed October 21, 2021.

[106] Asphalt or concrete construction debris is approximately 2,400 pounds per cubic yard. Dry earth construction debris is approximately 2,100 pounds per cubic yard. Reference: California Department of Resources Recycling and Recovery (CalRecycle). 2018. *Solid Waste Cleanup Program Weights and Volumes for Project Estimates*. Available at: https://www.calrecycle.ca.gov/swfacilities/cdi/tools/calculations. Accessed October 21, 2021.

[107] California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed October 21, 2021.

[108] Construction Debris, Wood, Uncompacted is estimated to weigh between 2,100 pounds and 3,000 pounds per cubic yard. Reference: California Department of Resources Recycling and Recovery (CalRecycle). 2018. *Calculations - Solid Waste Cleanup Program Weights and Volumes for Project Estimates.* Available at: https://www.calrecycle.ca.gov/swfacilities/cdi/tools/calculations. Accessed January 11, 2022.

[109] California Department of Resources Recycling and Recovery (CalRecycle). 2021. *SWIS Facility/Site Activity Details. Corinda Los Trancos Landfill (Ox Mnt) (41-AA-0002).* Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed January 11, 2022.

prepare and submit a Construction and Demolition Waste Management Plan to the City for review and approval. Under the plan, the project Contactor would be required to identify types and amounts of materials that could feasibly be reused, salvaged, or recycled, and would note the procedures intended to be used. The Waste Management Plan must be approved by the City prior to project construction.[110] Therefore, impacts related to construction would be less than significant.

The landfill has a remaining capacity of approximately 45 million cubic yards and is expected to operate until 2034.[111] The landfill would accept clean fill for daily cover and would have adequate capacity to serve the construction phase of the project because the construction phase of the project would be temporary and would generate a limited amount of solid waste. Development of the required Waste Management Plan would further reduce this less-than-significant impact.

OPERATION

The project would remove and replace the existing trash and materials storage area with a roofed and drained materials enclosure. With the exception of the new solar field, the project would not alter existing activities or personnel at the Corporation Yard; therefore, no operational impacts would occur.

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The City would be required to comply with all federal, State, and local ordinances for water, energy, and waste reduction and management, including, but not limited to, the City Municipal Code Chapter 14.50, Requirement for Construction and Demolition Waste Recycling; Waste Management Plan for construction debris; and SMCWPPP. Therefore, the project would comply with all federal, State, and local management and reduction statutes and regulations, and no impact would occur.

2.20 Wildfire

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(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?	☐	☐	☐	☒
(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?	☐	☐	☐	☒

[110] City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code. Chapter 14.50. Requirement for Construction and Demolition Waste Recycling.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1450.html#14.50. Accessed October 21, 2021.

[111] California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed October 21, 2021.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☐	☒

Environmental Evaluation

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. The project area is located on the eastern edge of City limits adjacent to the coastal hills. It is adjacent to both a VHFHSZ in a State Responsibility Area to the northeast and a VHFHSZ in a Local Responsibility Area to the north and northwest.[112] However, the majority of the project site and its surrounding area is located in a WUI.[113] The project would upgrade and replace existing infrastructure at the City's Corporation Yard, including the addition of water lines, fire hydrants, and sprinklers, which would meet both federal and City codes.

The existing Corporation Yard facilities include five mobile trailers and one emergency supply trailer on the site. These trailers contain emergency supplies for Corporation Yard employees as well as emergency supplies for other agencies including, but not limited to, the American Red Cross, the San Mateo Coastside Medical Reserve Corps, and the Peninsula Humane Society. These trailers would be retained on-site and relocated to the northeastern corner of the site, north of the existing garage. The new security gates would be equipped with "Knox," key-operated emergency entry devices as required by the CFPD regulations. Therefore, in the event of an emergency, access to these trailers would be available local emergency services. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and this impact would be less than significant.

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, 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?

The project area is located in a WUI and adjacent to both VHFHSZ areas in a State Responsibility Area and a Local Responsibility Area.[114] The Corporation Yard site is relatively flat. The project would upgrade Corporation Yard facilities, including upgrades to water service, sprinklers, and fire hydrants that would meet CFPD requirements. It would not add any elements that would exacerbate wildfire risk and

[112] California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fire Hazard Severity Zone Viewer*. Available at: https://egis.fire.ca.gov/FHSZ/. Accessed October 21, 2021.

[113] Association of Bay Area Governments (ABAG). 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: https://mtc.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=d45bf08448354073a26675776f2d09cb&layerId=0. Accessed October 21, 2021.

[114] California Department of Forestry and Fire Protection (CAL FIRE). 2007. *Fire Hazard Severity Zone Viewer*. Available at: https://egis.fire.ca.gov/FHSZ/. Accessed October 21, 2021.

would not be occupied; therefore, it would not expose project occupants to fire hazards, and no impact would occur.

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

The project area is located on the eastern edge of the city, adjacent to the coastal hills. The project is not located in an identified VHFHSZ but is located in the WUI. The project would upgrade existing infrastructure at the City's Corporation Yard, including the addition of new fire hydrants and sprinkler systems meeting the requirements of National Fire Protection Association Code (NFPA) 13 (2013 edition) and CFPD. The project would be required to conform to the following Fire Prevention Bureau Standards:

- DI-006 Commercial Sprinkler Requirements
- DI-007 Solar Photovoltaic Systems
- Fire Code Ordinance No. 2019-03 (including FPE-001 Standard Hydrants, FPE-002 Fire Lanes and F.D. Connections.[115]

The project would upgrade existing facilities at the Corporation Yard; therefore, the project would not require the installation or maintenance of new infrastructure that may exacerbate fire risk, and no impact would occur.

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

The project area is located on the eastern edge of the city, adjacent to the coastal hills. The project is located adjacent to an identified VHFHSZ, and the majority of the parcel is also located in a WUI.[116] The project is an infrastructure project that would replace and upgrade existing facilities in the City's Corporation Yard, including installing fire hydrants and sprinkler systems as required by the CFPD. The project is not located in a flood zone or landslide hazard zone. Therefore, the project would not expose people or structures to significant risks as a result of post-fire instability including downslope or downstream flooding or landslides, and no impact would occur.

[115] Coastside Fire Protection District (CFPD). 2021. *Fire Prevention Bureau Standards Webpage.* Available at: https://www.coastsidefire.org/fire-prevention-bureau-standards. Accessed October 21, 2021.

[116] Association of Bay Area Governments (ABAG). 2020. Wildland-Urban Interface Fire Threat Interactive Map. Available at: https://mtc.maps.arcgis.com/home/webmap/viewer.html?useExisting=1&layers=d45bf08448354073a26675776f2d09cb&layerId=0. Accessed November 15, 2021.

2.21 Mandatory Findings of Significance

	Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Does the project have the potential to substantially degrade the quality of the environment, substantially 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, substantially 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?	☐	☒	☐	☐
(b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" 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)?	☐	☒	☐	☐
(c)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

a. Does the project have the potential to degrade the quality of the environment, substantially 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?

The project site is located on the eastern edge of the City adjacent to Pilarcitos Creek and SR-92 and includes existing Corporation Yard facilities. The habitat surrounding the work area consists of asphalted roadways, a residential community, a commercial center, Pilarcitos Creek, agricultural operations, and undeveloped land. There are three ESHAs and one potential ESHA in the project area and two potential special-status species (California red-legged frog and San Francisco garter snake) in the project footprint. Mitigation Measure BIO-1 would be implemented to protect plants and wildlife in the area, and Mitigation Measures BIO-2 through BIO-5 would be implemented to protect special-status wildlife, migrating reptiles and amphibians, wetlands, nesting birds, and heritage trees; therefore, the project would have a less-than-significant impact on biological resources. There are no known historic resources in the project area, and the City's Standard Conditions would protect previously undiscovered historical resources; therefore, the project would have no impact on historic resources. The project would have a less-than-significant impact on archaeological resources and human remains with implementation of Standard Conditions and Mitigation Measures CUL-1. As described in this document, the project would not degrade the quality of the environment, reduce or threaten any fish or wildlife species (endangered or otherwise), or eliminate important examples of the major periods of California history or pre-history. Therefore, impacts from the project would be less than significant with mitigation incorporated.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" 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?

The project would have less-than-significant construction impacts to aesthetics, air quality, biology, cultural resources, energy, geology and soils, GHGs, hazards, hydrology and water quality, land use, noise, recreation, traffic, tribal cultural resources, and utilities. Cumulative impacts are assessed as follows:

- Aesthetics. Temporary construction impacts to scenic resources and the visual character of a public view would be limited to the view from SR-92, which is mostly blocked by cypress trees. Construction impacts would be short-term and temporary, lasting approximately 4 to 6 months, and would be limited to the imposition of construction vehicles and equipment on the area. Because of the small size and limited duration of project construction, removal of multiple existing storage containers, the placement of the new warehouse near existing buildings and as far from SR-92 as possible to reduce visual massing, the use of neutral tone colors and materials, and planting of replacement trees on the property to screen facilities, project construction would not add to cumulatively considerable visual impacts.
- Air Quality and GHG. According to the BAAQMD's CEQA Guidelines, if a project's emissions levels exceed the identified significance thresholds for air quality and GHGs, the emissions would be cumulatively considerable. Construction emissions for the project would not exceed BAAQMD thresholds of significance. Operationally, the project would not result in an increase in employees or intensity of use. Therefore, construction and operational impacts would not be cumulatively considerable.
- Biological Resources. The project could have potentially significant impacts to special-status species, ESHAs, and nesting birds. However, a biological monitor would be on-site during construction, and Mitigation Measures BIO-1 through BIO-5 identified for impacts to biological resources would fully mitigate all potentially significant biological impacts from construction to a less-than-significant level. The wildlife corridor improvements would potentially result in a net benefit for California red-legged frogs and San Francisco garter snakes. Therefore, construction and operational impacts to biological resources would not contribute to cumulatively considerable impacts.
- Cultural and Tribal Cultural Resources. As described in Section 2.5, Cultural Resources, and 2.18, Tribal Cultural Resources, the project area is undergoing an archeological dig investigation, but there is no indication of any significant tribal or cultural resources located in the project area. The proposed project would require the cessation of construction activities following the discovery of any previously unidentified cultural resource. The potential impacts remaining after cessation of proposed project activities would be negligible and would not contribute to an incremental impact. Therefore, the project would not cause impacts that could be cumulatively considerable.
- Energy. There are no established thresholds of significance for construction-related energy use. Cumulative impacts to energy resources would occur if the proposed project would add to a substantial aggregation of impacts related to wasteful, inefficient, or unnecessary energy consumption or conflict with a state or local plan for renewable energy or efficiency. Projects in the County are required to comply with the BAAQMD and the California Green Buildings Standard to reduce construction-related GHG emissions, which also reduces energy use. In addition, all projects in the County are required to comply with the County Waste Management Plan by recycling at least 65 percent of all construction waste or demolition material. In addition,

the project would construct a solar field to provide electrical energy to the Corporation Yard facilities. Therefore, the project would not contribute to a cumulatively considerable impact on energy use.

- Geology and Soils. As described in Section 2.7, Geology and Soils, there is no indication of any paleontological resources located in the project area. The proposed project would require the cessation of construction activities following the discovery of any previously unidentified paleontological resource. The potential impacts remaining after cessation of proposed project activities would be negligible and would not contribute to an incremental impact. Therefore, the project would not cause impacts that could be cumulatively considerable.
- Hydrology and Water Quality. Project construction could cause runoff to Pilarcitos Creek that could violate water quality standards and result in erosion or siltation. However, implementation of a SWPPP and compliance with the SMCWPPP BMPs, which is a standard condition of approval, would prevent contaminated stormwater runoff from entering Pilarcitos Creek. Therefore, project construction would not contribute to cumulative water quality impacts in Pilarcitos Creek.
- Land Use. The project would upgrade existing Corporation Yard facilities, including the addition of a solar field. With the exception of the project-specific solar field, the project would not add new uses or employees to the Corporation Yard. The project would allow the City to develop the approximately 4-acre area with a new land use or uses at a later date. Potential uses for the remainder area that are currently under consideration include, but are not limited to, a community garden, parking for the trail easement, and low-income housing. Given the relatively small size of the parcel, future development would be unlikely to have impacts that are cumulatively considerable.
- Noise. Temporary noise impacts from project construction would be limited to the area of Stone Pine Road, the Hilltop Mobile Home Park, and Spanish Town, and construction hours would meet City requirements. Construction impacts would be short-term and temporary, lasting 4 to 6 months. Because of the temporary nature and short duration of project construction, project construction would not contribute to cumulatively considerable impacts.
- Utilities and Service Systems. Project construction would produce approximately 590 cubic yards of debris to be hauled off-site for disposal. The project contractor would be required to identify types and amounts of materials that could feasibly be reused, salvaged, or recycled, and to note the procedures intended to be used. The Waste Management Plan must be approved by the City prior to project construction.[117] Solid waste goes to the Corinda Los Trancos Ox Mountain Sanitary Landfill for recycling, composting, and disposal, which is permitted to receive 3,598 tons of waste per day.[118] The total amount of construction waste from the project would be small, less than 0.1 percent of the 608,086 tons received at the Ox Mountain Landfill in 2019. In addition, the project would comply with the County Waste Management Plan by recycling at least 65 percent of all construction waste or demolition material. Therefore, solid waste from project construction would not contribute to a cumulatively considerable impact.

[117] City of Half Moon Bay. 2019. *Half Moon Bay Municipal Code. Chapter 14.50. Requirement for Construction and Demolition Waste Recycling.* Available at: https://www.codepublishing.com/CA/HalfMoonBay/#!/HalfMoonBay14/HalfMoonBay1450.html#14.50. Accessed November 15, 2021.

[118] California Department of Resources Recycling and Recovery (CalRecycle). 2017. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed November 15, 2021.

Given the small size of the project, its limited duration, and mitigation measures to reduce all potential impacts, the incremental construction effects of upgrading the Corporation Yard facilities would not contribute to a cumulatively considerable impact.

Because the project is limited to upgrading the existing Corporation Yard facilities and adding approximately 64,000 square feet, or 1.47 acres, of additional impervious surface, the project would have few permanent impacts. These would include stormwater runoff from an additional 1.47 acres of impervious pavement. The new paved access road would be wider, but it would replace the existing unpaved loop access road; therefore, there would be minimal net change in acreage of disturbed grassland habitat. The project would improve the facilities of the Corporation Yard and remove the existing materials enclosure from the 50-foot riparian setback. It would also include a solar field for electricity but would not otherwise alter its existing operational use. The project site is not in a flood hazard zone and there is no recorded flood hazard in the project area. The project would implement stormwater drainage that meets the requirements of the City's GIP and has adequate capacity to carry runoff from projected development of the plan area. Therefore, the additional runoff would not contribute to a cumulatively considerable impact. Since the ruderal grassland may hold a wildlife corridor for California red-legged frog, the wildlife corridor would be improved, fenced, and provided with frog/snake tunnels under the access road; therefore, the project would decrease the chance of impacts to sensitive species. Therefore, the project would not contribute to a cumulatively considerable impact.

c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

A significant impact may occur if a project has the potential to result in significant impacts, as discussed in the previous sections. Replacing Corporation Yard facilities is of benefit to City staff and the community. As described throughout this environmental impact analysis, with implementation of mitigation measures (where applicable), the project would not result in any significant impacts. Therefore, the project would not have the potential to result in substantial adverse effects on human beings, and impacts would be less than significant with mitigation incorporated.

CHAPTER 3. PREPARERS OF THE INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

3.1 Lead Agency

City of Half Moon Bay
Public Works Department
501 Main Street
Half Moon Bay, California 94019

Todd Seeley, Public Works Superintendent
Douglas Garrison, Senior Planner
John Doughty, Director of Public Works
Jill Ekas, Community Development Director

3.2 Project Applicant

City of Half Moon Bay

3.3 Environmental Consultants (CEQA)

SWCA Environmental Consultants
60 Stone Pine Road Suite 100
Half Moon Bay, California 94019

Jessica Henderson-McBean, Project Manager/Biologist
Juliet Bolding, Planner
Erika Sagrafena, Planning Team Lead
Liz Haines and Peggy Ford, Senior Technical Editors

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APPENDIX A

Preliminary Site Design Plans

CITY OF HALF MOON BAY
CORPORATION YARD

880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT NUMBER: 202005

60% CONSTRUCTION DOCUMENTS

ISSUE DATE: NOVEMBER 01, 2021

SYMBOLS LEGEND

- GRID LINE REFERENCE
- DRAWING TITLE
- INTERIOR ELEVATION
- SECTION KEY
- DETAIL SECTION KEY
- DETAIL PLAN KEY
- DRAWING REVISION
- SPOT ELEVATION
- ELEVATION TARGET
- DOOR NUMBER
- KEYNOTE

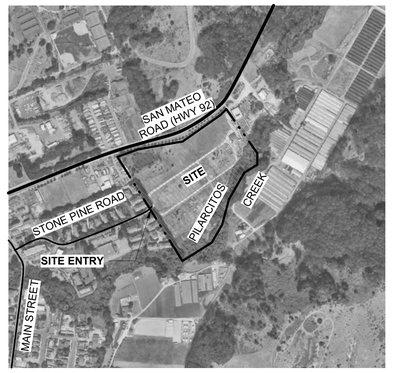
GENERAL NOTES

1. THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS WITH EACH OTHER AND SHALL AT ONCE REPORT TO THE ARCHITECT ERRORS, INCONSISTENCIES OR OMISSIONS DISCOVERED. IF THE CONTRACTOR PERFORMS ANY CONSTRUCTION ACTIVITY KNOWING IT INVOLVES A RECOGNIZED ERROR, INCONSISTENCY OR OMISSION IN THE CONTRACT DOCUMENTS WITHOUT SUCH NOTICE TO THE ARCHITECT, THE CONTRACTOR SHALL ASSUME APPROPRIATE RESPONSIBILITY FOR SUCH PERFORMANCE AND SHALL BEAR AN APPROPRIATE AMOUNT OF THE ATTRIBUTABLE COSTS FOR CORRECTION.
2. WHERE NEW CONSTRUCTION ABUTS EXISTING CONSTRUCTION TO REMAIN, ALL CONDITIONS AFFECTING WORK PROGRESS AND CONFORMANCE TO PLANS AND SPECIFICATIONS SHALL BE VERIFIED BY CONTRACTOR PRIOR TO START OF WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED MEASUREMENTS. WHERE DISCREPANCIES IN DIMENSIONS OCCUR THEY SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION.
4. ALL WORK AND MATERIALS SHALL BE IN ACCORD WITH THE LATEST RULES AND REGULATIONS OF ALL APPLICABLE STATE AND/OR LOCAL CODES, LAWS, ORDINANCES, STATUTES AND REGULATIONS. NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED AS REQUIRING OR PERMITTING WORK CONTRARY TO THESE RULES, REGULATIONS, AND CODES.
5. THE DRAWINGS INDICATE LOCATIONS, DIMENSIONS, AND TYPICAL DETAILS OF CONSTRUCTION. THE DRAWINGS DO NOT ILLUSTRATE EVERY CONDITION; WORK NOT EXPRESSLY DETAILED SHALL BE OF CONSTRUCTION SIMILAR TO PARTS THAT ARE DETAILED. WHERE DISCREPANCIES OCCUR, THEY SHALL BE REPORTED TO THE ARCHITECT FOR RESOLUTION.
6. SITE BOUNDARY LINES, BOUNDARY DIMENSIONS, BOUNDARY DECLINATIONS, AND EXISTING GRADES ARE BASED UPON THE SURVEY DRAWING. THE CONTRACTOR SHALL BE DEEMED TO HAVE INSPECTED THE SITE AND SATISFIED HIMSELF AS TO ACTUAL GRADES, LEVELS, DIMENSIONS, AND DECLINATIONS AND THE TRUE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED.
7. MASONRY DIMENSIONS ARE GIVEN TO THE NOMINAL FACE OF MASONRY.
8. DIMENSIONS ARE TO BE FACE OF FINISH UNLESS OTHERWISE NOTED. DO NOT SCALE THE DRAWINGS. LAY OUT WORK FOLLOWING WRITTEN DIMENSIONS. IF WRITTEN DIMENSIONS ARE LACKING, NOTIFY THE ARCHITECT AT ONCE. IF NO LOCATING DIMENSIONS ARE SHOWN, DOOR OPENINGS ARE LOCATED BY THE DOOR DETAILS.
9. DIMENSIONS AND ELEVATIONS ON THESE DRAWINGS REFER TO BUILDING DATUM, UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING.
11. ALL WORK SHOWN IS ASSUMED TO BE NEW UNLESS NOTED AS EXISTING.

PROJECT DATA & CODE SUMMARY

A.P.N.:	056-260-180
LOT SIZE:	PARCEL ONE - 14.66 ACRES (638,792 SQ. FT.) PARCEL TWO - 5.67 ACRES (246,792 SQ. FT.)
AREA OF WORK:	WORKSHOP / STORAGE BUILDING 6,750 SF TRASH / MATERIAL STORAGE ENCLOSURE 1,880 SF
OCCUPANCY:	S1 - WORKSHOP / STORAGE BUILDING U - TRASH / MATERIAL STORAGE ENCLOSURE
NUMBER OF STORIES:	1-STORY
BUILDING CONSTRUCTION:	TYPE V: WORKSHOP / STORAGE BUILDING TYPE V: TRASH / MATERIAL STORAGE ENCLOSURE
SPRINKLERED:	WORKSHOP / STORAGE BUILDING - SPRINKLERED TRASH / MATERIAL STORAGE ENCLOSURE - SPRINKLERED
BUILDING HEIGHT:	19' - 0" - WORKSHOP / STORAGE BUILDING
APPLICABLE CODES:	AMERICANS WITH DISABILITIES ACT ("ADA") COMPLIANCE REQUIRED FOR SITE AND STOR. ACCESS; 2019 CALIFORNIA BUILDING CODE ("CBC").

PROJECT LOCATION



SHEET INDEX

ADMINISTRATIVE	
A000	COVER SHEET
A001	ACCESS COMPLIANCE PLAN
A002X	TOPOGRAPHIC SURVEY (1 OF 2 - BKF - FOR REFERENCE ONLY)
A003X	TOPOGRAPHIC SURVEY (2 OF 2 - BKF - FOR REFERENCE ONLY)
ARCHITECTURE	
A100	DEMOLITION SITE PLAN
A101	SITE PLAN
A201	SITE PLAN ENLARGED
A401	WORKSHOP / STORAGE BUILDING PLANS AND ELEVATIONS
A402	TRASH / STORAGE ENCLOSURE PLANS AND ELEVATIONS
A800	DOOR AND FINISH SCHEDULE
A801	EXTERIOR DETAILS
CIVIL	
C1.0	HORIZONTAL CONTROL
C2.0	GRADING PLAN
C3.0	UTILITY PLAN
C4.0	EROSION CONTROL PLAN
C4.1	EROSION CONTROL DETAILS
C4.2	EROSION CONTROL DETAILS
C5.0	CONSTRUCTION DETAILS
C5.1	CONSTRUCTION DETAILS
C5.2	CONSTRUCTION DETAILS
C5.3	CONSTRUCTION DETAILS

PROJECT SCOPE

THE PROJECT SCOPE INCLUDES A NEW PAVED ACCESS ROAD FROM THE WEST OF THE SITE AT STONE PINE ROAD TO A NEW LOOP ROAD IN THE CORPORATION YARD AT THE EAST END OF THE SITE. PROJECT SCOPE ALSO INCLUDES A NEW STEEL SECURITY FENCE AT THE YARD PERIMETE. THE PERIMETER SECURITY FENCE WILL HAVE A ROLLING GATE AT THE YARD ENTRY WITH KEY CARD ACCESS.

PARKING FOR STAFF AND A CHAINLINK FENCED PARKING AREA FOR SERVICE VEHICLES ARE TO BE PROVIDED INSIDE THE YARD PERIMETER.

THE NEW STRUCTURES ARE TO BE BUILT ON SITE. THESE INCLUDE A WORKSHOP / STORAGE BUILDING AND A COVERED TRASH / MATERIAL STORAGE ENCLOSURE. THE WORKSHOP / STROAGE BUILDING IS TO BE AN OWNER FURNISHED / CONTRACTOR INSTALLED TENSION FABRIC STRUCTURE INSTALLED ON SLAB ON GRADE WITH PERIMETER FOUNDATIN. THE WORKSHOP STORAGE BUILDING WILL INCLUDE NEW OFFICE SPACE, RESTROOMS, AND LOCKER ROOMS.

A SOLAR ARRAY IS TO BE INSTALLED NORTH OF THE LOOP ROAD. THE SOLAR ARRAY IS TO BE DESIGN BUILD AND PROVIDE POWER TO THE CORPORATION YARD. THE SOLAR ARRAY SYSTEM WILL BE INTERCONNECTED TO THE NEW PG+E MAIN ELECTRICAL SERVICE.

DEFERRED SUBMITTALS

1. TENSION FABRIC BUILDING STRUCTURE
2. FIRE SPRINKLER AND ALARM SYSTEM
3. SOLAR ARRAY

ABBREVIATIONS

d	PENNY (NAIL)	BC	BOTTOM OF CURB	DBL.	DOUBLE	F.A.	FIRE ALARM	INSUL.	INSULATION	(N)	NEW	S	SOUTH	V.T.	VINYL TILE
PL	PROPERTY LINE	BTW.	BETWEEN	D.D	DECK DRAIN	F.E.	FIRE EXTINGUISHER	INT.	INTERIOR	N.	NORTH	SCH.	SCHEDULE	VERT.	VERTICAL
&	AND	BD.	BOARD	DEMO.	DEMOLISH	F.E.C.	FIRE EXTINGUISHER CABINET	ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY	N.I.C.	NOT IN CONTRACT	SECT.	SECTION	VEST.	VESTIBULE
∠	ANGLE	BITUM.	BITUMINOUS	DEPT.	DEPARTMENT	F.H.	FIRE HYDRANT			NO.	NUMBER	S.E.D.	SEE ELECTRICAL DRAWINGS	V.I.F.	VERIFY IN FIELD
@	AT	BLDG.	BUILDING	DET.	DETAIL	F.F.	FINISH FLOOR			NOM.	NOMINAL	SF.	SQUARE FOOT, SQUARE FEET		
CL	CENTERLINE	BLK.	BLOCK	D.F.	DOUGLAS FIR, DRINKING FOUNTAIN	F.H.C.	FIRE HOSE CABINET	JAN.	JANITOR	N.T.S.	NOT TO SCALE	SIM.	SIMILAR		
⌀	DIAMETER, ROUND	BLKG.	BLOCKING	DIAM.	DIAMETER	FIN.	FINISH	JST.	JOIST			S.L.D.	SEE LANDSCAPE DRAWINGS	W	WIDE
⊥	PERPENDICULAR	BLW.	BELOW	DIAG.	DIAGONAL	FIXT.	FIXTURE	J.H.	JOIST HANGER	O.A.	OVERALL	S.M.	SHEET METAL	W.	WEST
#	POUND, NUMBER	BM.	BEAM	DIM.	DIMENSION	FLR.	FLOOR	JT.	JOINT	O.C.	ON CENTER	S.M.D.	SEE MECH. DRAWINGS	W/	WITH
(E)	EXISTING	B.O.	BOTTOM OF	DISP.	DISPENSER	F.O.	FACE OF			OD	OVERFLOW DRAIN	SPEC.	SPECIFICATION	W.C.	WATER CLOSET
(N)	NEW	B.S.	BOTTOM OF SILL	DN.	DOWN	F.O.C.	FACE OF CONCRETE	KIT.	KITCHEN	O.D.	OUTSIDE DIAMETER	SQ.	SQUARE	W.I.	WROUGHT IRON
		B.R.	BOTTOM OR RISER	D.O.	DOOR OPENING	F.O.F.	FACE OF FINISH			O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED		SQUARE FOOT, SQUARE FEET	WD.	WOOD
		B.O.C.	BOTTOM OF CURB	DR.	DOOR	FPRF.	FIREPROOF	LAV.	LAVATORY			S.S.	STAINLESS STEEL	W.F.	WIDE FLANGE
		BOT.	BOTTOM	DWG.	DRAWING	FRMG.	FRAMING	LOC.	LOCATION	O.F.O.I.	OWNER FURNISHED OWNER INSTALLED	S.S.D.	SEE STRUCTURAL DRAWINGS	W.O.	WHERE OCCURS
		B.U.R.	BUILT-UP ROOFING			FT.	FOOT, FEET	LT.	LIGHT	OFF.	OFFICE	STD.	STANDARD	W/O	WITHOUT
A.B.	ANCHOR BOLT					GA.	GAUGE			O.H.	OVERHEAD	STL.	STEEL	WP.	WATERPROOF
ABV.	ABOVE	CLG.	CEILING	EA.	EACH	GALV.	GALVANIZED	MACH.	MACHINE	OPNG.	OPENING	STOR.	STORAGE	WP, TYPE 1 (ETC.)	WATERPROOFING TYPE 1 (ETC.)
A.C.	ASPHALTIC CONCRETE	CLO.	CLOSET	ELECT.	ELECTRICAL	GB.	GRAB BAR	MAX.	MAXIMUM	OPP.	OPPOSITE	STRUCT.	STRUCTURAL	WR	WATER RESISTANT
A/C	AIR CONDITIONING	CLR.	CLEAR	EL.	ELEVATION	GWB.	GYPSUM WALL BOARD	MECH.	MECHANICAL					W.S.	WOOD SCREW
ACOUS.	ACOUSTICAL	COL.	COLUMN	ELEV.	ELEVATOR	GL.	GLASS	MEMB.	MEMBRANE	PLUMB.	PLUMBING	THR.	THRESHOLD	WSCT.	WAINSCOT
A.D.	AREA DRAIN	COMP.	COMPOSITION	EMER.	EMERGENCY	GND.	GROUND	MFR.	MANUFACTURER	PREFAB.	PRE-FABRICATED	T.B.D	TO BE DETERMINED		WEIGHT
ADJ.	ADJUSTABLE, ADJACENT	CONC.	CONCRETE	ENCL.	ENCLOSURE	GR.	GRADE	MH.	MANHOLE	PT.	POINT; PAINT	T.O.	TOP OF	WT./.F.	WELDED WIRE FABRIC
A.F.F.	ABOVE FINISH FLOOR	C.M.U.	CONCRETE MASONRY UNIT	E.P.	ELECTRICAL PANEL	GYP.	GYPSUM	MIN.	MINIMUM	PTD	PAINTED	T.O.B.	TOP OF BENCH		
AGGR.	AGGREGATE	CONN.	CONNECTION	EQ.	EQUAL			MIR.	MIRROR	PTN, PART.	PARTITION	T.O.C	TOP OF CONCRETE		
ALUM.	ALUMINUM	CONST.	CONSTRUCTION	EQUIP.	EQUIPMENT	H.R.	HAND RAIL	MISC.	MISCELLANEOUS			T.O.S.	TOP OF STRUCTURE		
ALT.	ALTERNATE	CONT.	CONTINUOUS	(E)	EXISTING	H.B.	HOSE BIBB	M.O.	MASONRY OPENING	REF.	REFERENCE	T.O.W.	TOP OF WALL		
A.P.	ACCESS PANEL	CORR.	CORRIDOR	EXPO.	EXPOSED	HDR.	HEADER	MTD.	MOUNTED	REQ'D	REQUIRED	TYP.	TYPICAL		
APPROX.	APPROXIMATE	C.T.	CERAMIC TILE	EXP.	EXPANSION	HORIZ.	HORIZONTAL	MTL.	METAL	RESIL.	RESILIENT				
ARCH.	ARCHITECT	CNTR.	COUNTER	EXT.	EXTERIOR	HR.	HOUR	MTL.	METAL SIDING	RET.	RETAINING	UNF.	UNFINISHED		
ASPH.	ASPHALT	CTR.	CENTER			HSS	HOLLOW STRUCTURAL STEEL	MUL.	MULLION	REV.	REVISION, REVISED	U.O.N.	UNLESS OTHERWISE NOTED		
						HT.	HEIGHT			RM.	ROOM	UR.	URINAL		

els architecture+ urban design

PROJECT:
CITY OF HALF MOON BAY
CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
CITY OF HALF MOON BAY
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

ARCHITECT:
ELS ARCHITECTURE AND URBAN DESIGN
2040 Addison Street
Berkeley, CA 94704
P: 510.549.2929

CIVIL ENGINEER (SEPARATE CONTRACT):
BKF ENGINEERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
P: 650.482.6300

ENVIRONMENTAL CONSULTANT:
SWCA
95 3rd St. 2nd Floor
San Francisco, CA 94103
P: 415.536.2883

STRUCTURAL ENGINEER:
KPFF
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San Francisco, CA 94105
P: 415.989.1004

MECHANICAL / PLUMBING ENGINEER:
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1624 Franklin St. #1300
Oakland, CA 94612
P: 510.474.0379

ELECTRICAL ENGINEER:
OMM CONSULTING
4340 Redwood Hwy #245
San Rafael, CA 94903

COST ESTIMATOR:
MACKS
1900 Powell St #470
Emeryville, CA 94608

REVISION

NUMBER	DATE	DESCRIPTION

ISSUE:
60% CONSTRUCTION DOCUMENTS

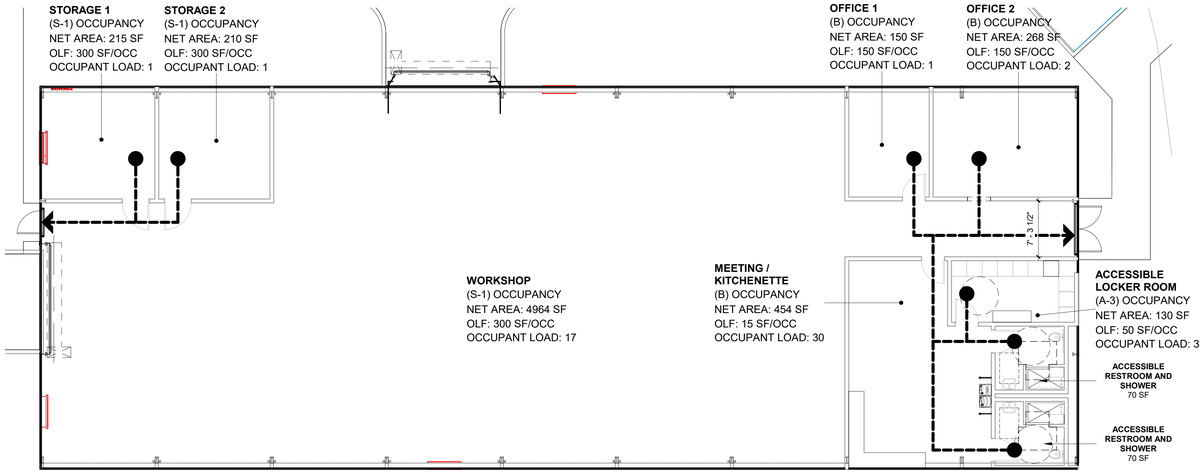
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11 / 01 / 2021

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COVER SHEET

SHEET NUMBER:
A000



1 WORKSHOP / STORAGE BLDG. - EGRESS & ACC. PATH PLAN
1/8" = 1'-0"

LEGEND

EGRESS PATH

ACCESSIBLE PATH OF TRAVEL

ACCESSIBLE POINT OF ORIGIN

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

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202005

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ISSUE:
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DATE:
11 / 01 / 2021

STAMP:

NOT FOR CONSTRUCTION

SHEET TITLE:
ACCESS COMPLIANCE PLAN

SHEET NUMBER:
A001

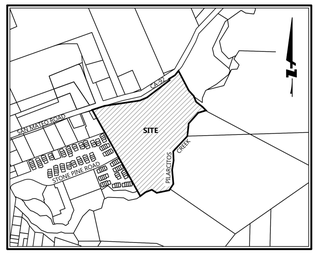
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A.L.T.A. / N.S.P.S. LAND TITLE SURVEY

OF THE LANDS OF:

CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION

AS DESCRIBED IN THE CLTA STANDARD COVERAGE POLICY OF TITLE INSURANCE
PREPARED BY: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
FILE NUMBER: 0626031179-AC
POLICY NUMBER: A04201-FTYA-171971
DATED: JANUARY 15TH, 2021 AT 5:42:00 PM



VICINITY MAP
(NOT TO SCALE)



FEMA MAP DETAIL
(NOT TO SCALE)

REFERENCED POLICY OF TITLE INSURANCE

TITLE COMPANY:	OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
FILE NUMBER:	0626031179-AC
POLICY NUMBER:	A04201-FTYA-171971
DATED:	JANUARY 15TH, 2021 AT 5:42:00 PM
NATURE OF TITLE:	FEE
TITLE VESTED IN:	CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
PROPERTY ADDRESS:	880 STONE PINE ROAD, HALF MOON BAY, CA (PROVIDED BY THE CLIENT)
ASSESSOR'S PARCEL NO.:	056-260-180

OVERALL SITE INFORMATION

FLOOD ZONES:	ZONE A - WITHOUT BASE FLOOD ELEVATION (BFE)
	ZONE X - AREA OF MINIMAL FLOOD HAZARD
	FEMA FLOOD INSURANCE RATE MAP NUMBER: 06081C0260E EFFECTIVE DATE: OCTOBER 16, 2012
ZONING:	URBAN RESERVE (U-R)

LEGAL DESCRIPTION

THE LAND REFERRED TO IN THIS POLICY IS SITUATED IN THE COUNTY OF SAN MATEO, CITY OF HALF MOON BAY, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL ONE:

BEGINNING AT A STAKE STANDING IN THE FENCE IN THE EASTERLY LINE OF THE HALF MOON BAY AND SAN MATEO COUNTY ROAD WHICH SAID STAKE BEARS FROM THE POINT OF INTERSECTION OF THE EASTERLY LINE OF THE HALF MOON BAY AND SAN MATEO COUNTY ROAD AND THE NORTHERLY LINE OF THE AMESPORT ROAD, THE FOLLOWING COURSES AND DISTANCES, VIZ: NORTH 68-1/2° EAST 14.60 CHAINS AND NORTH 72-1/2° EAST 4.81 CHAINS AND RUNNING THENCE ALONG THE EASTERLY LINE OF SAID HALF MOON BAY AND SAN MATEO COUNTY ROAD THE FOLLOWING COURSES AND DISTANCES, VIZ: NORTH 72-3/4° EAST 4.42 CHAINS, NORTH 77° EAST 3.94 CHAINS, NORTH 67-3/4° EAST 1.08 CHAINS NORTH 60-1/2° EAST 0.80 CHAINS; THENCE SOUTH 30° EAST 9.95 CHAINS TO THE CENTER OF PILARCITOS CREEK, THENCE DOWN THE CENTER OF SAID CREEK SOUTH 13° WEST 3.00 CHAINS, SOUTH 5.30 CHAINS, SOUTH 77-3/4° WEST 5.03 CHAINS, SOUTH 68-3/4° WEST 0.30 CHAINS, THENCE LEAVING THE CENTER OF SAID CREEK AND RUNNING NORTH 30° WEST 17.60 CHAINS TO THE POINT OF BEGINNING.

PARCEL TWO:

BEGINNING AT A 6" X 6" POST STANDING IN THE EASTERLY LINE OF THE HALF MOON BAY AND SAN MATEO COUNTY ROAD, AT A POINT WHICH IS THE NORTHWESTERLY CORNER OF THE LANDS OF JAMES HATCH, AND ALSO BEING THE SOUTHWESTERLY CORNER OF THE LAND OF WM. PRINGLE; THENCE THE FOLLOWING COURSES AND DISTANCES; VIZ: SOUTH 46° WEST 3.85 CHAINS, SOUTH 20-1/4° WEST 1.51 CHAINS, SOUTH 29° WEST 6.03 CHAINS AND SOUTH 39-3/4° WEST 0.81 CHAINS TO A STAKE AND TRUE POINT OF BEGINNING OF THE PROPERTY HEREIN DESCRIBED RUNNING FROM SAID STAKE AS FOLLOWS: SOUTH 30° EAST 4.18 CHAINS TO AN ALDER TREE OF 12 INCHES DIAMETER ON EDGE OF BANK SOUTH 40° EAST 1.27 CHAINS TO THE CENTER OF PILARCITOS CREEK AND THENCE DOWN THE CENTER OF SAID CREEK AS FOLLOWS, SOUTH 40° EAST 3.70 CHAINS SOUTH 68-1/2° WEST 3.83 CHAINS, SOUTH 15-1/4° WEST 2.82 CHAINS, SOUTH 62° WEST 0.73 CHAINS, SOUTH 49° WEST 0.90 CHAINS; THENCE LEAVING SAID PILARCITOS CREEK AND RUNNING NORTH 30° WEST 9.95 CHAINS TO A STAKE IN THE EASTERLY LINE OF HALF MOON BAY AND SAN MATEO COUNTY ROAD, AND RUNNING ALONG THE EASTERLY LINE OF SAID ROAD AS FOLLOWS: NORTH 58° EAST 4.05 CHAINS NORTH 52-3/4° EAST 1.48 CHAINS, NORTH 39-3/4° EAST 0.72 CHAINS TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM:

A PORTION OF PARCEL ONE AND PARCEL TWO AS DESCRIBED IN THAT GRANT DEED FROM NURSERYMEN'S EXCHANGE, INC. TO THE CITY OF HALF MOON BAY, RECORDED ON OCTOBER 18, 2004, AS DOCUMENT NO. 2004-206677, OFFICIAL RECORDS OF SAN MATEO COUNTY, SITUATE IN THE CITY OF HALF MOON BAY, COUNTY OF SAN MATEO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE MOST WESTERLY CORNER OF SAID PARCEL ONE, ALSO LYING ON THE SOUTHERLY RIGHT-OF-WAY LINE OF ROUTE 92 (FORMERLY KNOWN AS ROUTE 105A) ALSO KNOWN AS SAN MATEO ROAD (FORMERLY HALF MOON BAY ROAD); NORTH 73° 38' 04" EAST 169.93 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID SOUTHERLY RIGHT OF WAY LINE OF ROUTE 92 THE FOLLOWING SIX (6) COURSES AND DISTANCES: (1) NORTH 73° 38' 04" EAST, 121.88 FEET, NORTH 77° 53' 28" EAST 259.67 FEET, (3) NORTH 68° 33' 21" EAST, 71.61 FEET, (4) NORTH 61° 25' 06" EAST, 52.50 FEET TO THE NORTHEASTERLY LINE OF SAID PARCEL ONE, (5) NORTH 58° 52' 19" EAST, 267.25 FEET, AND (6) NORTH 53° 33' 13" EAST, 25.26 FEET; THENCE ACROSS SAID PARCEL TWO AND PARCEL ONE THE FOLLOWING FOUR (4) COURSES AND DISTANCES: (1) SOUTH 33° 42' 36" EAST 18.78 FEET, (2) SOUTH 53° 53' 26" WEST, 326.40 FEET, (3) SOUTH 71° 33' 23" WEST, 86.92 FEET, AND (4) SOUTH 81° 43' 04" WEST, 401.12 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTIONS TO COVERAGE

1. TAXES AND ASSESSMENTS, GENERAL AND SPECIAL, FOR THE FISCAL YEAR 2020 - 2021, AS FOLLOWS:

   ASSESSOR'S PARCEL NO : 056-260-180
   BILL NO. : 2020-334628
   CODE NO. : 17-005
   1ST INSTALLMENT : $7.57 MARKED PAID
   2ND INSTALLMENT : $7.57 NOT MARKED PAID
   LAND VALUE : $125,770.00
   NOT A SURVEY MATTER

2. THE LIEN OF SUPPLEMENTAL TAXES, IF ANY, ASSESSED PURSUANT TO THE PROVISIONS OF SECTION 75, ET SEQ., OF THE REVENUE AND TAXATION CODE OF THE STATE OF CALIFORNIA.

   PAID CURRENT TO THE DATE OF THIS POLICY
   NOT A SURVEY MATTER

3. THE HEREIN DESCRIBED PROPERTY LIES WITHIN THE PROPOSED BOUNDARIES OF THE FOOTHILL BOULEVARD ASSESSMENT DISTRICT, AS DISCLOSED BY ASSESSMENT MAP RECORDED APRIL 27, 1989, IN BOOK 10 OF ASSESSMENT MAPS AT PAGE 1.
   NOT A SURVEY MATTER

4. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.
   NOT A SURVEY MATTER

5. AN EASEMENT AFFECTING THAT PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN AND INCIDENTAL PURPOSES AS PROVIDED IN THE FOLLOWING

   INSTRUMENT : DEED
   GRANTED TO : PACIFIC GAS AND ELECTRIC COMPANY, A CALIFORNIA CORPORATION
   FOR : PIPE LINES
   DATED : SEPTEMBER 21, 1966
   RECORDED : NOVEMBER 16, 1966 IN BOOK 5238 OF OFFICIAL RECORDS, PAGE 741 UNDER RECORDER'S SERIAL NUMBER 97204A
   AFFECTS : A 30 FOOT STRIP ALONG THE NORTHWESTERLY LINE

   UPON THE TERMS AND CONDITIONS CONTAINED THEREIN.
   PLOTTED

6. AN EASEMENT AFFECTING THAT PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN AND INCIDENTAL PURPOSES AS PROVIDED IN THE FOLLOWING

   INSTRUMENT : DEED
   GRANTED TO : PACIFIC GAS AND ELECTRIC COMPANY, A CALIFORNIA CORPORATION
   FOR : PIPE LINE
   DATED : OCTOBER 20, 1969
   RECORDED : NOVEMBER 20, 1969 IN BOOK 5717 OF OFFICIAL RECORDS, PAGE 539 UNDER RECORDER'S SERIAL NUMBER 81251AC
   AFFECTS : A 20-FOOT STRIP ALONG A PORTION OF THE NORTHEASTERLY LINE

   UPON THE TERMS AND CONDITIONS CONTAINED THEREIN.
   PLOTTED

7. AN EASEMENT AFFECTING THAT PORTION OF SAID LAND AND FOR THE PURPOSES STATED HEREIN AND INCIDENTAL PURPOSES AS PROVIDED IN THE FOLLOWING

   INSTRUMENT : DEED OF EASEMENT
   GRANTED TO : COASTSIDE COUNTY WATER DISTRICT
   FOR : WATER MAINS
   RECORDED : APRIL 6, 1988 IN OFFICIAL RECORDS UNDER RECORDER'S SERIAL NUMBER 88041155
   AFFECTS : AS DESCRIBED THEREIN

   UPON THE TERMS AND CONDITIONS CONTAINED THEREIN.
   PLOTTED

8. OIL, MINERAL, GAS RIGHTS AS RESERVED IN THE INSTRUMENT

   ENTITLED : GRANT DEED
   BY AND BETWEEN : CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS
   RECORDED : APRIL 18, 1988 IN OFFICIAL RECORDS, UNDER RECORDER'S SERIAL NUMBER 88045683
   NOT PLOTTED - BLANKET IN NATURE

9. ANY RIGHTS, EASEMENTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR ARISE BY REASON OF OR REFLECTED BY THE FACTS SHOWN ON THE PLAT OF A SURVEY MADE BY MACLEOD AND ASSOCIATES, CIVIL ENGINEERING/LAND SURVEYING, ON AUGUST 28, 2004, DESIGNATED JOB NO. 2314-04, AS FOLLOWS:

   A) POND, SHED AND CATWALK IN THE NORTHWESTERLY PORTION OF PARCEL ONE
   B) MANHOLE (PARCELS ONE AND TWO)
   C) DIRT AND GRAVEL ROADS TRAVERSING PORTIONS OF PARCELS ONE AND TWO
   D) FIRE HYDRANT 0.4' ENCROACHMENT (PARCEL ONE)
   E) GUY ANCHOR 3.5' ENCROACHMENT (PARCEL ONE)
   F) PG & E BOX WITH 3 GUARD POST, 1.9' ENCROACHMENT (PARCEL ONE)
   G) GUARD POST 3.1' ENCROACHMENT (PARCEL ONE)
   H) UTILITY POLE 1.2' ENCROACHMENT (PARCEL ONE)
   I) UTILITY POLE 0.3' ENCROACHMENT (PARCEL ONE)
   J) GUY ANCHOR 9.9' AND 10.2' ENCROACHMENTS (PARCEL ONE)
   K) GUY ANCHOR 26.3' ENCROACHMENT (PARCEL ONE)
   L) FENCE ANGLE POINT 0.5' ENCROACHMENT (PARCEL ONE)
   M) GATE POST 0.3' ENCROACHMENT (PARCEL ONE)
   N) STORM DRAIN LINES 8', 10', 12', 14' AND 16' (PARCELS ONE AND TWO)
   O) ELECTRIC BOXES, UTILITY POLES, GUY ANCHORS, AREA DRAINS, TELEPHONE AND ELECTRIC LINES, WATER BOXES, CATCH BASINS, STORM DRAIN PUMPS AFFECTING PORTIONS OF PARCELS ONE AND TWO
   P) ASPHALT CONCRETE PAVEMENT DRIVEWAY (PARCEL TWO)
   Q) LIGHT POLE, PP AND GM (NOT EXPLAINED ON SURVEY) AFFECTING PARCEL TWO
   R) GASLINE SIGNS (PARCEL TWO)
   NOT A SURVEY MATTER

10. TERMS AND PROVISIONS AS CONTAINED IN AN INSTRUMENT,

    ENTITLED : INDEMNIFICATION AGREEMENT
    EXECUTED BY : CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
    RECORDED : OCTOBER 18, 2004 IN OFFICIAL RECORDS UNDER RECORDER'S SERIAL NUMBER 2004-206679

    NOTE: REFERENCE IS MADE TO SAID INSTRUMENT FOR FULL PARTICULARS.
    NOT A SURVEY MATTER

11. TERMS AND PROVISIONS AS CONTAINED IN AN INSTRUMENT,

    ENTITLED : GRANT DEED
    EXECUTED BY : PENINSULA OPEN SPACE TRUST, A CALIFORNIA NON-PROFIT PUBLIC BENEFIT CORPORATION AND THE CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
    DATED : JANUARY 13, 2021
    RECORDED : JANUARY 15, 2021 IN OFFICIAL RECORDS UNDER RECORDER'S SERIAL NUMBER 2021-007593
    RETURNED TO ADDRESS : 501 MAIN STREET, HALF MOON BAY, CA 94019
    NOT A SURVEY MATTER

12. TERMS AND PROVISIONS AS CONTAINED IN AN INSTRUMENT,

    ENTITLED : MEMORANDUM OF AGREEMENTS
    EXECUTED BY : PENINSULA OPEN SPACE TRUST, A CALIFORNIA NON-PROFIT PUBLIC BENEFIT CORPORATION AND THE CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
    DATED : JANUARY 13, 2021
    RECORDED : JANUARY 15, 2021 IN OFFICIAL RECORDS UNDER RECORDER'S SERIAL NUMBER 2021-007594
    RETURNED TO ADDRESS : 222 HIGH STREET, PALO ALTO, CA 94403
    NOT A SURVEY MATTER

13. TERMS AND PROVISIONS AS CONTAINED IN AN INSTRUMENT,

    ENTITLED : CONSERVATION TRAIL EASEMENT
    EXECUTED BY : PENINSULA OPEN SPACE TRUST, A CALIFORNIA NON-PROFIT PUBLIC BENEFIT CORPORATION AND THE CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
    DATED : JANUARY 13, 2021
    RECORDED : JANUARY 15, 2021 IN OFFICIAL RECORDS UNDER RECORDER'S SERIAL NUMBER 2021-007595
    RETURNED TO ADDRESS : 222 HIGH STREET, PALO ALTO, CA 94403
    PLOTTED

ALTA SURVEY NOTES

1. THE **BOLDTYPE** COMMENTS ARE ADDED BY THE PROFESSIONAL LAND SURVEYOR.
2. ALL DISTANCES AND DIMENSIONS ARE IN U.S. SURVEY FEET AND DECIMALS THEREOF.
3. DIMENSIONAL TIES TO IMPROVEMENTS ARE 90° TO THE PROPERTY LINE(S) UNLESS OTHERWISE NOTED.
4. "IN" AND "OUT" AS SHOWN ON THIS SURVEY INDICATE THE DISTANCE INSIDE OR OUTSIDE OF THE SUBJECT PROPERTY, RESPECTIVELY.
5. THE DATES OF THE FIELD SURVEY ARE AS FOLLOWS: AUGUST 4, 5, 7, & 10, 2020, AND MARCH 10, 2021.
6. THE SUBJECT PROPERTY HAS DIRECT VEHICULAR ACCESS TO AND FROM STONE PINE ROAD, A PUBLICLY DEDICATED RIGHT OF WAY, AND SAN MATEO ROAD - CALIFORNIA STATE ROUTE 92, A STATE HIGHWAY, AS SHOWN ON THE SURVEY HEREON WHERE INDICATED BY ARROW LABELED "SITE ACCESS."
7. IN REFERENCE TO ITEM 2 OF TABLE "A", THE ADDRESS OF THE SUBJECT PROPERTY IS AS FOLLOWS: 880 STONE PINE ROAD, HALF MOON BAY, CA (PROVIDED BY THE CLIENT).
8. IN REFERENCE TO ITEM 3 OF TABLE "A", THE SUBJECT PROPERTY HAS BEEN DETERMINED TO BE WITHIN FLOOD ZONES "X" AND "A", AS STATED ON THIS SHEET.
9. IN REFERENCE TO ITEM 4 OF TABLE "A", THE GROSS LAND AREA OF THE SUBJECT PROPERTY IS AS FOLLOWS: PTR PARCEL ONE: 638,815± SQ.FT. OR 14.67 ACRES; PTR PARCEL TWO: 246,765± SQ.FT. OR 5.66 ACRES.
10. IN REFERENCE TO ITEM 5 OF TABLE "A", VERTICAL RELIEF AS SHOWN ON SHEET 2 IS THE PRODUCT OF AN AERIAL SURVEY PERFORMED BY VERTICAL MAPPING RESOURCES OF MESA, ARIZONA ON AUGUST 6, 2020. THE CONTOUR INTERVAL IS 1 FOOT. THE VERTICAL DATUM AND BENCHMARK USED ARE STATED BELOW.
11. IN REFERENCE TO ITEMS 6(A) AND 6(B) OF TABLE "A", CURRENT ZONING CLASSIFICATION AS SHOWN ON THIS SHEET. SAID INFORMATION WAS OBTAINED FROM THAT CERTAIN "HALF MOON BAY ZONING MAP" DATED JUNE 2015 AND AVAILABLE ON THE CITY'S WEBSITE. NO ZONING REPORT OR LETTER WAS PROVIDED TO THE SURVEYOR BY THE CLIENT.
12. IN REFERENCE TO ITEMS 7(A), 7(B)(1), AND 7(C) OF TABLE "A", AS SHOWN ON THE SURVEY HEREON.
13. IN REFERENCE TO ITEM 8 OF TABLE "A", AS SHOWN ON THE SURVEY HEREON.
14. IN REFERENCE TO ITEM 9 OF TABLE "A", NO PARKING STALLS OF ANY KIND WERE OBSERVED AT THE TIME OF THE SURVEY.
15. IN REFERENCE TO ITEM 11 OF TABLE "A", SEE THE **UTILITY NOTE**, BELOW.
16. IN REFERENCE TO ITEM 13 OF TABLE "A", AS SHOWN ON THE SURVEY HEREON.
17. IN REFERENCE TO ITEM 14 OF TABLE "A", THE WESTERLY CORNER OF THE SUBJECT PROPERTY IS LOCATED APPROXIMATELY 1300 FEET NORTHEASTERLY OF THE INTERSECTION OF SAN MATEO ROAD - CALIFORNIA STATE ROUTE 92 AND MAIN STREET.
18. IN REFERENCE TO ITEM 16 OF TABLE "A", NO EVIDENCE OF RECENT EARTH MOVING WORK AND BUILDING CONSTRUCTION WERE OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD WORK.
19. IN REFERENCE TO ITEM 17 OF TABLE "A", NO EVIDENCE OF RECENT OR PROPOSED STREET RIGHT OF WAY CHANGES WERE OBSERVED IN THE PROCESS OF COMPLETING THE FIELD SURVEY, NOR PROVIDED TO THE UNDERSIGNED SURVEYOR.

UTILITY STATEMENT

UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON SURFACE OBSERVATIONS. NO WARRANTIES ARE EXPRESSED OR IMPLIED CONCERNING THE EXISTENCE, SIZE, DEPTH, CONDITION, CAPACITY, OR LOCATION OF ANY UTILITY EXISTING ON THE SITE, WHETHER PRIVATE, MUNICIPAL, OR PUBLIC OWNED. CONTRACTOR(S) SHALL VERIFY ALL UTILITIES PRIOR TO ANY AND ALL CONSTRUCTION ACTIVITIES.

BENCHMARK STATEMENT

THE ELEVATIONS SHOWN ON THIS SURVEY ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) ELEVATIONS BASED UPON GPS OBSERVATIONS PERFORMED BY BKF ON AUGUST 4, 2020.

THE FOUND 2.5" BRASS DISK STAMPED "RCE 13776" IN MONUMENT WELL AT THE CENTER OF THE CUL-DE-SAC OF STONE PINE ROAD, PER (R2), WAS TAKEN AS THE SITE BENCHMARK FOR THIS SURVEY.

ELEVATION = 75.986

BASIS OF BEARINGS

THE BEARINGS SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD83), EPOCH 2011, ZONE 3 BASED UPON GPS OBSERVATIONS OF BKF POINT NO. 1, A SET COTTON SPINDLE, AND BKF POINT NO. 2, A SET HUB AND TACK AS SAID POINTS ARE SHOWN HEREON, PERFORMED BY BKF ON AUGUST 4, 2020.

THE BEARING OF SOUTH 42° 29' 36" WEST FROM SAID BKF POINT NO. 1 TO SAID BKF POINT NO. 2, AS SHOWN HEREON, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS MAP.

SURVEYORS STATEMENT

TO: CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
TO: OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES OPTIONAL ITEMS 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 7(C), 8, 9, 11 (SURFACE UTILITIES ONLY), 13, 14, 16, 17, 19 AND 20 ($1 MILLION PROFESSIONAL LIABILITY INSURANCE) OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON MARCH 10, 2021.

PROFESSIONAL LAND SURVEYOR
DAVID C. JUNGMANN
No. 9267
STATE OF CALIFORNIA
PRELIMINARY

DAVID C. JUNGMANN, P.L.S. 9267

03/18/2021
DATE

BKF
255 SHORELINE DR., SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

STATE OF CALIFORNIA

A.L.T.A./N.S.P.S. LAND TITLE SURVEY
OF THE LANDS OF
CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
COUNTY OF SAN MATEO

CITY OF HALF MOON BAY

Revisions

No.		

Date: 2021-03-18
Scale:
Design: JMS
Drawn: DCJ
Approved:
Job No: 20150199-53

Drawing Number:
ALTA
2 OF 2

els
architecture+
urban design

PROJECT:
CITY OF HALF MOON BAY
CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
CITY OF HALF MOON BAY
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

ARCHITECT:
ELS ARCHITECTURE AND URBAN DESIGN
2040 Addison Street
Berkeley, CA 94704
P: 510.549.2929

CIVIL ENGINEER (SEPARATE CONTRACT):
BKF ENGINEERS
255 Shoreline Drive, Suite 200
Redwood City, CA 94065
P: 650.482.6300

ENVIRONMENTAL CONSULTANT:
SWCA
95 3rd St. 2nd Floor
San Francisco, CA 94103
P: 415.536.2883

STRUCTURAL ENGINEER:
KPFF
45 Fremont Street, 28th Floor
San Francisco, CA 94105
P: 415.989.1004

MECHANICAL / PLUMBING ENGINEER:
Alter Consulting Engineers
1624 Franklin St. #1300
Oakland, CA 94612
P: 510.474.0379

ELECTRICAL ENGINEER:
OMM CONSULTING
4340 Redwood Hwy #245
San Rafael, CA 94903

COST ESTIMATOR:
MACKS
1900 Powell St #470
Emeryville, CA 94608

REVISION

NUMBER	DATE	DESCRIPTION

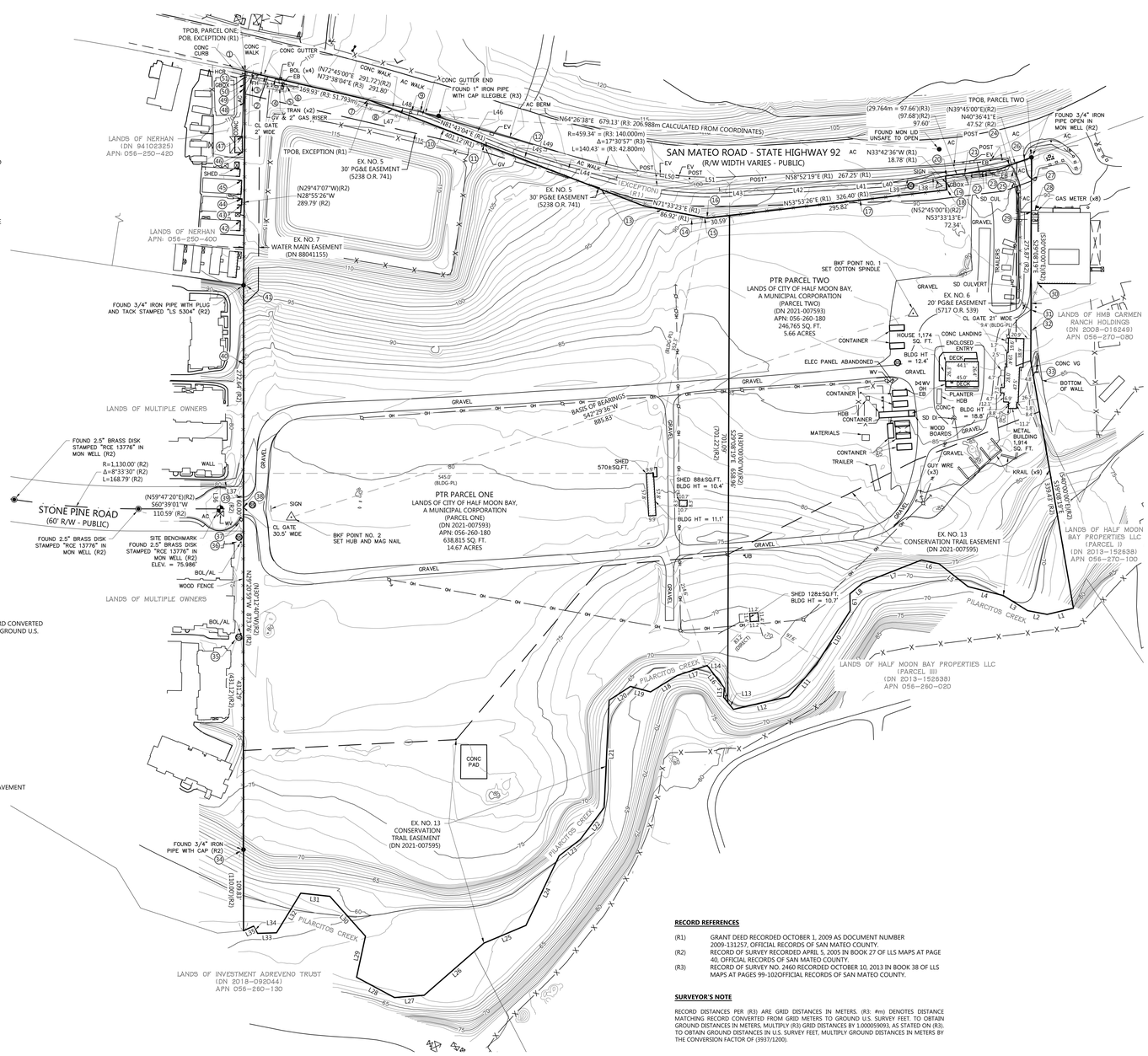
ISSUE:
60% CONSTRUCTION DOCUMENTS
DATE: **11 / 01 / 2021**
STAMP:

NOT FOR CONSTRUCTION

SHEET TITLE:
TOPOGRAPHIC SURVEY (1 OF 2 - BKF - FOR REFERENCE ONLY)
SHEET NUMBER:
A002X

DRAWING NAME: K:\2015\150199-53_JMB-Corp-Yd\SUR\Mapping\ALTA\150199_V-ALTA_2021-03-18_C3D18_JMS.dwg
PLOT DATE: 03-18-21 PLOTTED BY: Jesus

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LINE TABLE			RECORD LINE TABLE	
LINE NO.	DIRECTION	LENGTH	RECORD DIRECTION	RECORD LENGTH
L1	S47°25'02"W	36.52'	(S46°33'28"W)(R2)	(36.53')(R2)
L2	S71°31'17"W	26.85'	(S70°39'43"W)(R2)	(26.86')(R2)
L3	N87°28'52"W	38.62'	(N88°20'26"W)(R2)	(38.63')(R2)
L4	S74°52'52"W	49.37'	(S74°01'18"W)(R2)	(49.39')(R2)
L5	N81°09'28"W	50.08'	(N82°01'02"W)(R2)	(50.10')(R2)
L6	S72°32'08"W	24.33'	(S71°40'34"W)(R2)	(24.34')(R2)
L7	S39°14'12"W	85.57'	(S38°22'38"W)(R2)	(85.60')(R2)
L8	S20°14'46"W	22.43'	(S19°23'12"W)(R2)	(22.44')(R2)
L9	S30°07'13"E	22.83'	(S30°58'47"E)(R2)	(22.84')(R2)
L10	S02°39'36"W	85.73'	(S01°48'02"W)(R2)	(85.76')(R2)
L11	S11°24'28"W	57.62'	(S10°32'54"W)(R2)	(57.64')(R2)
L12	S47°43'04"W	76.92'	(S46°51'30"W)(R2)	(76.95')(R2)
L13	N68°00'29"W	12.29'	(N68°52'03"W)(R2)	(12.22')(R2)
L14	N68°00'29"W	8.90'	(N68°52'03"W)(R2)	(8.98')(R2)
L15	N24°18'13"W	12.34'	(N25°09'47"W)(R2)	(12.34')(R2)
L16	N66°42'59"W	38.40'	(N67°34'33"W)(R2)	(38.41')(R2)
L17	S42°15'35"W	42.60'	(S41°24'01"W)(R2)	(42.61')(R2)
L18	S29°04'36"W	42.58'	(S28°13'02"W)(R2)	(42.59')(R2)
L19	S75°58'13"W	28.14'	(S75°06'39"W)(R2)	(28.15')(R2)
L20	S27°39'47"W	34.46'	(S26°48'13"W)(R2)	(34.47')(R2)
L21	S26°43'24"E	145.40'	(S27°34'58"E)(R2)	(145.45')(R2)
L22	S07°30'40"W	54.02'	(S06°39'06"W)(R2)	(54.04')(R2)
L23	S22°45'40"W	36.27'	(S21°54'06"W)(R2)	(36.28')(R2)
L24	S03°51'49"E	104.20'	(S04°43'23"E)(R2)	(104.24')(R2)
L25	S37°46'25"W	61.71'	(S36°54'51"W)(R2)	(61.73')(R2)
L26	S19°33'41"W	107.45'	(S18°42'07"W)(R2)	(107.49')(R2)
L27	S56°13'06"W	40.18'	(S55°21'32"W)(R2)	(40.19')(R2)
L28	S88°49'22"W	58.28'	(S87°57'48"W)(R2)	(58.30')(R2)
L29	N17°07'56"W	56.88'	(N17°59'30"W)(R2)	(56.90')(R2)
L30	N71°05'20"W	72.28'	(N71°56'54"W)(R2)	(72.31')(R2)
L31	S66°47'43"W	39.70'	(S65°56'09"W)(R2)	(39.71')(R2)
L32	S02°07'42"W	62.88'	(S01°16'08"W)(R2)	(62.90')(R2)
L33	S58°53'58"W	25.72'	(S58°02'24"W)(R2)	(25.73')(R2)
L34	N57°38'51"W	11.15'	(N58°30'25"W)(R2)	(11.15')(R2)
L35	S36°00'41"W	15.01'	(S35°09'07"W)(R2)	(15.02')(R2)
L36	S29°20'59"E	30.00'	(S30°12'40"E)(R2)	(30.00')(R2)
L37	N60°39'01"E	31.63'	(N59°47'20"E)(R2)	(31.50')(R2)
L38	N53°33'13"E	25.26'	(N53°33'13"E)(R1)(R3)	(25.26')(R1)
L39	N58°52'19"E	47.99'	(N58°52'19"E)(R1)(R3)	(R3: 14.628m) = 47.99'
L40	N52°28'49"E	12.50'	(S52°28'49"W)(R3)	(R3: 3.811m) = 12.50'
L41	N57°32'14"E	57.76'	(S57°32'14"W)(R3)	(R3: 17.604m) = 57.76'
L42	N57°07'31"E	113.58'	(N57°07'31"E)(R3)	(R3: 34.616m) = 113.58'
L43	N58°44'09"E	49.57'	(S58°44'09"W)(R3)	(R3: 15.108m) = 49.57'
L44	N76°15'07"E	85.66'	(S76°15'07"W)(R3)	(R3: 26.108m) = 85.66'
L45	N78°26'58"E	56.56'	(S78°26'58"W)(R3)	(R3: 17.237m) = 56.56'
L46	N82°41'18"E	113.17'	(S82°41'18"W)(R3)	(R3: 34.491m) = 113.17'
L47	N73°38'04"E	98.77'	(N73°38'04"E)(R3)	(R3: 30.104m) = 98.77'
L48	N73°38'04"E	121.87'	(N73°38'04"E)(R1) (N72°45'00"E)(R2)	(121.88')(R1)
L49	N77°53'28"E	259.68'	(N77°53'28"E)(R1) (N77°00'00"E)(R2)	(259.67')(R1) (260.04')(R2)
L50	N68°33'21"E	71.61'	(N68°33'21"E)(R1) (N67°45'00"E)(R2)	(71.61')(R1) (71.28')(R2)
L51	N61°25'06"E	52.50'	(N61°25'06"E)(R1) (N60°30'00"E)(R2)	(52.50')(R1) (52.80')(R1)

LEGEND

- FOUND STREET MONUMENT AS NOTED
- FOUND MONUMENT AS NOTED
- CONTROL POINT AS NOTED
- SITE BENCHMARK
- DENOTES REFERENCE TO IN/OUT TABLE
- FIRE HYDRANT
- GM GAS METER
- JOINT POLE
- SS SANITARY SEWER MANHOLE
- SIGN
- SITE LIGHT
- SD STORM DRAIN MANHOLE
- VALVE, AS NOTED

AC	ASPHALTIC CONCRETE
AL	AREA LIGHT
APN	ASSESSOR'S PARCEL NUMBER
BLDG	BUILDING
BOL	BOLLARD
BW	BACK OF WALK
CATV	CABLE TELEVISION
CL	CENTERLINE
CONC	CONCRETE
COR	CORNER
CUL	CULVERT
DI	DRAIN INLET
DN	DOCUMENT NUMBER
DW	DRIVEWAY
EB	ELECTRIC BOX
ELEC	ELECTRIC
EOW	EDGE OF PATH/WALK
EV	ELECTRIC VAULT
EX. NO.	EXCEPTION NUMBER
FC	FACE OF CURB
FH	FIRE HYDRANT
FNC	FENCE
GBOX	GAS BOX
GM	GAS METER
GV	GAS VALVE
HCR	HANDICAP RAMP
HDB	HEADERBOARD
HT	HEIGHT
LS	LICENSED SURVEYOR
m	METERS
MON	MONUMENT
OH	OVERHANG
O.R.	OFFICIAL RECORDS
PL	PROPERTY LINE
POB	POINT OF BEGINNING
(R#)	DENOTES RECORD REFERENCE
(R3: #m)	DENOTES DISTANCE MATCHING RECORD CONVERTED FROM GRID DISTANCES IN METERS TO GROUND U.S. SURVEY FEET
RCE	REGISTERED CIVIL ENGINEER
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SQ. FT.	SQUARE FEET
SSMH	SANITARY SEWER MANHOLE
TPOB	TRUE POINT OF BEGINNING
TRAN	TRANSFORMER
UB	UTILITY BOX
VG	VALLEY GUTTER
WV	WATER VALVE

LINETYPES

- SUBJECT BOUNDARY LINE
- LOT LINE
- EASEMENT LINE
- BUILDING STRUCTURE
- EDGE OF CONCRETE OR PAVEMENT
- FENCE LINE
- MONUMENT LINE
- OH OVERHEAD WIRES
- TIE/RADIAL LINE
- TOP OF CURB

IN/OUT TABLE

1. FC - 0.2' OUT
2. SIGN 5.2' IN; FH 4.4' IN
3. FC 0.1' IN
4. EV 1.5' IN
5. EB 2.6' IN
6. FNC COR 6.9' IN
7. FC CROSSES PL
8. BW CROSSES PL
9. SIGN 4.4' OUT
10. FNC COR 0.7' IN
11. GV 0.4' IN
12. BW 3.4' OUT
13. FNC CROSSES PL
14. FNC 5.3' IN
15. FNC CROSSES PL
16. FNC 1.0' OUT
17. FNC CROSSES PL
18. FNC COR 1.3' IN (DIRECT)
19. FNC COR 1.1' IN
20. EOW CROSSES PL
21. GBOX 0.4' IN
22. EB 0.4' IN
23. EB CROSSES PL
24. AC CROSSES PL
25. FNC COR 8.7' IN
26. AC CROSSES PL
27. AC CROSSES PL
28. GM 7.9' OUT
29. AC CROSSES PL
30. BLDG COR 9.1' OUT
31. FNC CROSSES PL
32. FNC END 1.1' OUT
33. VG CROSSES PL
34. FNC END 1.0' OUT
35. BOL 3.7' OUT; SSMH 6.4' OUT
36. BOL 3.8' OUT; SSMH CENTER 6.1' OUT
37. AL 3.1' OUT; FNC END 0.4' OUT
38. GATE (CLOSED) ON PL
39. FNC END 0.9' OUT
40. FNC CROSSES PL
41. FNC 0.6' IN
42. BLDG COR 4.9' OUT
43. BLDG COR 4.0' OUT
44. BLDG COR 3.4' OUT
45. BLDG COR 3.6' OUT
46. BLDG COR 3.0' OUT
47. BLDG COR 3.2' OUT
48. FNC CROSSES PL
49. AC COR 1.4' OUT
50. FNC COR 0.1' OUT
51. GBOX ON PL

RECORD REFERENCES

(R1) GRANT DEED RECORDED OCTOBER 1, 2009 AS DOCUMENT NUMBER 2009-131257, OFFICIAL RECORDS OF SAN MATEO COUNTY.

(R2) RECORD OF SURVEY RECORDED APRIL 5, 2005 IN BOOK 27 OF LLS MAPS AT PAGE 40, OFFICIAL RECORDS OF SAN MATEO COUNTY.

(R3) RECORD OF SURVEY NO. 2460 RECORDED OCTOBER 10, 2013 IN BOOK 38 OF LLS MAPS AT PAGES 99-102/OFFICIAL RECORDS OF SAN MATEO COUNTY.

SURVEYOR'S NOTE

RECORD DISTANCES PER (R3) ARE GRID DISTANCES IN METERS. (R3: #m) DENOTES DISTANCE MATCHING RECORD CONVERTED FROM GRID METERS TO GROUND U.S. SURVEY FEET. TO OBTAIN GROUND DISTANCES IN METERS, MULTIPLY (R3) GRID DISTANCES BY 1.000059093, AS STATED ON (R3). TO OBTAIN GROUND DISTANCES IN U.S. SURVEY FEET, MULTIPLY GROUND DISTANCES IN METERS BY THE CONVERSION FACTOR OF (3937/1200).

DRAWING NAME: K:\2015\150199-53_HMB-Corp-Yd\SUR\Mapping\ALTA\150199_V-ALTA_2021-03-18_ID318_JMS.dwg
PLOT DATE: 03-18-21 PLOTTED BY: jsmp

BKF
255 SHORELINE DR., SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

STATE OF CALIFORNIA

A.L.T.A./N.S.P.S. LAND TITLE SURVEY
OF THE LANDS OF
CITY OF HALF MOON BAY, A MUNICIPAL CORPORATION
COUNTY OF SAN MATEO

CITY OF HALF MOON BAY

Revisions	No.	Date:	Scale:	Design:	Drawn:	Approved:	Job No:
		2021-03-18	1" = 60'	JMS	DCJ		201509-53

Drawing Number:
ALTA
2 OF 2

els architecture+ urban design

PROJECT:
CITY OF HALF MOON BAY
CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
CITY OF HALF MOON BAY
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

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ELECTRICAL ENGINEER:
OMM CONSULTING
4340 Redwood Hwy #245
San Rafael, CA 94903

COST ESTIMATOR:
MACKS
1900 Powell St #470
Emeryville, CA 94608

REVISION

NUMBER	DATE	DESCRIPTION

ISSUE:
60% CONSTRUCTION DOCUMENTS

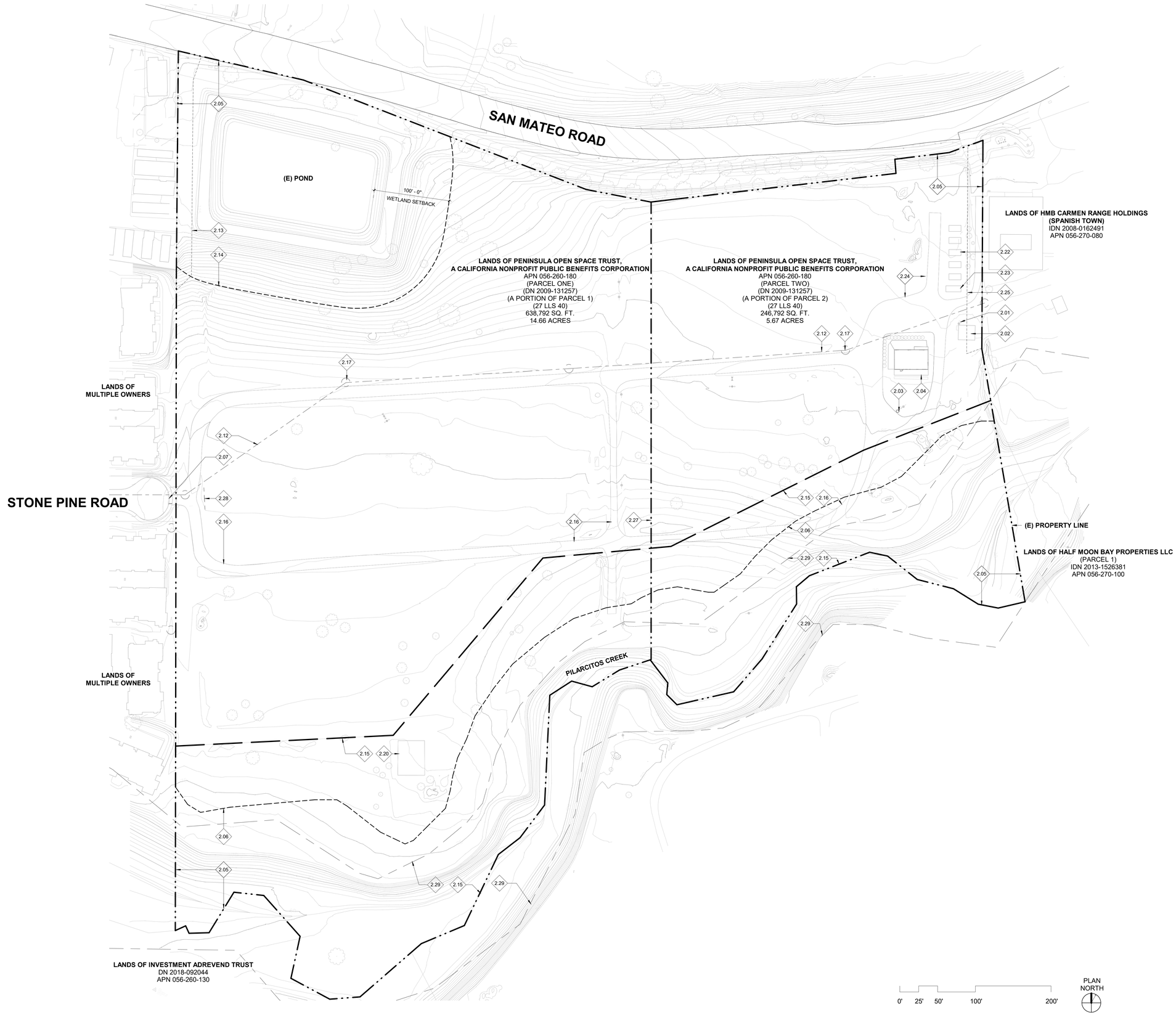
DATE:
11 / 01 / 2021

STAMP:

NOT FOR CONSTRUCTION

SHEET TITLE:
TOPOGRAPHIC SURVEY (2 OF 2 - BKF - FOR REFERENCE ONLY)

SHEET NUMBER:
A003X



1 DEMOLITION SITE PLAN
1" = 50'-0"

SHEET NOTES

1. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
2. ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.

KEYNOTES

2.01	(E) GAS METER, S.C.D.
2.02	(E) BARN
2.03	(E) MAIN ELECTRICAL SERVICE TRANSIT
2.04	(E) HOUSE, DECK, AND GARDEN; N.I.C.
2.05	PROPERTY LINE
2.06	RIPARIAN SETBACK
2.07	(E) SITE ENTRY
2.12	(E) SEWER LINE (10 FEET WIDE), S.C.D.
2.13	CCWD EASEMENT, S.C.D.
2.14	WETLAND SETBACK
2.15	EX. NO. 13 CONSERVATION TRAIL EASEMENT (DN 2021-007595), S.C.D.
2.16	(E) DIRT PATH TO BE ABANDONED
2.17	(E) SANITARY SEWER MANHOLE, TYP., S.C.D.
2.20	(E) CONCRETE PAD
2.22	(E) MOBILE TRAILER, TYP. FOR (5)
2.23	(E) STORAGE CONTAINER
2.24	(E) DIRT PATH
2.25	PG&E EASEMENT, S.C.D.
2.27	RELOCATED PROPERTY LINE
2.28	(E) SIGN TO BE REMOVED
2.29	FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.

LEGEND

- DEMOLISHED ITEM
- RIPARIAN SETBACK / WETLAND SETBACK
- FENCE
- PROPERTY LINE
- SEWER LINE
- CCWD / PG&E EASEMENT
- (E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
- FLOOD LINE

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
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880 STONE PINE ROAD, HALF MOON BAY, CA 94019

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COST ESTIMATOR:
MACKS
1900 Powell St #470
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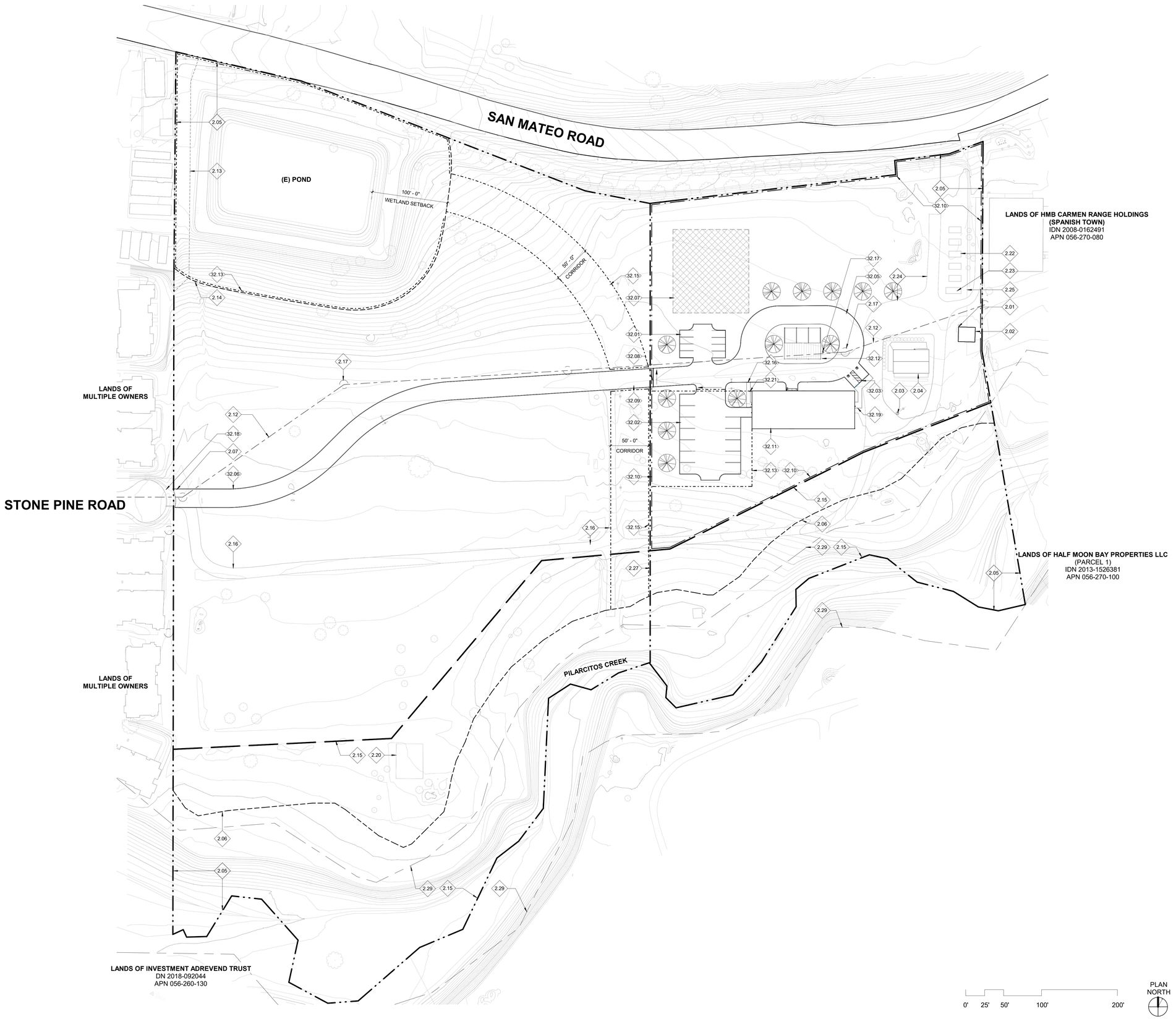
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11 / 01 / 2021

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SHEET TITLE:
DEMOLITION SITE PLAN

SHEET NUMBER:
A100



1 SITE PLAN
1" = 50'-0"

SHEET NOTES

1. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
2. ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.

KEYNOTES

2.01	(E) GAS METER, S.C.D.
2.02	(E) BARN
2.03	(E) MAIN ELECTRICAL SERVICE TRANSIT
2.04	(E) HOUSE, DECK, AND GARDEN; N.I.C.
2.05	PROPERTY LINE
2.06	RIPARIAN SETBACK
2.07	(E) SITE ENTRY
2.12	(E) SEWER LINE (10 FEET WIDE), S.C.D.
2.13	CCWD EASEMENT, S.C.D.
2.14	WETLAND SETBACK
2.15	EX. NO. 13 CONSERVATION TRAIL EASEMENT (DN 2021-007595), S.C.D.
2.16	(E) DIRT PATH TO BE ABANDONED
2.17	(E) SANITARY SEWER MANHOLE, TYP., S.C.D.
2.20	(E) CONCRETE PAD
2.22	(E) MOBILE TRAILER, TYP. FOR (5)
2.23	(E) STORAGE CONTAINER
2.24	(E) DIRT PATH
2.25	PG&E EASEMENT, S.C.D.
2.27	RELOCATED PROPERTY LINE
2.29	FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.
32.01	EMPLOYEE PARKING, S.C.D.
32.02	SERVICE VEHICLE PARKING, S.C.D.
32.03	ACCESSIBLE PARKING, S.C.D.
32.05	ASPHALT PAVED LOOP ROAD. ALLOW CLEARANCE OF 20' FOR EMERGENCY VEHICLE ACCESS., S.C.D.
32.06	ASPHALT ROAD, S.C.D.
32.07	SOLAR ARRAY 11,000 SF, S.E.D.
32.08	ROLLING GATE WITH AUTOMATIC OPENER/CLOSER AND KEYCARD ENTRY
32.09	TRAFFIC RATED CULVERT UNDER ROAD, REINFORCED CONCRETE, 6" - 8" CLEAR
32.10	8' STEEL FENCE
32.11	WORKSHOP / STORAGE BUILDING, 50' x 135' TENSION FABRIC BUILDING STRUCTURE, SPRINKLERED
32.12	TRASH / STORAGE STRUCTURE
32.13	6' CHAINLINK FENCE
32.15	WILDLIFE EXCLUSIONARY FENCE: 4' CHAINLINK FENCE WITH 12" - 24" VINYL SLATS AT BOTTOM OF FENCING
32.16	WALKWAY, S.C.D.
32.17	HOSE BIB, S.P.D.
32.18	FIRE HYDRANT, S.C.D.
32.19	ACCESSIBLE WALKWAY, S.C.D.
32.21	PERSONAL GATE

LEGEND

- RIPARIAN SETBACK / WETLAND SETBACK
- FENCE
- PROPERTY LINE
- SEWER LINE
- CCWD / PG&E EASEMENT
- (E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
- FLOOD LINE
- SOLAR ARRAY AREA

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
CITY OF HALF MOON BAY
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

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San Rafael, CA 94903

COST ESTIMATOR:
MACKS
1900 Powell St #470
Emeryville, CA 94608

REVISION

NUMBER	DATE	DESCRIPTION

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SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A101



1 ENLARGED SITE PLAN
1" = 20'-0"

SHEET NOTES

1. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
2. ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.

KEYNOTES

2.01	(E) GAS METER, S.C.D.
2.02	(E) BARN
2.03	(E) MAIN ELECTRICAL SERVICE TRANSIT
2.04	(E) HOUSE, DECK, AND GARDEN; N.I.C.
2.05	PROPERTY LINE
2.06	RIPARIAN SETBACK
2.12	(E) SEWER LINE (10 FEET WIDE), S.C.D.
2.15	EX. NO. 13 CONSERVATION TRAIL EASEMENT (DN 2021-007595), S.C.D.
2.16	(E) DIRT PATH TO BE ABANDONED
2.17	(E) SANITARY SEWER MANHOLE, TYP., S.C.D.
2.22	(E) MOBILE TRAILER, TYP. FOR (5)
2.23	(E) STORAGE CONTAINER
2.24	(E) DIRT PATH
2.25	PG&E EASEMENT, S.C.D.
2.27	RELOCATED PROPERTY LINE
2.29	FEMA BASE FLOOD ELEVATION BOUNDARY, S.C.D.
32.01	EMPLOYEE PARKING, S.C.D.
32.02	SERVICE VEHICLE PARKING, S.C.D.
32.03	ACCESSIBLE PARKING, S.C.D.
32.05	ASPHALT PAVED LOOP ROAD. ALLOW CLEARANCE OF 20' FOR EMERGENCY VEHICLE ACCESS., S.C.D.
32.06	ASPHALT ROAD, S.C.D.
32.07	SOLAR ARRAY 11,000 SF, S.E.D.
32.08	ROLLING GATE WITH AUTOMATIC OPENER/CLOSER AND KEYCARD ENTRY
32.10	8' STEEL FENCE
32.11	WORKSHOP / STORAGE BUILDING, 50' x 135' TENSION FABRIC BUILDING STRUCTURE, SPRINKLERED
32.12	TRASH / STORAGE STRUCTURE
32.13	6' CHAINLINK FENCE
32.14	TREE, PROPOSED LOCATION, TYP.. FOR (12), N.I.C., INSTALLED BY PG&E
32.16	WALKWAY, S.C.D.
32.17	HOSE BIB, S.P.D.
32.19	ACCESSIBLE WALKWAY, S.C.D.
32.21	PERSONAL GATE

LEGEND

- RIPARIAN SETBACK / WETLAND SETBACK
- FENCE
- PROPERTY LINE
- SEWER LINE
- CCWD EASEMENT
- (E) EX. NO. 13 CONSERVATION TRAIL EASEMENT
- ACCESSIBLE PATH OF TRAVEL
- FLOOD LINE
- SOLAR ARRAY AREA

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
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880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

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COST ESTIMATOR:
MACKS
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Emeryville, CA 94608

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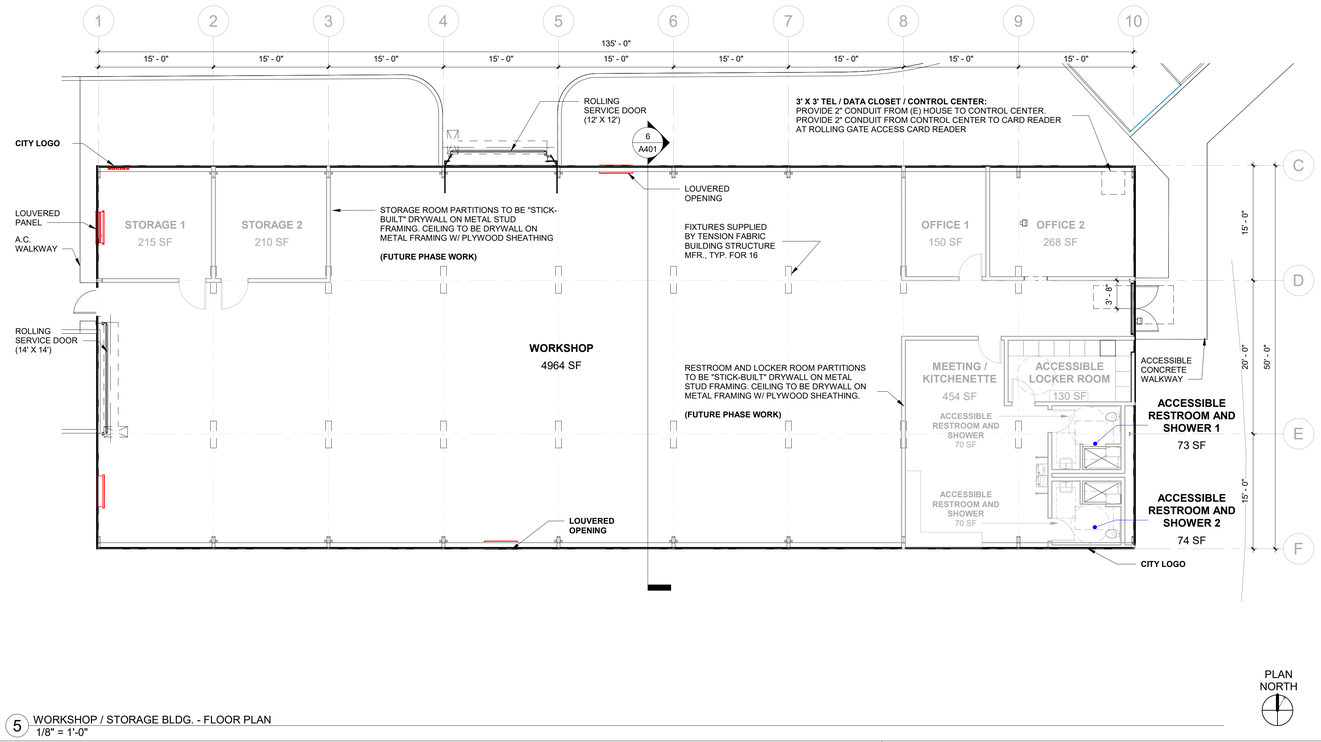
SHEET TITLE:
SITE PLAN ENLARGED

SHEET NUMBER:
A201

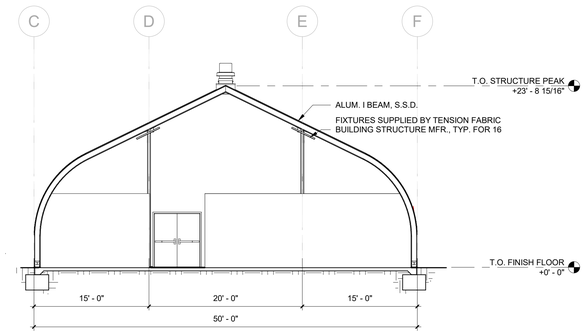
SHEET NOTES

1. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
2. ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.
3. ALL INTERIOR WORK IN WORKSHOP / STORAGE TO BE IN PHASE III

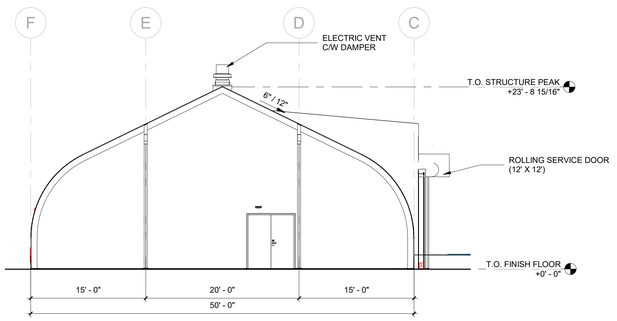
KEYNOTES



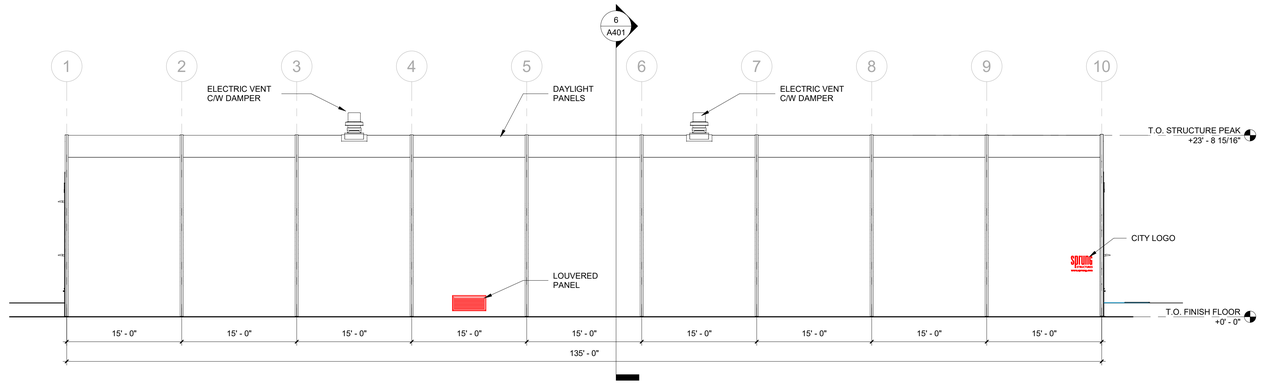
5 WORKSHOP / STORAGE BLDG. - FLOOR PLAN
1/8" = 1'-0"



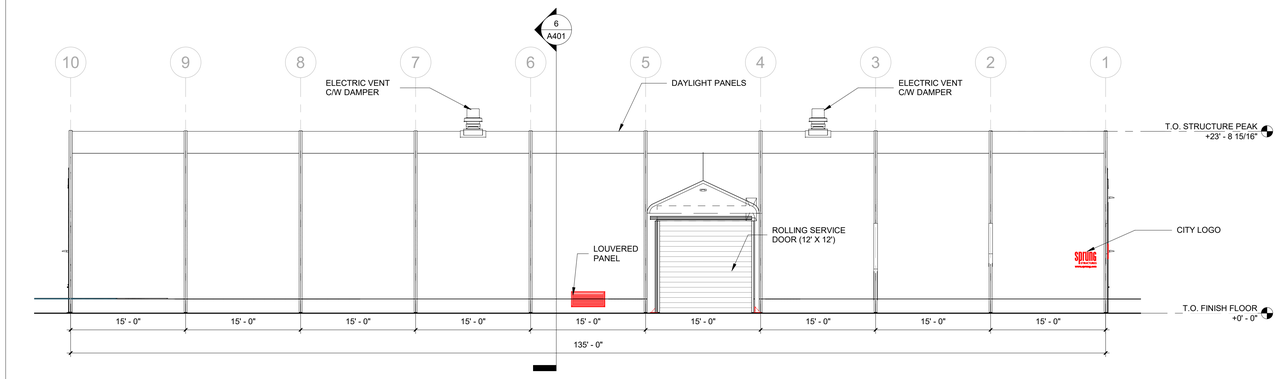
6 WORKSHOP / STORAGE BLDG. - SECTION
1/8" = 1'-0"



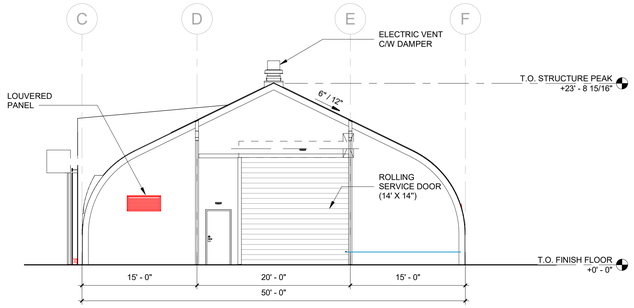
4 WORKSHOP / STORAGE BLDG. - WEST ELEVATION
1/8" = 1'-0"



2 WORKSHOP / STORAGE BLDG. - NORTH ELEVATION
1/8" = 1'-0"



3 WORKSHOP / STORAGE BLDG. - SOUTH ELEVATION
1/8" = 1'-0"



1 WORKSHOP / STORAGE BLDG. - EAST ELEVATION
1/8" = 1'-0"

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

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202005

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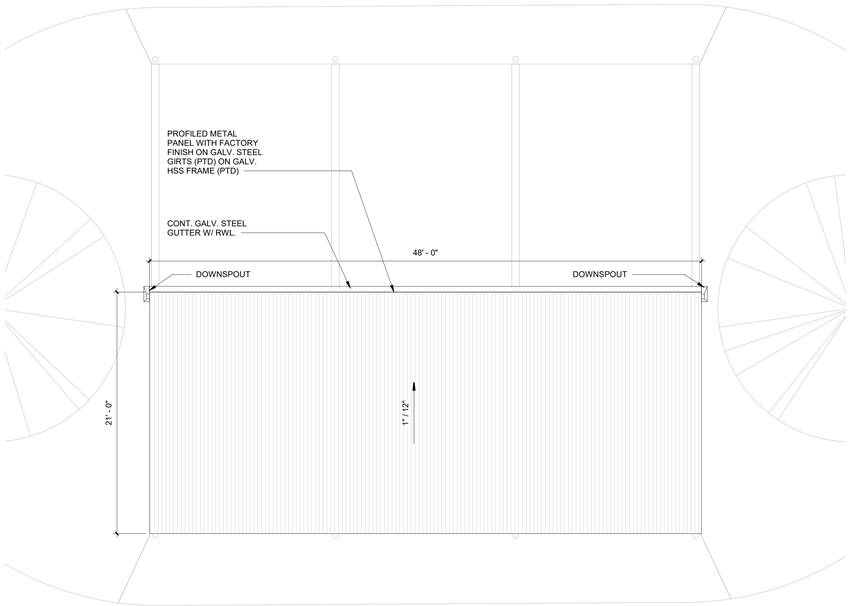
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11 / 01 / 2021

STAMP:

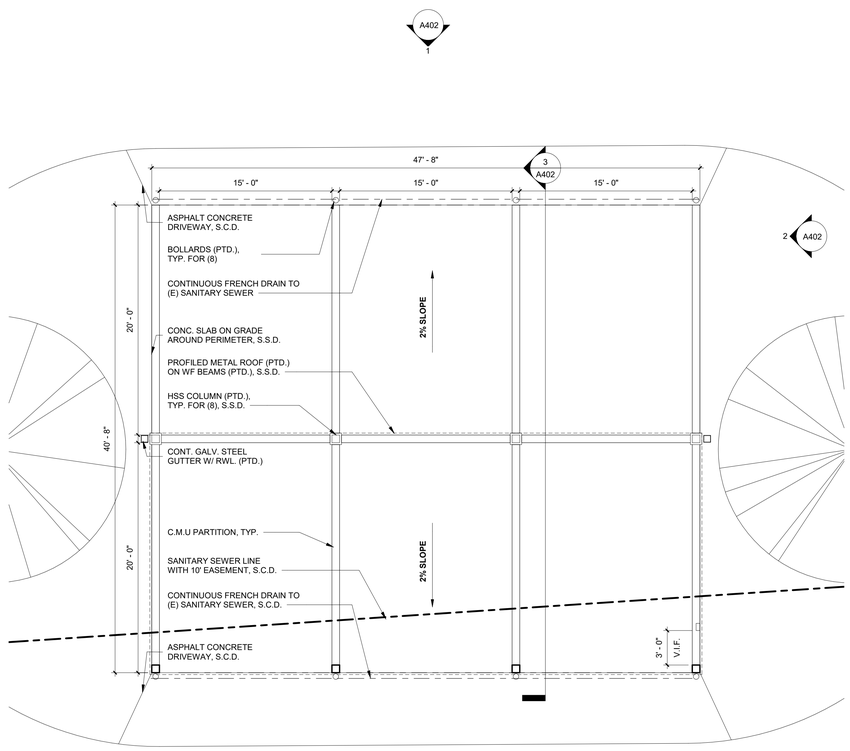
NOT FOR CONSTRUCTION

SHEET TITLE:
WORKSHOP / STORAGE BUILDING PLANS AND ELEVATIONS

SHEET NUMBER:
A401



5 TRASH / STORAGE ENCLOSURE - ROOF PLAN
3/16" = 1'-0"

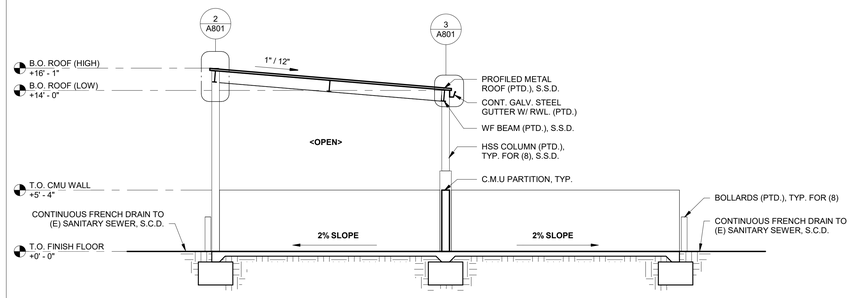


4 TRASH / STORAGE ENCLOSURE - FLOOR PLAN
3/16" = 1'-0"

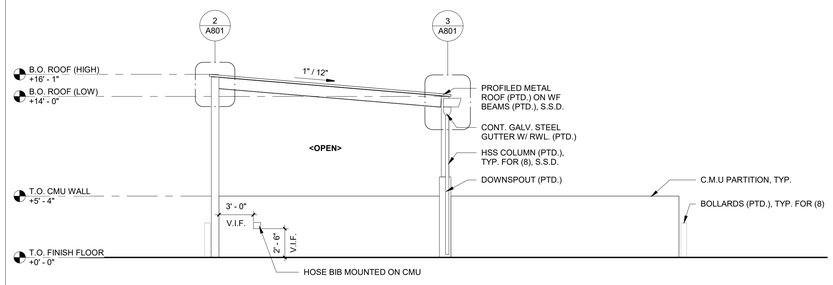
SHEET NOTES

1. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO THE START OF CONSTRUCTION. BRING DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
2. ALL BUILDING AND SITE FEATURES TO REMAIN UNLESS OTHERWISE NOTED.
3. ALL INTERIOR WORK IN WORKSHOP / STORAGE TO BE IN PHASE III

KEYNOTES

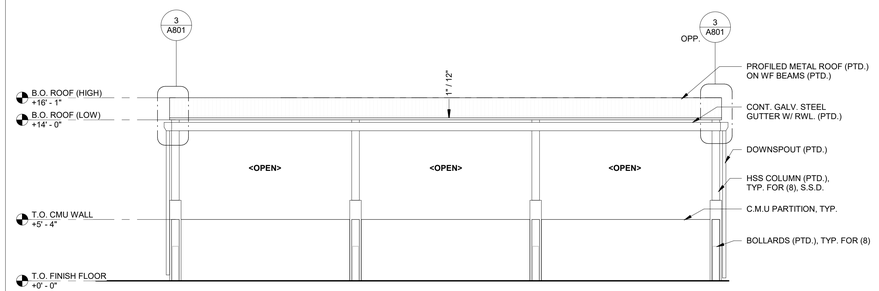


3 TRASH / STORAGE ENCLOSURE - SECTION
3/16" = 1'-0"



NOTE: OPP. AND TYP. FOR EAST ELEVATION

2 TRASH / STORAGE ENCLOSURE - WEST ELEVATION
3/16" = 1'-0"



1 TRASH / STORAGE ENCLOSURE - SOUTH ELEVATION
3/16" = 1'-0"

els architecture+ urban design

PROJECT:

CITY OF HALF MOON BAY

CORPORATION YARD

PROJECT NUMBER:
202005

CLIENT:
CITY OF HALF MOON BAY
880 STONE PINE ROAD, HALF MOON BAY, CA 94019

PROJECT TEAM:

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COST ESTIMATOR:
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Emeryville, CA 94608

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TRASH / STORAGE ENCLOSURE PLANS AND ELEVATIONS

SHEET NUMBER:
A402

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH	CEILING FINISH	CEILING HEIGHT	COMMENTS
1	WORKSHOP						
2	STORAGE 1						
3	STORAGE 2						
4	OFFICE 1						
5	OFFICE 2						
6	ACCESSIBLE LOCKER ROOM						
7	MEETING / KITCHENETTE						
8	ACCESSIBLE RESTROOM AND SHOWER 1						
9	ACCESSIBLE RESTROOM AND SHOWER 2						

DOOR SCHEDULE

DOOR #	OPENING DOOR SIZE			FIRE RATING	DOOR			FRAME			HDWR GROUP	COMMENTS
	WIDTH	HEIGHT	THICKNESS		TYPE	MATERIAL	FINISH	TYPE	MATL	FIN		
52	3' - 6"	7' - 0"	2"									
53	3' - 6"	7' - 0"	2"									
67	3' - 0"	7' - 0"	2"									
68	3' - 0"	7' - 0"	2"									
73	3' - 0"	6' - 8"	2"									
75	0' - 0"	0' - 0"										
76	3' - 0"	7' - 0"	2"									
78	3' - 0"	7' - 0"	2"									

PAINT SCHEDULE**

KEY	DESCRIPTION	COLOR	LOCATION
P1	BASE BUILDING	TBD	
P2	BASE BUILDING ACCENT	TBD	
P3	ACCENT 1	TBD	
P4	ACCENT 2	TBD	
P5	ACCENT 3	TBD	
P6	ACCENT 4	TBD	
P7	ACCENT 5	TBD	
P8	STRIPING	TBD	
PA*	ACCENT DOORS		

**PAINT SCHEDULE DENOTES COLOR/DESIGN INTENT ONLY, SEE SPECIFICATION ON REQUIRED PAINT TYPE BY SUBSTRATE APPLICATION. PROVIDE COLOR MATCHING FOR A NON-BENJAMIN MOORE PAINT PRODUCTS.

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PROJECT:

CITY OF HALF MOON BAY

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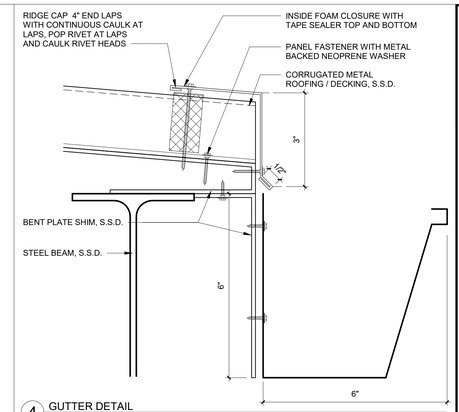
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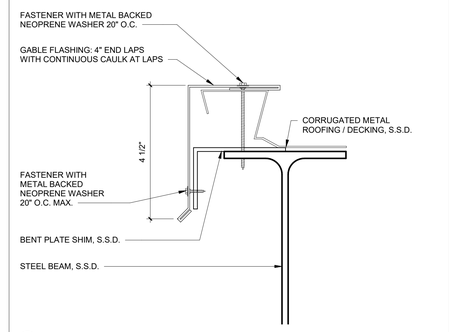
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DOOR AND FINISH SCHEDULE

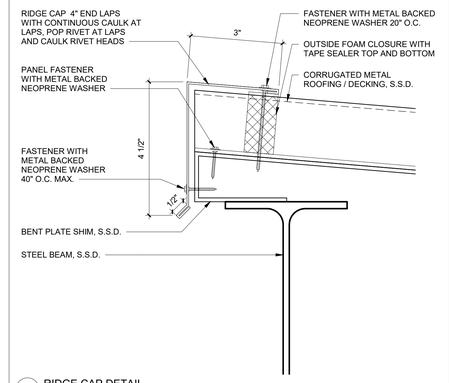
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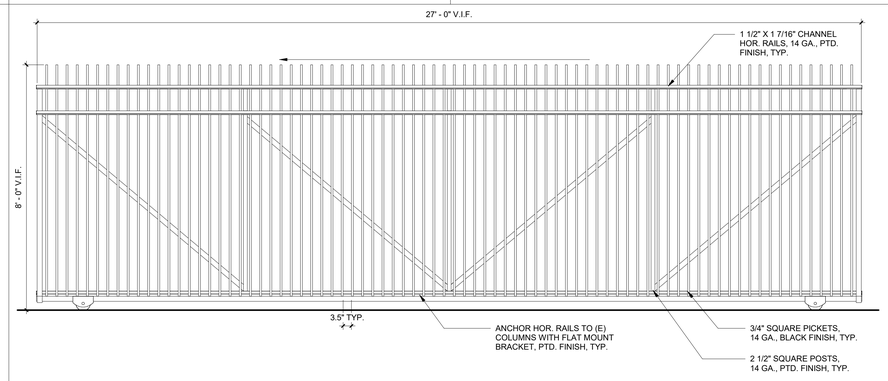
4 GUTTER DETAIL
6" = 1'-0"



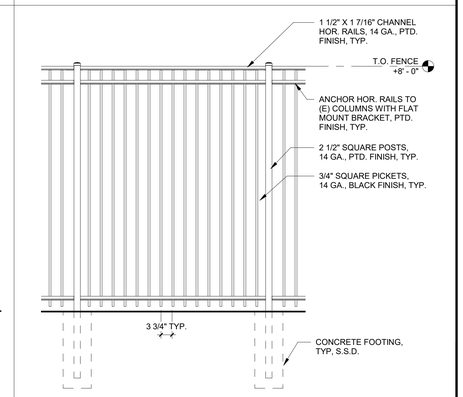
3 FLASHING DETAIL @ ROOF FASCIA
6" = 1'-0"



2 RIDGE CAP DETAIL
6" = 1'-0"



5 STEEL ROLL GATE - FRONT ELEVATION
1/2" = 1'-0"



1 STEEL FENCE PANEL - FRONT ELEVATION
1/2" = 1'-0"

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urban design

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EXTERIOR DETAILS

SHEET NUMBER:
A801

APPENDIX B

Biological Evaluations

APPENDIX B1

Biological Resources Report

880 Stone Pine Road Project

H.T. Harvey & Associates











H. T. HARVEY & ASSOCIATES
Ecological Consultants
50 years of field notes, exploration, and excellence

880 Stone Pine Road Project
Biological Resources Report

Project #4182-03

Prepared for:

John Doughty
City of Half Moon Bay
501 Main Street
Half Moon Bay, CA 94019

Prepared by:

H. T. Harvey & Associates

June 25, 2021

983 University Avenue, Building D • Los Gatos, CA 95032 • 408.458.3200 • www.harveyecology.com

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List of Preparers

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Kelly Hardwicke, Ph.D., Senior Plant/Wetland Ecologist

Jeff Wilkinson, Ph.D., Project Manager/Senior Wildlife Ecologist

Mark Bibbo, M.S., Plant/Wetland Ecologist

Section 1. Introduction

This report describes the biological resources present on the site at 880 Stone Pine Road in Half Moon Bay, California, where the City of Half Moon Bay (City) is considering future development; the potential biological impacts of future development activities; and measures necessary to reduce these impacts to less-than-significant levels under the California Environmental Quality Act (CEQA).

1.1 Project Location

The project site is located at 880 Stone Pine Road in Half Moon Bay, San Mateo County (Figure 1). It is located within the *Half Moon Bay California* 7.5-minute USGS quadrangle. The site is located between State Route (SR) 92 and Pilarcitos Creek near downtown Half Moon Bay. The site was previously used as a plant nursery and is now a public works yard.

For the purposes of our description of existing biological resources and potential impacts from future development, we identified a Biological Study Area (BSA) of approximately 44 acres that included the 21-acre project site itself as well as surrounding areas within 200 feet of the project boundary (Figure 2). The purpose of providing this BSA was to conform to the City of Half Moon Bay's Local Coastal Program requirements under Policy 6-8.

1.2 Project Description

The City is considering developing the public works yard at 880 Stone Pine Road. A specific project description has not been proposed for the development, and therefore specific impact locations have not been defined. It is conceivable that future development activities may disturb the majority of the site, although the City does not intend to disturb Pilarcitos Creek, a perennial marsh in the northwest corner of the site, or any Environmentally Sensitive Habitat Area (ESHA) avoidance buffers required by the City's Local Coastal Program. The project could also include limited impacts to riparian habitat and the riparian buffer associated with Pilarcitos Creek allowed under the City's Local Coastal Program, notably the creation of paths, trails, or other environmentally related educational uses (J. Doughty, pers. comm.).



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Figure 1. Vicinity Map
880 Stone Pine Road Biological Resources Report (4182-03)
June 2021



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Figure 2. Biological Study Area
880 Stone Pine Road Biological Resources Report (4182-03)
June 2021

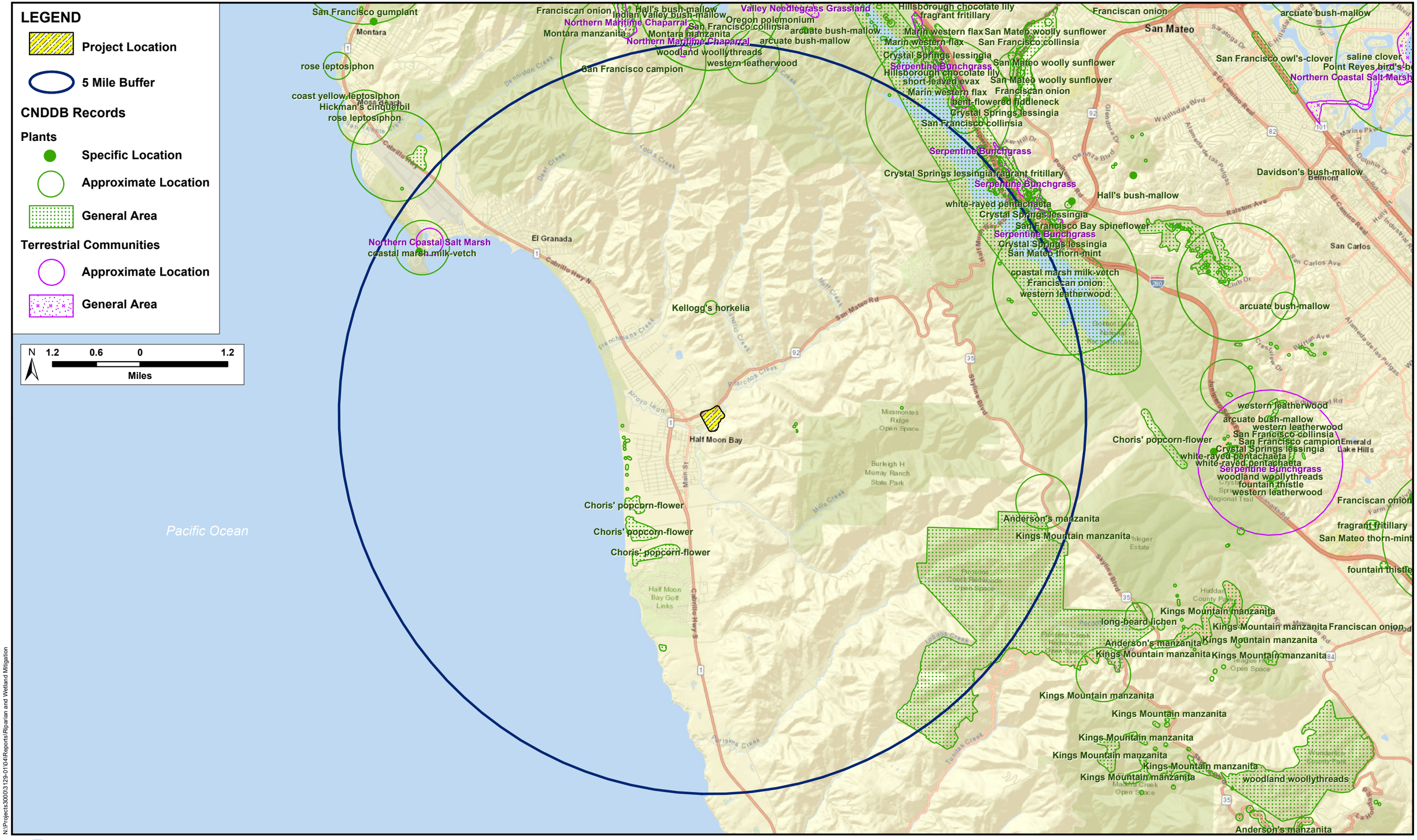
Section 2. Methods

2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed available background information pertaining to the biological resources on and in the vicinity of the BSA. Information was compiled and subsequently compared against site conditions during field surveys. The following sources were consulted:

- California Natural Diversity Database (CNDDB) record search for the *Half Moon Bay, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle (where the BSA occurs) and the surrounding five quadrangles: *Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda* (CNDDB 2021)
- eBird record search for the *Half Moon Bay, California* U.S. Geological Survey (USGS) 7.5-minute quadrangle (where the BSA occurs) and the surrounding five quadrangles: *Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda* (Cornell Lab of Ornithology 2021)
- CNPS Rare Plant Program Inventory of Rare and Endangered Plants of California for the 7-5-minute quadrangles listed above (CNPS 2021) for Ranks 1-4 and for San Mateo County for Rank 4 species, for which records are not always maintained at the quadrangle level
- USFWS Information for Planning and Consultation tool (USFWS 2021a)
- Aerial photographs obtained from Google Earth Pro (Google, Inc. 2021)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey for soil types (NRCS 2021)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory for any existing aquatic features, including wetlands, streams, and sloughs (USFWS 2014)
- The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012)
- Half Moon Bay Riparian and Wetland Mitigation Site, Preliminary Mitigation and Monitoring Plan (H. T. Harvey & Associates and RMC 2010)
- Administrative Draft, Half Moon Bay Community Park and Analysis Report, Biological Section (H. T. Harvey & Associates 2005)

For the purposes of this report, the vicinity of the BSA is defined as the area within a 5-mile (mi) radius of the BSA. A map of CNDDB records of special-status plants and natural communities of concern, and a map of CNDDB records of special-status animals, are included as Figures 3 and 4, respectively. These generalized maps show areas where special-status species are known to occur or have occurred historically.

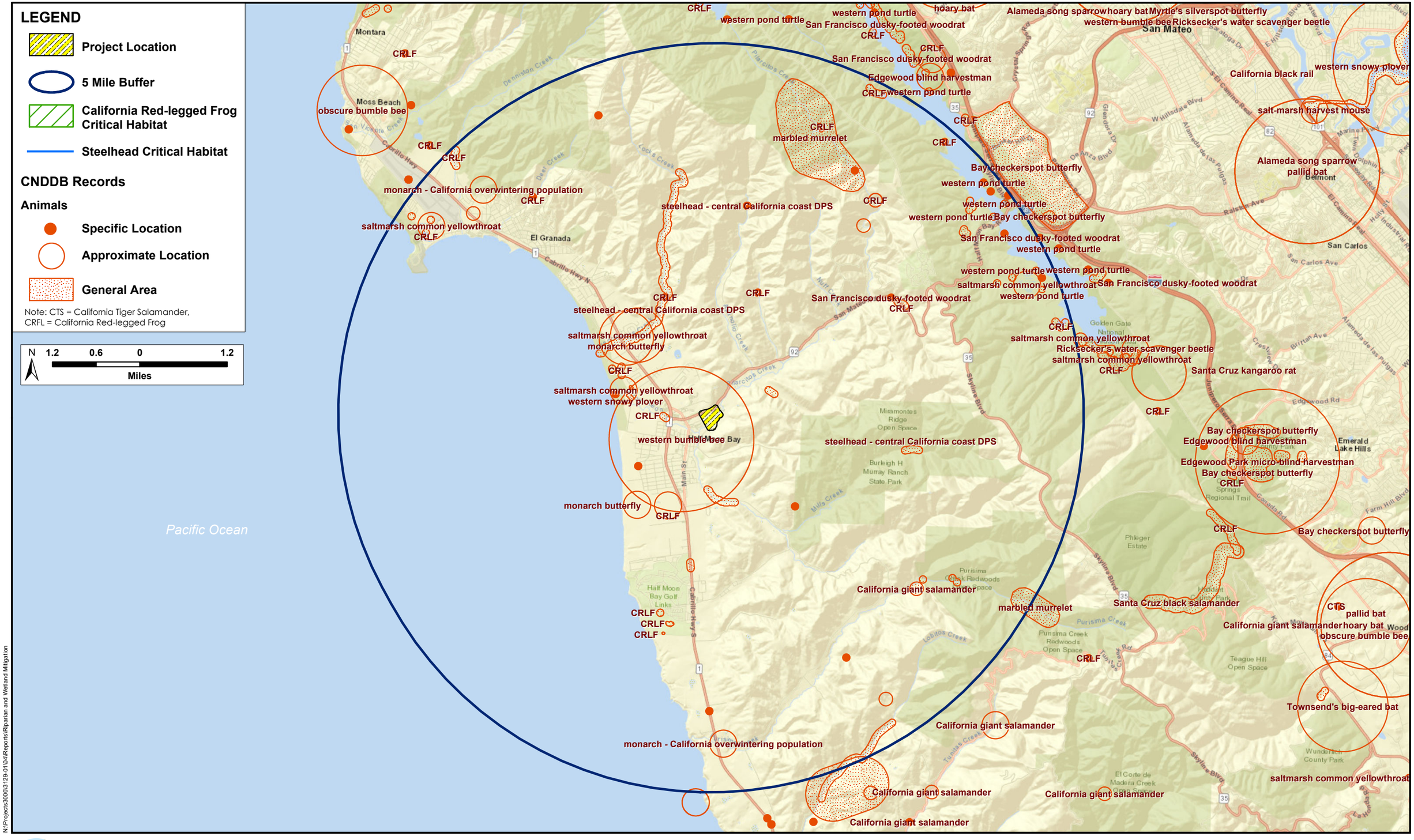


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Figure 3. Special-Status Plant Species CNDDB Records

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Figure 4. Special-Status Animal Species CNDDB Records

880 Stone Pine Road Biological Resources Report (4182-03)
June 2021

Following our site visits, we also reviewed the City's *Local Coastal Land Use Plan 2020 Comprehensive Update* (City of Half Moon Bay 2020) for information on biological resources and City land use policies related to coastal resources.

2.2 Site Visit

A reconnaissance-level field survey of the BSA was conducted by H. T. Harvey & Associates senior wildlife ecologist Jeff Wilkinson, Ph.D., and by H. T. Harvey & Associates plant and wetland ecologist David Gallagher, M.S., on June 8, 2018. The purpose of this survey was to (1) assess existing biotic habitats and plant and animal communities in the BSA, (2) assess the BSA for its potential to support special-status species and their habitats, and (3) preliminarily identify potential jurisdictional habitats within the BSA, such as Waters of the U.S./State.

On June 12, 2020, H. T. Harvey & Associates plant ecologist, Mark Bibbo, M.S., performed a technical delineation of wetlands and other waters in the study area, in accordance with the *Corps of Engineers 1987 Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987). Additionally, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Regional Supplement) (USACE 2010) was followed to document site conditions relative to hydrophytic vegetation, hydric soils, and wetland hydrology. Mr. Bibbo mapped the extent and distribution of wetlands and other waters of the U.S. that may be subject to regulation under Section 404 of the Clean Water Act (CWA) as well as waters of the state that may be subject to regulation under the Porter Cologne Water Quality Control Act, which is administered by the RWQCB. The study area was also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC), as well as aquatic and riparian habitat that may be subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by CDFW.

H. T. Harvey & Associates mapped biotic habitats within the BSA using a combination of field observations, recorded via the Apple iPad geographic information systems (GIS) Kit Pro application and aerial imagery signatures. Habitat types were distinguished using natural community descriptions discussed in Holland (1986) and Sawyer et al. (2009). Plant species within each habitat were identified using Baldwin et al. (2012). Habitat acreages were calculated using GIS and aerial imagery interpretation.

Section 3. Regulatory Setting

Biological resources in the BSA are regulated by a number of federal, state, and local laws and ordinances, as described below.

3.1 Federal

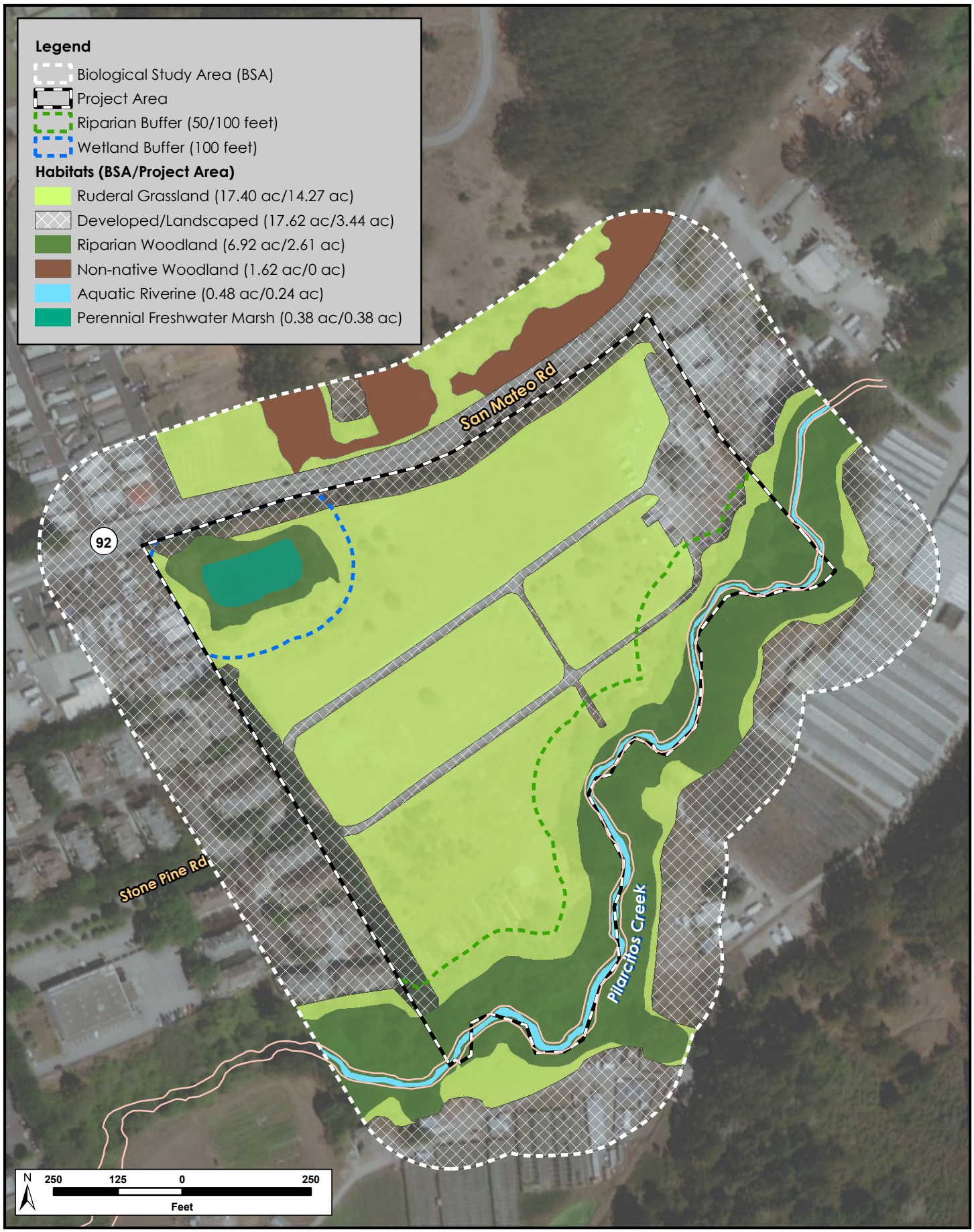
3.1.1 Clean Water Act

As part of its mandate under Section 404 of the CWA, the EPA regulates the discharge of dredged or fill material into "waters of the U.S." Waters of the U.S. include territorial seas, tidal waters, and non-tidal waters in addition to wetlands and drainages that support wetland vegetation, exhibit ponding or scouring, show obvious signs of channeling, or have discernible banks and high-water marks. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3(b)). The discharge of dredged or fill material into waters of the U.S. is prohibited under the CWA except when it follows Section 404 of the CWA. Enforcement authority for Section 404 was given to the USACE, which it accomplishes under its regulatory branch. The EPA has veto authority over the USACE's administration of the Section 404 program and may override a USACE decision with respect to permitting.

The USACE has specific guidelines for determining the extent of its jurisdiction. The methods of delineating USACE jurisdiction are defined in the 1987 Wetlands Delineation Manual (Environmental Laboratory, 1987), and the Arid West Manual (USACE 2008). The methods of delineating USACE jurisdiction are defined in the manuals and require examination of three parameters (soil, hydrology, and vegetation).

Substantial impacts to waters of the U.S. may require an Individual Permit. Projects that only minimally affect waters of the U.S. may meet the conditions of one of the existing Nationwide Permits, if other conditions of the permit are satisfied. A water quality certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Project Applicability: Field surveys in 2018 and 2020 identified two biotic habitats which may be considered waters of the U.S./state and subject to jurisdiction by the USACE. Waters of the U.S./state include perennial aquatic riverine within the bed of Pilarcitos Creek, and a perennial freshwater marsh (Figure 5).



N:\Projects4100\4182-01103\Reports\BRR\Figure 5 Vegetation Communities.mxd

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Figure 5. Habitat Types/Land Uses

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June 2021

There are several dilapidated concrete channels and culverts present within the BSA that were excavated in uplands and were once part of the irrigation infrastructure from previous plant nursery operations. At the time of the site visits, these culverts and channels were vegetated with upland plant species and there was no evidence of inundation or water movement; therefore, these culverts and channels likely to do not convey water and would not be considered Waters of the U.S./state.

It is anticipated that any project proposed within the BSA would not involve impacts to Pilarcitos Creek below the OHWM, and per direction from the City, no impacts to the perennial freshwater marsh are anticipated. Therefore, we do not expect the project to need a USACE Section 404 permit.

3.1.2 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or "take", which is broadly defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as "take" even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: Pilarcitos Creek is designated as critical habitat for the federally threatened Central California Coast steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment (NMFS 2005), and this species has been documented in Pilarcitos Creek (CDFW 2013, Center for Ecosystem Management and Restoration 2008, NMFS 2015). However, this segment of the creek does not support suitable spawning, rearing, or feeding habitat during most of the year due to the lack of channel complexity, appropriately-sized gravel, or connectivity with the adjacent floodplain, as well as high stream temperatures. Furthermore, the majority of habitat in the Pilarcitos Creek watershed is in poor condition (Phillip Williams & Associates 2008). Therefore, steelhead are expected to occur in the reach of Pilarcitos Creek within the BSA very infrequently and in low numbers during migration, if they are present at all. The federally endangered Central California Coast coho salmon (*Oncorhynchus kisutch*) may have historically occurred in Pilarcitos Creek, and the creek is designated habitat for this species (NMFS 1999). However, recent surveys and monitoring have not detected this species in the creek (CDFW 2013, Hager 2011 as cited in NMFS 2015), and this species is not currently known or expected to occur here. Because the project is not expected to impact the creek itself, we do not expect that FESA consultation with NMFS will be necessary for future project activities.

The federally threatened California red-legged frog (*Rana draytonii*) is known to occur in the BSA. California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H.

T. Harvey & Associates and RMC 2010). In addition, adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 mi northwest of the BSA as recently as 2016, and California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mi west of the BSA in 2006 (CNDDB 2021). The federally endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) has been recorded approximately 0.5 mi northwest of the BSA in Pilarcitos Creek and adjacent wetland areas (CNDDB 2021). Suitable dispersal and foraging habitat for these two species occurs within the BSA. Implementation of avoidance and minimization measures will minimize the potential for the project to result in take of these species, though impacts to habitat and the possible need for relocation of individual red-legged frogs from the BSA (to avoid injury or mortality) could potentially constitute take, thus necessitating FESA consultation with the USFWS.

Six federally listed plant species are known to occur in the nine-quadrangle area encompassing the BSA (CNPS 2021, CNDDB 2021): (1) San Mateo thornmint (*Acanthomintha duttonii*), endangered; (2) Crystal Springs fountain thistle (*Cirsium fontinale* var. *fontinale*), endangered; (3) San Mateo woolly sunflower (*Eriophyllum latilobum*), endangered; (4) Marin western flax (*Hesperolinon congestum*), threatened; (5) white-rayed pentachaeta (*Pentachaeta bellidiflora*), endangered; and (6) Hickman's cinquefoil (*Potentilla hickmanii*), endangered. While Hickman's cinquefoil can occur in perennial freshwater marshes, due to a lack of a suitable vegetation associations, the highly restricted range of this species, and it not being observed during surveys by qualified botanists in June 2018 and 2020, it is considered absent from the BSA. There is no suitable habitat for the remaining five species within the BSA, and therefore these five federally listed plant species are also considered absent from the BSA.

3.1.3 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States' 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NMFS.

Project Applicability: The Pacific Fishery Management Council (1999) identified Pilarcitos Creek as providing EFH for the coho salmon. However, as noted above, this species has not been recorded in the Pilarcitos Creek watershed during recent surveys (CDFW 2013, Hager 2011 as cited in NMFS 2015). As a result, this species is not currently known or expected to occur here, though NMFS may consider the creek to represent EFH based on the Pacific Fishery Management Council's description of EFH (1999).

3.1.4 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA

protects whole birds, parts of birds, and bird eggs and nests, and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described in its June 14, 2018 memorandum "Destruction and Relocation of Migratory Bird Nest Contents." Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

Project Applicability: All native bird species that occur in the BSA are protected under the MBTA.

3.2 State

3.2.1 Clean Water Act Section 401/Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the State. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the State as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the State include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not explicitly described as waters of the state but instead as important buffer habitats to streams that conform to the State Wetland Definition. The Procedures for Discharges of Dredged or Fill Material to Waters of the State describe riparian habitat buffers as important resources that may be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs for impacts. The RWQCBs may impose mitigation requirements even if the USACE does not, and it should be noted that the State of California's jurisdiction to regulate its water resources is much broader than that of the federal government. The SWRCB works in coordination with the RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its jurisdiction and has the authority to approve, with or without conditions, or deny projects that could affect waters of the state under CWA Section 401 and Porter-Cologne.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the State require Water Quality Certification

even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project Applicability: Field surveys in 2018 and 2020 identified three biotic habitats which may be considered waters of the state and subject to jurisdiction by the RWQCB. Waters of the state include aquatic riverine, perennial freshwater marsh, and portions of riparian woodland, where riparian trees are rooted below the tops of the banks of Pilarcitos Creek or the perennial freshwater marsh impoundment (Figure 5). Although no impacts to Pilarcitos Creek or the perennial freshwater marsh are anticipated, Waste Discharge Requirements from the RWQCB would be needed if the project were to impact any riparian trees rooted below the tops of the banks of these waterbodies.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in "take" of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. The CDFW, however, has interpreted "take" to include the "killing of a member of a species which is the proximate result of habitat modification."

Project Applicability: As noted previously, the Central California Coast coho salmon, which is state listed as endangered, is not expected to occur in the reach of Pilarcitos Creek within the BSA. The state endangered San Francisco garter snake is present within the vicinity of the BSA, and suitable habitat is present in the BSA. Implementation of avoidance and minimization measures will avoid take of these species as defined by CESA.

The Santa Cruz Mountains subpopulation of mountain lion (*Puma concolor*) – recently accepted by the California Fish and Game Commission as a candidate species, warranted for listing under CESA (California Fish and Game Commission 2020) – is known to occur year-round within the surrounding vicinity of the BSA (Santa Cruz Puma Project 2018). Movement records of multiple mountain lions fitted with GPS-enabled wildlife-tracking collars have shown individual lions moving through the surrounding area of the BSA over the past 10 years (Santa Cruz Puma Project 2018). The BSA does not provide suitable breeding and denning habitat due to the level and frequency of human disturbances that occur within or near the BSA. Thus, individual mountain lions are expected to occur within the BSA very infrequently, if at all, and then only as transients as they move across their extensive home ranges. As a result, no take of this species (as defined by CESA) will result from the project.

There are seven state endangered, threatened, or candidate plant species that occur within the project vicinity with the potential to occur in the BSA. They include San Mateo thorn-mint, Crystal Springs fountain thistle, San Mateo woolly sunflower, white-rayed pentachaeta, Hickman's cinquefoil, Marin western flax, and coast yellow leptosiphon (*Leptosiphon croceus*). One state rare plant species protected under the California Native Plant Protection Act, Dudley's lousewort (*Pedicularis dudleyi*), is known to occur in the project region. Of these eight state listed or state rare plants, no species are anticipated to occur within the BSA. As mentioned above, suitable serpentine and or coastal scrub and prairie habitats are not present for the six species that are also federally listed. Coast yellow leptosiphon is found only on coastal bluffs, which are not present in the BSA, and Dudley's lousewort is found in redwood forest and chaparral habitats that are absent from the BSA, while the grasslands on site are too disturbed to be able to support the species. Additionally, no individuals of any state listed or rare species were observed during the field surveys conducted by qualified botanists in June 2018 and 2020. Therefore, state-listed or state-rare plants are considered absent and will not be impacted by the project.

3.2.3 California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA are known as the State CEQA Guidelines.

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in FESA and CESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists". Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the Inventory of Rare and Endangered Plants (CNPS 2017). The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of "special concern" are tracked in Rarefind (CNDDB 2021). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as a G1–G3, all the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations (CDFG 2010a).

Project Applicability: All potential impacts on biological resources will likely be considered during CEQA review of any proposed project. This Biological Resources Report assesses these impacts to facilitate project planning and CEQA review of a project by the City. Project impacts are discussed in Section 6 below.

3.2.4 California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of

Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, the CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of the CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, the CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, the CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds." California Fish and Game Code Section 1602 requires an entity to notify the CDFW of any proposed activity that may modify a river, stream, or lake. If the CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Specific sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Raptors (i.e., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied nonbreeding bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered "take" by the CDFW.

Project Applicability: Field surveys in 2018 and 2020 identified two biotic habitats which may be subject to CDFW jurisdiction under Sections 1600-1603 of the California Fish and Game Code. The habitats include the aquatic riverine habitat within the bed of Pilarcitos Creek, and riparian woodland adjacent to Pilarcitos Creek (Figure 5). Most native bird, mammal, and other wildlife species that occur in the BSA and in the immediate vicinity are protected by the California Fish and Game Code.

3.2.5 State Requirements to Control Construction-Phase and Post-construction Water Quality Impacts

3.2.5.1 Construction Phase

Projects in California must comply with state requirements to control the discharge of storm water pollutants under the National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (SWRCB Order No. 2014-0077-DWQ, as amended) and the Statewide Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as amended). Prior to the start of construction/demolition, a Notice of Intent must be filed with the SWRCB describing the project. A Storm Water Management Plan (SWMP) must be developed and maintained during the project and must include the use of best management practices (BMPs) to protect water quality until the site is stabilized.

Standard permit conditions under these permits require that the applicant utilize various measures, including on-site sediment control BMPs, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks. Additionally, both the Construction General Permit and Statewide Storm Water Permit do not extend coverage to projects if stormwater discharge-related activities are likely to jeopardize the continued existence, or result in take of any federally listed endangered or threatened species.

Project Applicability: The project will comply with the NPDES Statewide Storm Water Permit and Statewide Construction Permit; thus, construction-phase activities would not result in detrimental water quality effects on biological/regulated resources.

3.2.5.2 Post-construction Phase

In many Bay Area counties, including San Mateo County, projects must also comply with the San Francisco Bay RWQCB's Municipal Regional Stormwater NPDES Permit (Water Board Order No. R2-2009-0074, as amended). These policies, which are in line with the Statewide Storm Water Permit measures, require that all projects implement BMPs and incorporate Low Impact Development practices into project design that will prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site. In order to meet these permit and policy requirements, projects must incorporate features such as increased pervious surfaces, installing tree planters, grassy swales, and bioretention or detention basins.

Project Applicability: The project will comply with the Municipal Regional Stormwater NPDES Permit and the NPDES Statewide Storm Water Permit requirements. Therefore, post-construction activities would not result in detrimental water quality effects on biological/regulated resources.

3.2.6 California Coastal Act

The California Coastal Act of 1976, administered by the California Coastal Commission, was created to provide long-term protection of California's 1,100-mile coastline for the benefit of future generations. Integral to the Coastal Act are its policies which provide for protection and expansion of public access to the shoreline and recreational opportunities and resources; protection, enhancement and restoration of environmentally sensitive habitats, including intertidal and nearshore waters, wetlands, bays, estuaries, riparian habitat, certain woodlands and grasslands, streams, lakes and habitat for rare or endangered plants or animals; protection of productive agricultural lands, commercial fisheries and archaeological resources; protection of the scenic beauty of coastal landscapes and seascapes; practical establishment of urban-rural boundaries and directing new housing and other development into areas with adequate services to avoid wasteful urban sprawl and leapfrog development; environmentally sound expansion of existing industrial ports and electricity-generating power plants, as well as for the siting of coastal dependent industrial uses; and protection against loss of life and property from coastal hazards.

The following are definitions given for specific ecological features that fall within the purview of the California Coastal Act: §30121 defines a wetland as: lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens; Commission Regulation §13577(b) elaborates: wetlands are lands where the water table is at near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuation of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats…; §30107.5 defines an Environmentally Sensitive Habitat Area as 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.

Under the Coastal Act, local governments that lie in whole or in part within the Coastal Zone are required to prepare Local Coastal Programs (LCPs; Cal. Pub. Res. Code §30500). LCPs identify the location, type, densities, and other ground rules for future development in the coastal zone. Each LCP includes a land-use plan and its implementing measures. The Coastal Commission helps shape each LCP and then formally reviews them for consistency with Coastal Act standards. Once finalized, coastal permitting authority is transferred to the local government, with the exception of proposed development on the immediate shoreline, which stays with the Commission. In developing an LCP, a local government may choose to recognize specific botanical or wildlife resources as locally rare and that therefore garner protection.

Project Applicability: The entire BSA is within the Coastal Zone and subject to the City of Half Moon Bay Local Coastal Program. Projects approved by the City of Half Moon Bay under its LCP within Coastal Commission Appeals Jurisdiction are appealable to the Coastal Commission. The site is within the CCC Appeals Jurisdiction. See below for more details.

3.3 Local

3.3.1 City of Half Moon Bay Local Coastal Program Land Use Plan

Under the California Coastal Act, the California Coastal Commission (CCC) regulates development in the coastal zone, including land and water use. Any activities within the coastal zone that affect aquatic resources, including wetlands, require a coastal development permit from either the CCC or a certified Local Coastal Program (LCP; Division 20 of the Public Resources Code). The CCC is responsible for protecting coastal resources and assessing potential impacts on wetlands and other waters subject to regulation under the California Coastal Act (Sections 30330-30344). The BSA is within the jurisdiction of Half Moon Bay's LCP. The City recently updated its LCP (City of Half Moon Bay 2020); it was adopted by the City Council in October 2020 and certified by the CCC in April 2021. Projects approved by the city of Half Moon Bay under its LCP within the Coastal Commission Appeals Jurisdiction are appealable to the Coastal Commission. The site is within the CCC Appeals Jurisdiction.

City of Half Moon Bay Environmentally Sensitive Habitat Areas (ESHAs). The City of Half Moon Bay LCP Land Use Plan (2020) includes provisions for protection of Environmentally Sensitive Habitat Areas (ESHAs). More specifically, The Half Moon Bay LCP prohibits any land use or development that would have significant adverse impact on sensitive habitat areas. Development in areas adjacent to sensitive habitats shall be sited and designated to prevent impacts that could significantly degrade the sensitive habitats. Section 18.38 of the Half Moon Bay Municipal Code (City of Half Moon Bay 2021) defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable and any area that meets one of the following criteria:

- Habitats containing or supporting rare and endangered species as defined by the State Fish and Game Commission.
- All perennial and intermittent streams and their tributaries.
- Riparian areas.
- Wetlands, coastal tidelands and marshes, lakes and ponds and adjacent shore habitats.
- 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, including sea cliff faces.
- Areas used for scientific study and research concerning fish and wildlife, and existing game or wildlife refuges and reserves.

- Sand dunes.
- Marine habitats, including rocky intertidal zones.
- Sea cliffs.

Wetlands are broadly defined in Section 30121 of the California Coastal Act: "Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens."

The Coastal Commission provides further specificity in their wetlands definitions to guide the process of wetland delineation. The CCC's regulations (California Code of Regulations Title 14 (14 CCR)) establish a one parameter definition that only requires evidence of a single parameter (hydrology, hydric soils, or hydophytic vegetation) to establish wetland conditions:

"Wetlands shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats."

In contrast to the single-parameter definition that requires evidence of only one of three wetland indicators (hydrophytic vegetation, hydric soils, or saturated substrate), the USACE uses a three parameter definition that requires evidence of all three wetland indicators in order to classify an area as wetland. As a result, more areas qualify as wetlands under the Coastal Act than under the federal Clean Water Act. The LCP is consistent with the Coastal Act, and therefore uses the single-parameter definition.

The City of Half Moon Bay LCP defines "Riparian Area and Corridor" as an association of primarily native riparian plant and animal species within or adjacent to a watercourse. The boundary of a riparian corridor is defined by the limit of riparian vegetation or top of bank, or other confining topography, whichever is greater. The limit of riparian vegetation is determined by the drip line of canopy trees or the limit of riparian shrubs or herbaceous vegetation. This vegetation is generally interconnected by surface or subsurface flow within the watercourse. Within these boundaries, the intent of the LCP is to protect the ecosystem and any wildlife species it supports as whole, including the understory and emergent vegetation, the soil microbiology, and the water itself.

The LCP includes many measures to protect riparian habitat in Chapter 6, and defines a buffer of 50 feet outward from the limit of riparian vegetation along perennial streams or 100 feet from top of bank, whichever is greater (6-17 (a)) (Figure 5).

Project Applicability: The BSA is within the jurisdiction of the Half Moon Bay LCP and within the Coastal Zone. In accordance with the Coastal Act, many different types of projects including subdivisions, road extensions, grading, design review, and conditional use permits may require a Coastal Development Permit (CDP) to ensure that development within the Coastal Zone is consistent with all Local Coastal Program policies and the public access and public recreation policies of the Coastal Act. Field surveys in 2018 and 2020 identified four potential ESHAs which may be subject to jurisdiction under the Half Moon Bay LCP. These potential ESHAs include a perennial aquatic riverine habitat in the bed of Pilarcitos Creek, a perennial freshwater marsh, riparian woodland associated with Pilarcitos Creek, and riparian woodland (based on species composition, not due to being adjacent to a stream) adjacent to the perennial freshwater marsh impoundment.

3.3.2 Half Moon Bay Protected Trees

The City of Half Moon Municipal Code contains regulations protecting heritage trees. According to Chapter 7.40 a "heritage tree" means:

- A tree located on public or private property, exclusive of eucalyptus, with a trunk diameter of twelve inches or more, or a circumference of at least thirty-eight inches measured at forty-eight inches above ground level.
- A tree or stand of trees so designated by resolution of the city council based on its finding of special historical, environmental or aesthetic value, including a resolution adopted under former Chapter 12.16 of the City of Half Moon Bay Zoning Code.
- A tree located within the public right-of-way along the entire length of Main Street or along Kelly Avenue between San Benito Street and Highway 1. (Ord. C-2013-02 §1, 2013: Ord. C-2-12 §5, 2012: Ord. C-10-11 §1(part), 2011)

The removal of one or more heritage trees or major pruning as described in Section 7.40.040 requires a permit pursuant to procedures established by the city manager and requires the payment of a fee established by the city council. Additionally, the removal of a heritage tree pursuant to a permit issued under this chapter shall be replaced on a one-for-one basis with a minimum size twenty-four-inch-box specimen tree of a species and in a location approved by the city manager or his or her designee (Ord. C-10-11 §1(part), 2011).

Project Applicability: The BSA potentially includes heritage trees. Species include planted Monterey cypress (*Hesperocyparis macrocarpa*) and planted Monterey pine (*Pinus radiata*), mainly along the western edge of the BSA. Over 100 trees are present on the site; determining the heritage status of individual trees based on trunk size was not within the scope of this report. During detailed design of the project, removal of trees protected by the City heritage tree ordinance will be avoided and minimized to the extent feasible. Where removal of trees cannot be avoided, the project proponent will comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

Section 4. Environmental Setting

4.1 General Biological Study Area Description

The approximately 21-acre (ac) project site is the site of a former plant nursery. A man-made impoundment is located in the northwest corner of the site. Additionally, there is infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete-lined ditches, and irrigation pumps and pipes. During the June 2018 site visit, a large portion of the grassland had been recently mowed. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth. The BSA is bounded on the west by high-density development associated with the City of Half Moon Bay; on the north by SR 92, a heavily used road between Half Moon Bay and Interstate 280; on the east, between SR 92 and Pilarcitos Creek, and on both sides of Pilarcitos Creek, by various small agricultural parcels with associated infrastructure and development; and on the south by agricultural parcels along Pilarcitos Creek that opens to rural land, with the Miramontes Ridge Open Space Reserve to the southeast.

The climate at the BSA is coastal Mediterranean, with most rain falling in the winter and spring. Fog and cool temperatures are common in the summer. The mean annual precipitation for the Half Moon Bay area is 28.98 inches with the majority of the rainfall occurring between the months of November and April. (WorldClimate.com 2021). Elevations within the BSA range from approximately 60 ft) to 110 ft above sea level (WGS84) (Google, Inc. 2021).

4.2 Hydrology

Pilarcitos Creek, a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean, meanders through the southern edge of the BSA. The creek drains approximately 30 square miles and has numerous tributaries. The BSA is approximately 1.7 mi upstream from the mouth of the creek.

A manmade impoundment approximately 200 ft by 110 ft is located in the northwest corner of the BSA. The impoundment is a raised earthen embankment design and sits at an elevation of 114 ft (WGS84). Water was previously pumped into this impoundment from Pilarcitos Creek to be used by the nursery for its operations (H. T. Harvey & Associates and RMC 2010). The pump appears to be currently inactive. However, the impoundment continues to hold water and extensive emergent vegetation and is classified as perennial freshwater marsh habitat.

4.3 Soils

Based on a review of available soil survey maps for the area including those by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the BSA is generally comprised of coarse sandy loam soils adjacent to Pilarcitos Creek, such as the Farallone soil series, and grade to finer textured clay loams, such as the Tierra soil series, upslope to SR 92 (NRCS 2021a). Soils across the BSA are generally greater than 60 inches in depth with the exception of areas in the northeastern portion of the site containing Gazos (GoF3 and Gv) soils, which are less than 30 inches to a root-restrictive layer. The Farallone loam, nearly level, Gullied land, Gullied land (Gazos-Lobitos soil material), and Tierra clay loam, moderately steep, eroded soil series (totaling 12.3 acres) are listed as hydric in San Mateo County on the National Hydric Soils List (NRCS 2021b). There are eight major soil series within the BSA and are summarized in Table 1 below:

Table 1. Soils within the Project Site

Soil Series	Acreage	Hydric
Farallone loam, nearly level (FaA)	8.8	Yes
Tierra loam, steep, severely eroded (TeE3)	3.1	No
Farallone coarse sandy loam, moderately steep, eroded (FcD2)	4.5	No
Gazos and Lobitos soils, steep and very steep, severely eroded(GoF3)	1.3	No
Gullied land (alluvial soil material; Gu)	1.7	Yes
Tierra loam, sloping, eroded (TeC2)	1.1	Yes
Gullied land (Gazos-Lobitos soil material; Gv)	0.7	Yes
Tierra clay loam, moderately steep, eroded (TcD2)	0.1	No

4.4 Biotic Habitats

Reconnaissance-level surveys identified six habitat types/land uses in the BSA/project site (Figure 5): ruderal grassland, developed/landscaped, riparian woodland, perennial freshwater marsh, aquatic riverine, and non-native woodland. These habitat types are depicted in Figure 5, and the acreages of each habitat type within the larger BSA and in the project boundaries are provided in Table 2. These habitats are described in detail below, and plant species observed during the reconnaissance survey are listed in Appendix A.

Table 2. Habitat Types/Land Uses in the Biological Study Area and Project Site

Habitat Type	BSA	Project Site
Ruderal Grassland	17.40	14.27
Developed/Landscaped	17.62	3.44
Riparian Woodland	6.92	2.61
Non-native Woodland	1.62	0.00
Aquatic Riverine	0.48	0.24
Perennial Freshwater Marsh	0.38	0.38

Total	44.42	20.94

4.4.1 California Annual Grassland



Photo 1. Ruderal grassland occurs in most of the BSA.

Vegetation. Ruderal (i.e., disturbed) annual grassland habitat occupies most of the BSA (Photo 1). At the time of the reconnaissance survey, this habitat was dominated by non-native grasses and forbs such as wild oat (*Avena* sp.), Italian rye grass (*Festuca perennis*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), bristly ox-tongue (*Helminthotheca echioides*) and Chile tarweed (*Madia sativa*). Of these, Italian rye-grass and bristly ox-tongue are technically scored as facultative hydrophytes (Lichvar et al. 2016), or plants that sometimes occur in wetlands and sometimes occur in uplands, and both can potentially indicate moist conditions. However, Italian rye-grass often dominates upland areas as well, especially along the coast where frequent fog occurs, without indicating wetlands, and bristly ox-tongue is an invasive weed that can simply indicate disturbance and infestation. Additionally, there were scattered small patches of other facultative hydrophytic vegetation, including curly dock (*Rumex crispus*), poison hemlock (*Conium maculatum*), and bird's foot trefoil (*Lotus corniculatus*), all occurring in upland habitat positions and intermixed with upland grassland species. Similarly, scattered arroyo willow (*Salix lasiolepis*) and red alder (*Alnus rubra*) occur in the grassland in upland areas, and likely were able to establish due to irrigation, as no indicators of hydric soils or wetland hydrology occur in these areas. Many of the non-native species present on site are ranked as moderately invasive by the California Invasive Plant Council (Cal-IPC 2021). For example, Italian thistle has substantial and apparent, but not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2021).

Wildlife. Wildlife use of California annual grasslands in the BSA is limited by frequent human disturbance, an abundance of non-native and invasive species, and isolation of the grassland habitat remnants from more extensive grasslands. As a result, wildlife species associated with more extensive grasslands, such as the grasshopper sparrow (*Ammodramus savannarum*) and western meadowlark (*Sturnella neglecta*), are absent from the small patches of grassland in the BSA. Most of the bird species using this habitat during the breeding season most likely nest in nearby landscaped, freshwater marsh, or riparian areas, using the California annual grassland only for foraging. Such species include the mourning dove (*Zenaida macroura*), lesser goldfinch (*Spinus psaltria*), dark-eyed junco (*Junco hyemalis*), American crow (*Corvus brachyrhynchos*), and Brewer's blackbird (*Euphagus cyanocephalus*). Similarly, a few species nesting on nearby buildings, such as the barn swallow (*Hirundo rustica*), rock pigeon (*Columba livia*), black phoebe (*Sayornis nigricans*), and European starling (*Sturnus vulgaris*), also forage on or over the California annual grassland habitat. Several other species of birds use the California annual grassland during the nonbreeding season. These species, which include the golden-crowned sparrow (*Zonotrichia*

atricapilla), savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys*), forage on the ground or in herbaceous vegetation, primarily for seeds.

Few species of reptiles and amphibians occur in the California annual grassland in the BSA due to its disturbed nature and low habitat heterogeneity. Nevertheless, reptiles such as the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*) occur in this habitat type, and amphibians such as the Pacific chorus frog (*Hyliola regilla*) and western toad (*Anaxyrus boreas*), which might breed in the perennial freshwater marsh in the BSA, might also forage here. Small mammals expected to be present include the native western harvest mouse (*Reithrodontomys megalotis*) and nonnative house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*). Small burrowing mammals, such as the Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*), are likely present, and larger mammals, such as the striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and black-tailed jackrabbit (*Lepus californicus*) are also likely to occur here.

4.4.2 Developed/Landscaped

Vegetation. Developed/landscaped habitat includes areas where permanent structures and/or pavement have been placed along with planted landscaping. Such landscaping includes native Monterey pine and Monterey cypress trees. However, these trees have been installed as part of a landscape plan and do not naturally occur on site. The developed/landscaped habitat type occurs along the northeastern edge of the BSA and consists of several buildings, Conex storage containers, and dirt parking areas. The buildings are in active use by the City of Half Moon Bay (Photo 2). Additionally, there are several unused dilapidated structures, including unused concrete channels and culverts present within the grassland and adjacent to the riparian habitat. The landscaping occurs along the west, east, and north perimeters of the BSA and is dominated by up to 200 planted Monterey cypress and Monterey pine trees.



Photo 2. Developed/landscaped habitat in the northeast corner of the BSA.

Wildlife. The wildlife most often associated with developed/landscaped areas are those that are tolerant of periodic human disturbances, including introduced species such as the European starling, rock pigeon, house mouse, Norway rat, and black rat. Numerous common, native species are also able to utilize these habitats, especially the landscaped areas, including the western fence lizard, striped skunk, and a variety of birds, such as the American crow, Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), bushtit (*Psaltriparus minimus*), and California scrub-jay (*Aphelocoma californica*). In addition, unused dilapidated structures present within the grassland and adjacent to the riparian habitat, may be attractive to other nesting and/or roosting bird species in the area, such as the black phoebe. Further, the several Monterey cypress and Monterey pine trees

along the around the west, east, and north perimeters of the BSA may provide suitable nesting habitat for raptors, such as red-tailed hawks (*Buteo jamaicensis*). An examination of trees and structures in the BSA did not detect any large cavities that might provide suitable bat roosting habitat. Therefore, large roosting or maternity colonies of bats are not expected to occur in the BSA.

4.4.3 Riparian Woodland

Vegetation. Riparian woodland habitat is found along Pilarcitos Creek and around the perennial freshwater marsh. Trees observed in the riparian woodland habitat along Pilarcitos Creek include arroyo willow, red willow (*Salix laevigata*), red alder, and blue gum (*Euclayptus globulus*). The understory is an impenetrable thicket of Himalayan blackberry (*Rubus armeniacus*), cape ivy (*Delairea odorata*), poison hemlock, common horsetail (*Equisetum arvense*), French broom (*Genista monspessulana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), bristly ox-tongue, pampass grass (*Cortaderia jubata*), and Italian rye grass (Photo 3).



Photo 3. Riparian habitat along Pilarcitos Creek (in the background), which runs along the entire southern edge of the BSA.

The dominant tree in the riparian woodland surrounding the perennial freshwater marsh is arroyo willow (*Salix lasiolepis*). While this area is not adjacent to a flowing watercourse or associated with a bed and banks drainage, the species composition is similar to nearby riparian woodland along Pilarcitos Creek and most resembles a riparian woodland habitat as described in the City's LCP (2020). Species observed in the understory include poison hemlock, Italian rye grass, Himalayan blackberry, pampass grass, Italian thistle, and common velvetgrass (*Holcus lanatus*).

Many of these non-native forb species are ranked as highly or moderately invasive by the California Invasive Plant Council (Cal-IPC 2021). For example, cape ivy, pampas grass, French broom, and Himalayan blackberry are classified as highly invasive and have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Species such as poison hemlock, Italian thistle, and common velvetgrass are classifies as moderately invasive and have substantial and apparent, but not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure (Cal-IPC 2021).

Wildlife. The riparian woodland provides suitable nesting habitat for a variety of common, resident bird species such as the California scrub-jay, American robin (*Turdus migratorius*), American crow, lesser goldfinch, and bushtit. Numerous species of migratory birds also use this riparian woodland. These include species such as

the black-headed grosbeak (*Pheucticus melanocephalus*), Wilson's warbler (*Cardellina pusilla*), and Swainson's thrush (*Catharus ustulatus*) that breed in this habitat but migrate south for winter, and the ruby-crowned kinglet (*Regulus calendula*), Townsend's warbler (*Setophaga townsendi*), and hermit thrush (*Catharus guttatus*) that occur here only in winter. The red-shouldered hawk (*Buteo lineatus*) and Cooper's hawk (*Accipiter cooperii*) may use larger trees along the riparian woodland corridors for nesting. However, no old raptor nests were detected within the riparian woodland habitat during the reconnaissance survey.

Arboreal salamanders (*Aneides lugubris*), western fence lizards, and western skinks (*Eumeces skiltonianus*) are expected to occur in riparian habitat in the BSA. Additional wildlife species that are common within riparian woodland areas in urban settings include the striped skunk and raccoon, and the non-native Virginia opossum and eastern gray squirrel (*Sciurus carolinensis*), all of which may use the trees for roosting, foraging, and nesting opportunities. Individual bats may be attracted to riparian areas to roost in trees. However, examination of the trees along the banks of Pilarcitos Creek and in the BSA did not detect any large cavities that might provide suitable habitat for a large roosting or maternity colony of bats.

4.4.4 Perennial Freshwater Marsh

Vegetation. The perennial freshwater marsh occurs within an impoundment in the northwest corner of the BSA. The impoundment was constructed between 1987 and 1991 (Google Inc. 2021; NETR 2021), used for irrigation purposes, and was filled by an on-site water pump (Photo 4). At the time of the site visit, the water pump appeared non-functional and is not likely used to currently pump water into the marsh. Thus, the hydrology that feeds the marsh is likely a combination of a groundwater table and surface runoff. The marsh was ponded during the site visits at a depth of approximately 2 ft, and was dominated by common cattail (*Typha latifolia*). Based on the berms enclosing the impoundment, maximum ponding depth is approximately 4 ft, though without water being pumped into the basin it is likely that it does not pond at that depth currently. Other species observed include duckweed (*Lemna* sp.), rabbitsfoot grass (*Polypogon monspeliensis*), and tall flatsedge (*Cyperus eragrostis*). The marsh is surrounded by riparian woodland (see Section 4.4.3 above), and is fenced off from the rest of the parcel.



Photo 4. Dense cattail-dominated perennial freshwater marsh in the west side of the BSA. Riparian habitat surrounds the marsh.

Wildlife. Normally, the presence of a perennial freshwater marsh on a site would provide habitat for a diverse suite of wetland-associated wildlife species. However, the relatively small size, scarcity of open water, and dynamic ponding depth of the perennial freshwater marsh in the BSA preclude many wetland and aquatic

wildlife species from using these features. Waterbirds such as ducks, gulls, and terns are not expected to occur in this freshwater perennial marsh. Similarly, passerine birds associated with more extensive wetlands, such as the marsh wren (*Cistothorus palustris*), are not expected to nest here, although the San Francisco common yellowthroat (*Geothlypis trichas sinuosa*) could nest in this marsh. Amphibians such as the Pacific chorus frog, western toad, and the federally threatened California red-legged frog may breed here, and the federally and state endangered San Francisco garter snake may forage here. Terrestrial species that occur in adjacent habitats, such as house finches (*Haemorhous mexicanus*), bushtits, yellow-rumped warblers (*Setophaga coronata*), black phoebes, and sparrows, will forage occasionally in the freshwater wetland vegetation.

4.4.5 Aquatic Riverine

Vegetation. Within the BSA, Pilarcitos Creek is a perennial freshwater stream with a connection to groundwater. It flows overland through the southern portion of the BSA (Photo 5). It originates approximately 12 mi northeast of the BSA on the eastern flanks of Montara Mountain in the Santa Cruz Mountains, then flows south through Pilarcitos Canyon before turning westward to enter the BSA. The creek exits the BSA near the southwestern boundary and discharges into the Pacific Ocean approximately 1.7 mi downstream of the BSA. Within the BSA, Pilarcitos Creek flows through dense riparian woodland and provides unvegetated aquatic habitat. Pilarcitos Creek has been identified as a USGS blue-line stream course as well as a USFWS palustrine resource, and as of June of 2018 and 2019, was flowing up to 10 inches (in) deep within a 6-ft wide channel.



Photo 5. Pilarcitos Creek, which runs through the BSA along the southern boundary.

Wildlife. The aquatic habitat within Pilarcitos Creek supports native fish species such as the California roach (*Hesperoleucus symmetricus*), hardhead (*Mylopharodon conocephalus*), and threespine stickleback (*Gasterosteus aculeatus*). In addition, the federally threatened Central California Coast steelhead and California red-legged frog, and federally and state endangered San Francisco garter snake have been documented within Pilarcitos Creek (CDFW 2013, CNDDB 2021). Pacific chorus frogs, California newts (*Taricha torosa*), western pond turtles (*Actinemys marmorata*), non-native bullfrogs (*Lithobates catesbeianus*) and crayfish (*Pacifastacus leniusculus*) may be present in the creek, and birds such as the green heron (*Butorides virescens*), and belted kingfisher (*Ceryle alcyon*) likely forage in the creek. Bats forage aerially on insects over Pilarcitos Creek. During the reconnaissance survey, two unidentified species of bat were observed foraging amongst the trees along the edge of the channel, just upstream from the BSA.

Section 5. Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as "threatened, rare, or endangered"; such species are typically described as "special-status species". For the purpose of the environmental review of the project, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in Section 3.0 above.

For purposes of this analysis, "special-status" plants are considered plant species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as CRPR 1A, 1B, 2, 3, or 4.

For purposes of this analysis, "special-status" animals are considered animal species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Information concerning threatened, endangered, and other special-status species that potentially occur in the BSA was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described in Section 2.1 above. Figure 3 depicts CNDDB records of special-status plant species in the general vicinity of the BSA and Figure 4 depicts CNDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.

5.1 Special-Status Plant Species

A list of 73 special-status plant species thought to have some potential for occurrence within the BSA was compiled using the CNPS rare plant inventory (CNPS 2021) and CNDDB records (CNDDB 2021). Analysis of the documented habitat requirements and occurrence records of these plants, and our plant ecologist's knowledge of sensitive species considered, allowed us to reject 72 of the 73 species as not having a reasonable potential to occur within the BSA for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the species is presumed

extirpated or is not expected to occur in the Project vicinity due to range; and/or (4) the site is too disturbed to be expected to support the species. As the BSA is largely composed of historically manipulated agricultural land, as well as areas with little habitat value (developed land cover), the BSA does not have the capacity to support most special-status plants. Additionally, large sections of the BSA appear to be covered with wood chips as well as regularly mowed. The CNDDB shows records for the CNPS-ranked species coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*), Kellogg's horkelia *(Horkelia uneate* subsp. *sericea*), Choris's popcorn-flower (*Plagiobothrys chorisianus var. chorisianus*), Kings Mountain manzanita (*Arctostaphylos regismontana*), Anderson's manzanita (*Arctostaphylos andersonii*), Franciscan onion (*Allium peninsulare* var. *franciscanum*), western leatherwood (*Dirca occidentalis*), and Crystal Springs lessingia (*Lessingia arachnoidea*) occurring within 5 miles of the BSA. However, no suitable salt marsh habitat (coastal marsh milk-vetch), coastal prairie habitat (Choris's popcorn-flower), scrub or chaparral habitat or sandy soils (manzanita species and Kellogg's horkelia), or serpentine soils (Franciscan onion, Crystal Springs lessingia) occur within the BSA, and the site is too disturbed to support western leatherwood, which was also not observed on site during reconnaissance surveys. Therefore, despite nearby records, all of these species are considered absent from the BSA.

Appendix B lists these plants along with the basis for the determination of absence. Suitable habitat and edaphic requirements were determined to be present in the BSA for one plant species, Harlequin lotus (*Hosackia gracilis*), which is discussed in detail below.

Harlequin lotus, CNPS List: 4.2. Harlequin lotus is a perennial rhizomatous herb in the legume (Fabaceae) family that occurs in wetlands, wet roadside ditches, and mesic areas in many plant communities (CNPS 2021); therefore, this species could occur within the perennial freshwater marsh and surrounding riparian woodland, the riparian woodland along Pilarcitos Creek, the ephemeral ditch, and possibly mesic areas within the California annual grassland. However, it was not observed during the field-level reconnaissance survey conducted in June 2018 at the height of its bloom period. It has a CRPR of 4.2 (i.e., watch list for plants of limited distribution or are infrequent throughout a broader area in California; moderately threatened in California). It is known mainly from coastal areas as far north as Del Norte County and as far south as San Luis Obispo County. It is threatened by development, grazing, feral pigs, habitat alteration, and competition. This species is thought to be a larval food plant of the federally endangered lotis blue butterfly (*Lycaeides argyrognomon* ssp. *lotis*). Within San Mateo County, recent recorded occurrences are from coastal prairie and coastal scrub habitats within Año Nuevo State Park as well as McNee Ranch State Park., near Montara. The blooming period for this species extends from March through July. Although this species was not observed during its blooming period during reconnaissance surveys, the dense riparian woodland provides at least marginally suitable habitat on the lower banks. A focused survey would be necessary to definitively confirm presence of absence, though such a survey is necessary only if an LCP-compatible use is proposed within the riparian corridor.

5.2 Special-Status Animal Species

The legal status and likelihood of occurrence in the BSA of special-status animal species known to occur, or potentially occurring, in the region of the BSA are presented in Appendix C. Most of the special-status species

listed in Appendix C are not expected to occur in the BSA because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. Animal species not expected to occur in the BSA for these reasons include the Bay checkerspot butterfly (*Euphydryas editha bayensis*), mission blue butterfly (*Plebejus icarioides missionensis*), Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), San Bruno elfin butterfly (*Callophrys mossii bayensis*), Crotch bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), Delta smelt (*Hypmesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), tidewater goby (*Eucyclogobius newberryi*), California giant salamander (*Dicamptodon ensatus*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylii*), Santa Cruz black salamander (*Aneides niger*), American badger (*Taxidea taxus*), salt marsh harvest mouse (*Reithrodontomys raviventris*), Alameda song sparrow (*Melospiza melodia pusillula*), bank swallow (*Riparia riparia*), burrowing owl (*Athene cunicularia*), and marbled murrelet (*Brachyramphus marmoratus*).

Six special-status animal species have the potential to occur in the BSA only as visitors, migrants, or transients, but are not expected to reside or breed, or occur in large numbers, or otherwise make substantial use of the BSA. These species include the monarch butterfly (*Danaus plexippus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), American peregrine falcon (*Falco peregrinus anatum*), northern harrier (*Circus cyaneus*), and mountain lion.

Expanded descriptions are provided below for seven species that could potentially breed in the BSA or for which additional information is necessary due to the species' frequency or regularity of occurrence in the BSA.

5.2.1 Federal and State Endangered and Threatened Species

Central California Coast Steelhead (*Oncorhynchus mykiss irideus*). Federal Listing Status: Threatened; State Listing Status: None. The Central California Coast (CCC) steelhead DPS was listed as a threatened species on August 18, 1997 (NMFS 1997), and the threatened status was reaffirmed on January 5, 2006 (NMFS 2006). Critical habitat was designated for the CCC steelhead DPS on September 2, 2005 (NMFS 2005), and a final recovery plan was published in October 2016. Similar to CCC coho salmon, steelhead populations in many areas have declined due to degradation of spawning habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversions (NMFS 1997). In addition, non-native fish species, such as striped bass (*Morone saxatilis*), common carp (*Cyprinus carpio*), and white catfish (*Ameiurus catus*), may pose risks to native steelhead populations through predation, competition, and habitat modification. Increasing predation pressure at river mouths and in the ocean from the growing California sea lion population is also posing significant risk to CCC steelhead.

Steelhead are found along the entire Pacific Coast of the United States. The CCC steelhead DPS includes all naturally spawned populations of steelhead in coastal streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun

Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley.

Steelhead in the CCC DPS are winter-spawning steelhead, maturing in the ocean and spawning shortly after entering freshwater. Winter steelhead enter rivers and streams in the late fall and winter months when higher flows and associated lower water temperatures occur. Adult female steelhead will prepare a redd (or nest) in a gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter, and are usually free of rooted or aquatic vegetation. The length of the incubation period is dependent on water temperature. Fry emerge from the gravel, and rear along the stream margins, moving gradually into pools and riffles as they grow larger. Young juveniles feed primarily on aquatic invertebrate drift.

In California, juveniles usually live in freshwater for 2 years (Barnhart 1986) with a range of one to 3 years (Shapovalov and Taft 1954, Busby et al. 1996) then smolt and migrate to the sea; because of this multi-year rearing time period, steelhead can only spawn in tributaries that maintain suitable temperature and other water quality parameters year-round. Most downstream smolt migration takes place between February and June. Fukushima and Lesh (1998) report the peak timing of steelhead smolt outmigration in Central California occurs in March, April, and May, while Barnhart (1986) reports most steelhead smolts in California enter the sea in March and April.

In a recent survey of coastal drainages south of San Francisco Bay, steelhead populations were either extinct or reduced in size from historical levels in at least half of the 168 surveyed mainstem streams and primary tributaries (Titus et al. in prep). In addition, only 14 percent of the streams had steelhead present where there was no discernible, significant change from historical production levels. Steelhead in most tributaries to San Francisco and San Pablo bays have been virtually extirpated (McEwan and Jackson 1996).

CCC Steelhead are known to occur in Pilarcitos Creek (CDFW 2013, CNDDB 2021); however, passage upstream is impeded at multiple culverts, and the Pilarcitos Creek Watershed Assessment Plan identified the majority of habitat in the watershed to be in "poor" condition (Phillip Williams & Associates 2008). Opportunities to protect and restore fish passage and habitat connectivity within the watershed, such as road crossing improvements, have been developed and are being implemented under the watershed assessment plan. This effort could improve habitat conditions and increase the local presence of adult and juvenile CCC steelhead.

Habitat conditions in the BSA are suitable to support freshwater migration of adult and juvenile CCC steelhead. The BSA does not support suitable habitat for spawning, rearing, or feeding during most times of the year due to the lack of channel complexity, gravels, or connectivity with an adjacent floodplain. As a result, steelhead are only present in the section of Pilarcitos Creek in the BSA during upstream and downstream migration, which occurs late fall into spring.

Designated critical habitat for CCC steelhead includes aquatic habitat within the BSA (NMFS 2005). One of the primary constituent elements (PCEs) of critical habitat essential to the conservation of the species is present within the BSA. This PCE consists of freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival. These features are essential to conservation because without them juveniles cannot use the variety of habitats that allow them to avoid high flows, avoid predators, successfully compete, begin the behavioral and physiological changes needed for life in the ocean, and reach the ocean in a timely manner. Similarly, these features are essential for adults because they allow fish in a nonfeeding condition to successfully swim upstream, avoid predators, and reach spawning areas on limited energy stores. PCEs for CCC steelhead that do not occur in the BSA include freshwater spawning and rearing, as well as estuarine and marine habitats.

California Red-legged Frog (*Rana draytonii*). Federal Listing Status: Threatened; State Listing Status: Species of Special Concern. California red-legged frogs inhabit perennial freshwater pools, streams, and ponds throughout the Central California Coast Range as well as isolated portions of the western slopes of the Sierra Nevada (Fellers 2005). Their preferred breeding habitat consists of deep perennial pools with emergent vegetation for attaching egg clusters (Fellers 2005), as well as shallow benches to act as nurseries for juveniles (Jennings and Hayes 1994). Nonbreeding frogs may be found adjacent to streams and ponds in grasslands and woodlands, and may travel up to 2 mi from their breeding locations across a variety of upland habitats (Bulger et al. 2003, Fellers and Kleeman 2007).

The historical distribution of California red-legged frogs extended from the city of Redding in the Central Valley and Point Reyes National Seashore along the coast, south to Baja California, Mexico. The species' current distribution includes isolated locations in the Sierra Nevada and the San Francisco Bay area, and along the central coast (USFWS 2002). The California red-legged frog was listed as threatened in June 1996 (USFWS 1996) based largely on a significant range reduction and continued threats to surviving populations (Miller 1994). Revised critical habitat was designated in March 2010 (USFWS 2010a). No critical habitat for this species overlaps the BSA, but critical habitat Unit SNM-1 (San Mateo) is located approximately 0.08 mi southeast of the BSA (Figure 5; USFWS 2010a).

California red-legged frog adults and larvae have been found in a breeding pond in the vicinity of Pilarcitos Creek about 1.3 mi northwest of the BSA as recently as 2016, California red-legged frog adults were observed in Pilarcitos Creek about 0.5 mi west of the BSA in 2006, and California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H. T. Harvey & Associates and RMC 2010, CNDDB 2021). Due to the presence of juvenile frogs, it is likely there was active breeding in the perennial freshwater marsh during the observations. Since these observations, no recent species-specific surveys of this species have been conducted in the BSA.

If still present, California red-legged frog use of the site would be foraging and dispersal in Pilarcitos Creek and foraging, dispersal, and possibly breeding in the perennial freshwater marsh. The use of this species of the BSA

outside of these habitats would be for upland dispersal in the annual grassland between the perennial freshwater marsh and the creek, but they may disperse elsewhere as well. It is therefore possible that California red-legged frogs could disperse throughout the entire BSA. Frogs are most likely to disperse in the spring and early summer when juveniles would leave the pond, and adults may move to and from the perennial freshwater marsh during warm winter rains. During the wet season, frogs may be found in upland areas around the creek and marsh. They are generally considered to forage up to 300 feet from aquatic habitat.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*). Federal Listing Status: Endangered; State Listing Status: Endangered. The historical distribution of the San Francisco garter snake included wetland areas on the San Francisco peninsula from the San Francisco County line south along the eastern and western foothills of the Santa Cruz Mountains to at least Upper Crystal Springs Reservoir and Año Nuevo Point in San Mateo County, and Waddell Creek in Santa Cruz County. Today, the San Francisco garter snake is restricted to San Mateo County and has been found in creeks in Half Moon Bay (H. T. Harvey & Associates 1999).

The San Francisco garter snake is a medium-sized snake that occurs in a number of aquatic and terrestrial habitats throughout their range. Juveniles and adults have been observed in natural lagoons, dune ponds, pools in or next to streams, streams, marshlands, sag ponds, and springs, as well as human-created stock ponds, canals, golf course ponds, irrigation ponds, sand and gravel pits (containing water), and large reservoirs (USFWS 1985). The presence of adjacent upland areas with abundant small mammal burrows is also important as hibernation sites for snakes during the winter (Larsen 1994). The most abundant populations of snakes are found in natural sag ponds or artificial waterways that have been allowed to develop a dense cover of vegetation such as willows, bulrushes, cattails, and tules and have dense populations of Pacific tree frogs (Barry 1993, 1994).

San Francisco garter snakes are most active from March to September although they can be observed during any month of the year (Barry 1994, Larsen 1994). Adults mate during the spring (March-April) and fall (September-November), with the latter breeding period characterized by reproductive aggregations of several males and one female. Neonates, which are normally 7-8 inches in total length, are usually born alive in litters of 1-35 (average 16) during late July to early August, although litters can be born as late as early September.

The San Francisco garter snake population in San Mateo County has been severely reduced throughout most of its range due to habitat loss and development; however, the Project region still supports an extant population of the species. San Francisco garter snakes have been documented within the region of the BSA as recently as 2008. Exact CNDDB locations of San Francisco garter snakes are suppressed because of concern about illegal collection of the species. However, there are two CNDDB records for the Half Moon Bay USGS quadrangle, both associated with Pilarcitos Creek, the closest one at approximately 0.5 mi downstream of the BSA in 2004 (CNNDB 2021). Because the primary prey species of the snake is the California red-legged frog, an established population of California red-legged frogs in the perennial freshwater marsh would elevate the likelihood that

the snake could occur in the BSA. Nevertheless, it is difficult to estimate or determine the likelihood of the snake occurring in the BSA in the absence of detailed surveys or further confirmed observations nearby.

San Francisco garter snakes can move into upland habitats during summer to prey on amphibians aestivating in small mammal burrows (Barry 1993). They could potentially forage on amphibians in Pilarcitos Creek and the perennial freshwater marsh and disperse and/or aestivate throughout the BSA. The San Francisco garter snake is therefore considered potentially present throughout the BSA.

5.2.2 California Species of Special Concern

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas up to 0.25 mi from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 ft of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest. Threats to the western pond turtle include impacts to nesting habitat from agricultural and grazing activities, human development of habitat, and increased predation pressure from native and nonnative predators as a result of human-induced landscape changes.

The reach of Pilarcitos Creek within and adjacent to the BSA is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in these areas. However, suitable nesting habitat for pond turtles is not present in the BSA in upland areas adjacent to Pilarcitos Creek, because the riparian habitat is too dense for nest construction and the adjacent upland grassland habitat habitat is degraded and frequently disturbed due to the human usage of the area. In addition, the nearest CNDDB recorded observations are over 4 mi from the BSA in the area of the Crystal Springs Reservoir (CNDDB 2021). Thus, there is some potential for pond turtles to be present in the BSA, though they are likely present in low numbers and/or infrequently as dispersers but not as resident turtles prone to breeding and nesting in the upland habitats adjacent to the creek. The perennial freshwater marsh is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species.

San Francisco Dusky-footed Woodrat (*Neotoma fuscipes annectens*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco dusky-footed woodrat occurs in a variety of woodland and scrub habitats from the San Francisco Peninsula south to the Pajaro River in Monterey County (Hall 1981, Zeiner et al. 1990b). Woodrats prefer riparian and oak woodland forests with dense

understory cover, or thick chaparral habitat (Lee and Tietje 2005). Although woodrats are locally common in many areas, habitat conversion and increased urbanization, as well as increasing populations of introduced predators, such as domestic cats (*Felis catus*), pose substantial threats to this subspecies (H. T. Harvey & Associates 2008). Dusky-footed woodrats build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years (Carraway and Verts 1991). Woodrats also are very adept at making use of human-made structures, and can nest in electrical boxes, pipes, wooden pallets, and even portable storage containers. Woodrat nest densities increase with canopy density and with the presence of poison oak (Carraway and Verts 1991). Although the San Francisco dusky-footed woodrat is described as a generalist omnivore, individuals may specialize on local plants that are available for forage (Haynie et al. 2007). The breeding season for the dusky-footed woodrat begins in February and sometimes continues through September, with females bearing a single brood of one to four young per year (Carraway and Verts 1991).

A San Francisco dusky-footed woodrat nest was observed near Pilarcitos Creek over 3 mi east-northeast of the BSA in 2007 (CNDDB 2021). The riparian forest in the BSA provides suitable habitat for dusky-footed woodrats. Although no nests were observed in the riparian woodland habitat in the BSA during the reconnaissance survey, this species could potentially nest and forage in, and disperse through, the riparian habitat along Pilarcitos Creek and around the freshwater marsh.

San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes (*Scirpus* and *Juncus* spp.), cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is composed of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where few or no brown-headed cowbirds are present (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they will also nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

The San Francisco common yellowthroat is one of approximately 12 subspecies of common yellowthroat recognized in North America, two of which occur in the region of the BSA: the California Species of Special Concern, *G. t. sinuosa*, and the widespread subspecies, *G. t. arizela*. Common yellowthroats nesting in the BSA are likely of the special-status *sinuosa* subspecies, but intergrades between the two subspecies may also occur in this area (SFBBO 2012). Because subspecies cannot be reliably distinguished in the field, determination of the presence of the San Francisco common yellowthroat can be achieved only by locating birds that are actively nesting within the breeding range known for the subspecies.

Nesting San Francisco common yellowthroats have been recorded in the vicinity of the BSA (Sequoia Audubon Society 2001), and observations of individuals have been recorded within the Pilarcitos Creek riparian habitat

less than a mile west of the BSA as recently as 2017 (Cornell Lab of Ornithology 2021). The species may nest in taller vegetation within the perennial freshwater marsh in the BSA, and possibly in riparian habitat along Pilarcitos Creek and around the marsh.

Yellow Warbler (*Setophaga petechia*). Federal Listing Status: None; State Listing Status: Species of Special Concern. In California, the yellow occupies wooded riparian habitats (Heath 2008). This species prefers riparian corridors with an overstory of mature cottonwoods and sycamores, a midstory of box elder and willow, and a substantial shrub understory (Bousman 2007), particularly in areas with more open space adjacent to the riparian habitat. Yellow warblers construct open-cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation (Lowther et al. 1999).

The yellow warbler is an uncommon to rare breeder in wooded riparian habitats, occurring primarily in association with alders and willows, in San Mateo County. Riparian woodlands in the County provide suitable nesting and foraging habitat for this species, but the species is scarce and local, being particularly scarce as a breeder on the immediate coast (Sequoia Audubon Society 2001). Nevertheless, it is possible that one or two pairs could potentially breed in riparian habitat in the BSA along Pilarcitos Creek and around the marsh. Otherwise, this species is expected to occur as a common migrant in the BSA during the spring and fall.

5.2.3 State Fully Protected Species

White-tailed Kite (*Elanus leucurus*). Federal Listing Status: None; State Listing Status: Fully Protected. In California, white-tailed kites can be found in the Central Valley and along the coast in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990a, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations and snags, shrubs, trees, or other substrates for nesting (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines because of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

White-tailed kites are common residents in the vicinity of the BSA where open grassland, ruderal, or agricultural habitats are present. Large trees on and adjacent to the BSA provide suitable nesting sites. The open habitats (e.g., ruderal grasslands and agricultural areas) on and adjacent to the BSA provide potential foraging opportunities for this species. Although the developed nature and high levels of human disturbance within the BSA make it less attractive to nesting kites, an individual was observed in the vicinity of the perennial freshwater marsh in 2014 (Cornell Lab of Ornithology 2021), and this species could potentially nest and forage in the BSA.

5.3 Sensitive Natural Communities, Habitats, and Vegetation Alliances

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. The CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in its Rarefind database (CNDDB 2021). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings reflect the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (CDFG 2007):

- G1/S1: Less than 6 viable occurrences or less than 2,000 ac.
- G2/S2: Between 6 and 20 occurrences or 2,000 to 10,000 ac.
- G3/S3: Between 21 and 100 occurrences or 10,000 to 50,000 ac.
- G4/S4: The community is apparently secure, but factors and threats exist to cause some concern.
- G5/S4: The community is demonstrably secure to ineradicable due to being common throughout the world (for global rank) or the state of California (for state rank).

State rankings are further described by the following threat code extensions:

- S1.1: Very threatened
- S1.2: Threatened
- S1.3: No current threats known

In addition to tracking sensitive natural communities, the CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 2009). If an alliance is marked G1-G3, all the vegetation associations within it will also be of high priority (CDFG 2007). The CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFG 2010a).

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, USFWS, and/or the Half Moon Bay LCP.

Sensitive Natural Communities. There are no CDFW-classified sensitive natural communities within the BSA, However, there are two sensitive natural communities identified in the CNDDB within five miles of the BSA:

- **Northern maritime chaparral**. Northern maritime chaparral is characterized by a dense, nearly impenetrable shrub cover composed of several species. Characteristic species include chamise (*Adenostoma fasciculatum*), buckbrush (*Ceanothus cuneatus*) as well as other *Ceanothus* species, black sage (*Salvia mellifera*), and several species of manzanitas (*Manzanita* sp.). Northern maritime chaparral is not present within the BSA because none of the characteristic plant species that make up this community are present.
- **Northern coastal salt marsh**. Northern coastal salt marsh is characterized is wetland community dominated by herbaceous to sub-shrub salt-tolerant hydrophytes that typically forms a dense mat of vegetation up to three feet high. Characteristic species include pickleweed (*Salicornia* sp.), cordgrass (*Spartina* sp.), and salt grass (*Distichlis spicata*). Northern coastal salt marsh is not present within the BSA because none of the characteristic plant species that make up this community are present.

Sensitive Vegetation Alliances. There is one CDFW classified sensitive vegetation alliances within the BSA. Impacts to these plant communities may be considered significant under CEQA. Sensitive plant communities identified by CDFW within the BSA include the red willow-arroyo willow vegetation alliance, which is found within the riparian woodland along Pilarcitos Creek (Figure 3). This plant community has been identified by CDFW as "G4 S3", which means that it is rare and threatened throughout its range in California but is apparently secure throughout its range outside of California. This vegetation alliance occurs within the riparian woodland in the BSA.

Waters of the U.S./State. Pilarcitos Creek (aquatic riverine) and the perennial freshwater marsh would be considered waters of the U.S./state. Any impacts on verified waters of the U.S./state within the BSA would require a Section 404 permit from the USACE and Section 401 Water Quality Certification from the San Francisco RWQCB. Additionally, the RWQCB would also consider the riparian woodland above the OHWMs of the stream and surrounding the marsh, out to the dripline of all trees rooted within the top of bank, as important, regulated buffers to waters of the State (Figure 5). Also, Pilarcitos Creek and the full extent of its riparian canopy would be subject to lake and streambed jurisdiction administered by CDFW under Section 1600 et seq. of State Fish and Game Code (see Section 5.4).

Environmentally Sensitive Habitat Areas. The BSA contains several ESHAs or sensitive coastal resource areas:

- **Perennial freshwater stream**. Pilarcitos Creek is a perennial freshwater stream and is classified as a sensitive habitat by the Half Moon Bay LCP and is also subject to lake and streambed jurisdiction under Section 1600 et seq. of State Fish and Game Code (see Section 5.4).

- **Riparian woodland**. The riparian woodland along Pilarcitos Creek and surrounding the perennial freshwater marsh is classified as sensitive habitat by the Half Moon Bay LCP and the riparian canopy along Pilarcitos Creek is also subject to riparian jurisdiction under Section 1600 et seq. of State Fish and Game Code.

- **Perennial freshwater marsh.** The perennial freshwater marsh is classified as a sensitive wetland habitat by the Half Moon Bay LCP.

- **Potential one-parameter wetlands.** Throughout the California annual grassland habitat there are scattered patches of hydrophytic vegetation, including curly dock, poison hemlock, and bird's foot trefoil. Both curly dock and bird's foot trefoil are classified as *facultative* species (commonly occurs as either a hydrophyte or non-hydrophyte); poison hemlock is classified as a *facultative wetland* species (usually a hydrophyte but occasionally found in uplands) (Lichvar et al. 2016). CCC's regulations (California Code of Regulations Title 14 (14 CCR)) establish a one parameter definition that only requires evidence of a single parameter (hydrology, hydric soils, or hydrophytic vegetation) to establish wetland conditions. However, these species grow in both wetlands as hydrophytes and uplands as non-hydrophytes; therefore, these species may not be reliable indicators of wetlands. A formal delineation and analysis was conducted in in June 2020 and determined that none of the areas of scattered hydrophytic vegetation occurred in wetland landscape positions, some areas clearly indicated disturbance rather than wetland conditions (e.g., poison hemlock), all occurred intermixed with upland species, and none of these areas indicated the presence of a hydrophytic vegetation community, hydric soils, or wetland hydrology (H. T. Harvey & Associates 2020). Therefore, no one-parameter CCC wetlands outside of the riverine, wetland, or riparian habitats above were identified within the BSA.

- **Wild strawberry habitat**. Wild strawberry habitat is also included as a sensitive habitat in the Zoning Code and Local Coastal Program and is defined as "any undeveloped areas within one half mile of the coast" (City of Half Moon Bay 2021). The BSA is approximately 1.2 mi from the coast and therefore does not meet the definition of wild strawberry habitat due to its distance from the coast. Additionally, no strawberry plants were observed during the reconnaissance-level field survey in June 2018.

- **Bluffs, cliffs, and sea cliffs**. As defined in Section 18.38.060 of the City Code, a bluff or cliff is a scarp or a steep face of rock, decomposed rock, sediment or soil resulting from erosion, faulting, or folding of the land mass with a vertical relief of ten feet or more. A sea cliff is defined as a cliff whose toe is subject to marine erosion. There is no bluff, cliff, or sea cliff habitat present within the BSA.

Critical Habitat. Pilarcitos Creek is designated as critical habitat for the federally Threatened Central California Coast steelhead Distinct Population Segment. Critical habitat for the Central California Coast steelhead DPS was designated on September 2, 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County. The San Mateo Hydrologic Unit includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Año Nuevo and the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NMFS 2005).

5.4 Non-Native and Invasive Species

Several non-native, invasive plant species occur in the BSA in the California annual grassland and riparian woodland habitat. Of these, pampas grass, cape ivy, French broom and Himalayan blackberry have the potential to cause the most severe ecological impacts, as these species can invade and degrade the margins of sensitive wetland habitat, and are rated high by the Cal-IPC (Cal-IPC 2021). In addition, creeping capeweed (*Arctotheca prostrata*), ripgut brome, Italian thistle, poison hemlock, silverleaf cotoneaster (*Cotoneaster pannosus*), dogtail grass (*Cynosurus echinatus*), Italian rye grass, bristly ox-tongue, common velvetgrass, Mediterranean hoary mustard (*Hirschfeldia incana*), meadow barley (*Hordeum murinum*), common sheep sorrel (*Rumex acetsosella*), and field hedge parsley (*Torilis arbvensis*) were observed in the BSA, are rated as limited to moderate and can have substantial and apparent ecological impacts if they spread into native, sensitive habitats (Cal-IPC 2021).

Section 6. Impacts and Mitigation Measures

CEQA and the State CEQA Guidelines provide guidance in evaluating impacts of projects on biological resources and determining which impacts will be significant. The Act defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project."

Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G (Chapter IV) may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

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 Game or U.S. Fish and Wildlife Service"

B. "have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service"

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"

D. "interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites"

E. "conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance"

F. "conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan"

6.1 Approach to the Analysis

As described in Section 1.1, specific project activities and locations have not been defined. However, no disturbance of Pilarcitos Creek or the perennial freshwater marsh in the northwest corner of the BSA, or use of the riparian habitat or buffer associated with Pilarcitos Creek beyond existing allowed use under the City's LCP, is anticipated. Allowed uses include 1) education and research, 2) consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code, 3) fish and wildlife management activities, 4) trails and scenic overlooks on public land(s), and 5) necessary water supply projects. Also, when no feasible or practicable alternative exists, other uses may include 1) stream-dependent aquaculture provide

that non-stream-dependent facilities locate outside of corridor, 2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, 3) bridges when supports are not in significant conflict with corridor resources, 4) pipelines and storm water runoff facilities, 5) improvement, repair or maintenance of roadways or road crossings, and 6) agricultural uses, provided no existing riparian vegetation is removed, and no soil is allowed to enter stream channels.

The only allowed uses in riparian habitat and the associated buffer being considered by the City for this project will be path, trail, or other environmental related educational uses (J. Doughty, pers. comm.). Therefore, the following impact analysis was prepared assuming project development could occur in any portion of the BSA, except for Pilarcitos Creek and the perennial freshwater marsh in the northwest corner of the BSA, but with possible limited disturbance within the riparian habitat/buffers associated with the perennial freshwater marsh and/or Pilarcitos Creek from allowed uses.

6.2 Impacts on Special-Status Species: 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 CDFW or USFWS

6.2.1 Impacts on Common Plant and Animal Species (Less than Significant)

The common (non-special-status) plant and animal species that occur in the BSA could experience a direct loss of habitat due to project activities, which could potentially result in the mortality, injury, disturbance, and displacement of individuals of some of these species. The plant species observed in the BSA during the reconnaissance surveys (Appendix A) are not regulated under state or federal laws or listed species by the CNPS. All native plant species found in the BSA are regionally abundant and common in California. As such, impacts on these species from project activities do not constitute a significant impact and require no compensatory mitigation.

The common animal species that occur in the BSA are regionally abundant, and can be found in habitats throughout the City of Half Moon Bay and San Mateo County. For instance, the common ants, bees, wasps, flies, butterflies, and spiders in the BSA are found in abundance in vegetated areas in the region such as yards, parks, riparian areas, and grasslands. Non-special-status amphibians, such as western toads and arboreal salamanders, are found along streams, ponds, and lakes in the region, and the common reptiles that occur in the BSA, such as western fence lizards and western skinks, are abundant in the grasslands of San Mateo County.

Implementation of the project would result in the loss of a small amount of nesting and foraging habitat for common native birds, which would result in a decline in the number of species and pairs of birds that currently nest and/or forage in the BSA. However, the terrestrial habitats in the BSA (i.e., California annual grassland,

developed, ephemeral drainage, perennial freshwater marsh, and riparian forest) represent a very small proportion of the habitats that support these species regionally. For instance, residences, yards, and parks throughout the City of Half Moon Bay provide habitat for the common "backyard" species of birds that occur in the BSA (e.g., American robin) and riparian-associated birds (e.g., bushtits and lesser goldfinch) inhabit riparian habitat adjacent to the numerous streams flowing through the county. Thus, the habitats in the BSA represent only a very small proportion of suitable habitats available to these species regionally. Even more importantly, because th project would retain all trees associated with Pilarcitos Creek, birds are expected to continue to nest and forage there once project construction is completed. Although overall fewer pairs of birds might nest and forage in the BSA following project development, the temporary disturbance of habitat does not rise to the level of a *substantial* impact under CEQA for any of these species.

All of the native terrestrial mammals in the BSA (e.g., striped skunks and raccoons) are also abundant in the county, inhabiting grasslands and woodlands throughout the region. Because these species are regionally abundant, are present in widely available habitats in the region, and may continue to be present in the BSA following construction, any project would impact only a small proportion of their regional populations. Such loss of regionally abundant common wildlife species does not achieve the threshold of a *substantial* reduction in the regional habitat of these species, and thus these impacts are less than significant under CEQA.

Several of the common wildlife species that occur in the BSA are not native to California. These include non-native mammals such as the Virginia opossum, Norway rat, and house mouse. Many of these non-native species have been introduced to the natural areas in the region, or have invaded natural and developed areas because they thrive in the presence of humans. These non-native species influence natural ecosystems in many ways, such as by competing with native species for food, territories, and other resources; altering habitats; transmitting diseases; and preying upon native species. Due to these factors, these non-native species act to reduce the abundance and diversity of native species that occur in areas in the region, including the BSA. Therefore, impacts on these non-native species resulting from a project do not constitute an adverse effect under CEQA.

6.2.2 Impacts on Special-Status Plants (Less than Significant with Mitigation)

One plant species, harlequin lotus, categorized by the CNPS as a CRPR 4.2, has the potential to occur within the more mesic areas of the riparian habitat along Pilarcitos Creek (Figure 5, Section 5.1, Appendix B). If present, project development may affect harlequin lotus due to disturbance of individuals within the populations and disturbance or destruction of suitable habitat. Direct impacts could include grading or filling areas supporting these species, trampling or crushing of plants, and soil compaction. Indirect impacts could include increased mobilization of dust onto plants, which can affect their photosynthesis and respiration, or changes to hydrology supporting these plants within adjacent wetlands due to grading or construction in nearby habitats.

Harlequin lotus has a limited distribution in California. The statewide population includes at least 357 extant occurrences (CNPS 2021), and of these, approximately 37 occur within San Mateo County. Given that San Mateo County is at the southern limits of its documented range and Harlequin lotus is threatened by

development, grazing, feral pigs, habitat alteration, and competition from non-native species, conservation of existing populations of this species could be essential for preserving its genetic resources and ensuring its persistence in the County.

If this species is present and impacts occur to 10% or less of its population (by individuals or occupied area) within the BSA, such a low level of impacts would not be expected to cause the extirpation of such a population, as long as the remaining plants were avoided and protected by a no-disturbance buffer. However, due to the regional rarity of this species, impacts to more than 10% of a population of this species could contribute to a reduction in these species' range or genetic resources, which would be considered significant under CEQA. Implementation of the following mitigation measures will reduce impacts on harlequin lotus to a less-than-significant level.

Mitigation Measure 1. Pre-Activity Surveys for Harlequin Lotus. Prior to initial ground disturbance within any riparian habitat related to the project, and during the appropriate blooming period (March-July), a focused survey for harlequin lotus will be conducted within suitable habitat in the impact footprint and a 50-ft buffer around the impact footprint. This buffer may be increased by the qualified plant ecologist depending on site-specific conditions and activities planned in the area (i.e., if the plant ecologist determines that project activities could have greater indirect impacts), but must be at least 50 ft wide. Situations for which a greater buffer may be required include proximity to proposed activities expected to generate large volumes of dust, such as grading; potential for project activities to alter hydrology supporting the habitat for the species in question; or proximity to proposed structures that may shade areas farther than 50 ft away. Surveys are to be conducted in a year with near-average or above-average precipitation, or a reference population must be assessed to confirm that the plant would have been detectable during the survey year. The purpose of the survey will be to assess the presence or absence of the harlequin lotus. If this species is not found in the impact area or the identified buffer, then no further mitigation will be warranted. If harlequin lotus is found in the impact area or identified buffer, then Mitigation Measures 2 and 3 will be implemented.

Mitigation Measure 2. Avoidance Buffers. To the extent feasible, and in consultation with a qualified plant ecologist, the project proponent will design and construct the project to avoid completely impacts on harlequin lotus within the project site or within the identified buffer of the impact area. Avoided special-harlequin lotus plant populations will be protected by establishing and observing the identified buffer between plant populations and the impact area. All such populations located in the impact area or the identified buffer, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around harlequin lotus to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible and more than 10% of a population (by occupied area or individuals) would be impacted as determined by a qualified plant ecologist, Mitigation Measure 3 will be implemented.

Mitigation Measure 3. Preserve Off-Site Populations of Special-Status Plant Species. If avoidance of harlequin lotus is not feasible and more than 10% of the population would be impacted, compensatory mitigation will be provided via the preservation, enhancement, and management of occupied habitat for the species, for example avoided portions of the impacted population. If too large of a proportion of an on-site population is impacted to provide this mitigation on-site, off-site habitat occupied by the affected species will be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and at least one occupied acre preserved for each occupied acre affected), for any impact over the 10% significance threshold.

Areas proposed to be preserved as compensatory mitigation for special-status plant impacts must contain verified extant populations of harlequin lotus that would be impacted. Mitigation areas will be managed in perpetuity to encourage persistence and even expansion of the preserved target species. Mitigation lands cannot be located on land that is currently held publicly for resource protection unless substantial enhancement of habitat quality will be achieved by the mitigation activities. The mitigation habitat will be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and will contain at least as many individuals of the species as are impacted by project activities. The permanent protection and management of mitigation lands will be ensured through an appropriate mechanism, such as a conservation easement or fee title purchase. A habitat mitigation and monitoring plan (HMMP) will be developed and implemented for the mitigation lands. That plan will include, at a minimum, the following information:

- a summary of habitat impacts and the proposed mitigation;
- a description of the location and boundaries of the mitigation site and description of existing site conditions;
- a description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for the focal special-status species;
- a description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist);
- proposed management activities to maintain high-quality habitat conditions for the focal species;
- a description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria will include demonstration that any plant population fluctuations over the monitoring period do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management (i.e., that are not the result of local weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management); and

- contingency measures for mitigation elements that do not meet performance criteria.

The HMMP will be prepared by a qualified plant or restoration ecologist. Approval of the HMMP by the City will be required before the project impact occurs.

6.2.3 Impacts on the California Red-legged Frog and San Francisco Garter Snake (Less than Significant with Mitigation)

Individuals of the California red-legged frog are known to have occurred in Pilarcitos Creek, and in the perennial freshwater marsh in the BSA. Also, San Francisco garter snake is considered potentially present in Pilarcitos Creek, and may disperse to the perennial fresh water marsh in the BSA to forage due to the presence of California red-legged frog in the marsh. Therefore, impacts on these species are considered similar and thus will be discussed together. Direct impacts on the California red-legged frog and San Francisco garter snake could potentially occur due to project development immediately adjacent to the marsh habitat or within the riparian habitat associated with Pilarcitos Creek. If individuals of these species are present during construction activities, they may be crushed or injured by personnel or equipment. In addition, individuals may be crushed in their refugia by the passage of heavy equipment or trapped and suffocated. An increase in native and non-native predators attracted to the Project site due to trash left on the work site might result in increased mortality of individuals of these species. Due to the rarity of both species, project-related impacts on individual California red-legged frogs and San Francisco garter snakes would be significant.

The project may also result in the permanent loss or temporary disturbance of the riparian habitat associated with Pilarcitos Creek and buffers along the creek and around the marsh because of development activities. The marsh potentially provides breeding habitat for the California red-legged frog and foraging habitat for the San Francisco garter snake, and the riparian habitat provides foraging habitat for both species. Due to the potential presence of breeding and foraging habitat in the perennial freshwater marsh, and foraging habitat in the riparian habitat at the marsh and Pilarcitos Creek, the remaining annual grassland habitat is considered upland dispersal habitat for both the frog and snake. Project development of this annual grassland would permanently impact this upland dispersal habitat for both the frog and snake and could isolate a breeding population of California red-legged frog currently in the perennial freshwater marsh habitat from other nearby habitat for the species, such as Pilarcitos Creek. Therefore, the effects of even temporary habitat loss could substantially affect regional populations of these species, a significant impact. Implementation of Mitigation Measures 4 through 23 will reduce project impacts on both the California red-legged frog and San Francisco garter snake due to habitat loss and impacts on individuals to a less-than-significant level. In addition, implementation of these mitigation measures will ensure that take of individuals (e.g., handling, injury, or mortality) of the state fully protected San Francisco garter snake, which is prohibited by the California Fish and Game Code for construction projects such as this, will be avoided.

Mitigation Measure 4. Avoidance of California Red-legged Frog and San Francisco Garter Snake Foraging Habitat, and California Red-legged Frog and San Francisco Garter Snake Dispersal Habitat. To the extent feasible, the project proponent will design and construct the project to avoid completely impacts

on the marsh, riparian, and annual grassland habitats in the BSA. The avoided California red-legged frog and San Francisco garter snake habitat will be protected by establishing and observing an identified buffer between the habitat and the impact area following the LCP (City of Half Moon Bay 2020). Specifically, the buffer will be fifty ft outward from the limit of riparian vegetation along Pilarcitos Creek and the marsh. The identified buffer will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the marsh, associated riparian habitat, and annual grassland to be avoided will be flagged or fenced. The flagging will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible, Mitigation Measure 5 will be implemented.

Mitigation Measure 5. Preserve Onsite and/or Offsite Breeding, Foraging, and Dispersal Habitat for California Red-legged Frog and San Francisco Garter Snake. If avoidance of the marsh, riparian, and/or annual grassland habitats and associated buffers in the BSA are not feasible, compensatory mitigation will be provided via the preservation, enhancement, and management of potential California red-legged frog breeding and foraging habitat and San Francisco garter snake foraging habitat (for impacting the marsh and riparian habitats) and upland dispersal habitat (for impacting the upland grassland habitat). To compensate for impacts on the California red-legged frog and San Francisco garter snake, onsite and/or offsite habitat occupied by the frog and snake will be preserved and managed in perpetuity at a minimum 3:1 mitigation ratio for California red-legged frog breeding and foraging habitat and San Francisco garter snake foraging habitat (i.e., marsh and riparian habitats), and 1:1 mitigation ratio for upland dispersal habitat (annual grassland habitat and buffers associated with riparian habitat) for both species.

If the marsh habitat and associated riparian habitat are avoided, but the upland grassland between Pilarcitos Creek and the marsh is impacted to the extent that the marsh habitat and riparian habitat surrounding the marsh becomes isolated from Pilarcitos Creek, and frogs and snakes cannot disperse unencumbered between the creek and marsh, then a minimum 3:1 mitigation ratio for the acreage of the entire isolated marsh and riparian habitat around the marsh will be provided to compensate for loss of breeding and foraging habitat for California red-legged frog and foraging habitat for San Francisco garter snake. This higher mitigation ratio is required because the marsh and associated riparian habitat will be cut off from, and not available as breeding and foraging habitat for, the larger meta-populations of the California red-legged frog and San Francisco garter snake in the region that are using Pilarcitos Creek as a dispersal corridor. If, however, a designated portion of the upland habitat between Pilarcitos Creek and the marsh at a minimum of 50 ft in width is avoided, or if impacted, landscaped so that frogs and snakes can still freely disperse between the creek and marsh, then no mitigation ratio is required for the marsh habitat and associated riparian habitat since they will not be isolated. A minimum 1:1 mitigation ratio for upland dispersal habitat will still be required as compensation for the annual grassland within the BSA to be impacted.

Mitigation Measure 6. Obtain Agency Approval of Qualified Biologist. The qualifications of a biologist(s) experienced with the California red-legged frog and San Francisco garter snake, and who will provide

preconstruction surveys and monitoring for the project during construction, will be submitted to the USFWS and CDFW for review and written approval at least thirty (30) calendar days prior to the start of project activities.

Mitigation Measure 7. Install Wildlife Exclusion Barrier. A temporary wildlife exclusion barrier installation plan will be submitted to the USFWS and CDFW for approval. Prior to any ground disturbance in the impact area, the agency-approved temporary wildlife exclusion barrier will be installed along the limits of disturbance. An agency-approved biologist will inspect the area prior to installation of the barrier. The barrier will be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area, and will remain in place until all development activities have been completed. This barrier will be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.

Mitigation Measure 8. Conduct Preconstruction Survey. No more than twenty-four (24) hours prior to the date of initial ground disturbance, a preconstruction survey for the California red-legged frog and San Francisco garter snake will be conducted by an agency-approved biologist within the impact area. The survey will consist of walking the limits of impact to ascertain the possible presence of the species. The agency-approved biologist will investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows.

Mitigation Measure 9. Worker Environmental Awareness Program. All construction personnel will participate in a worker environmental awareness program. These personnel will be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the BSA and that unlawful take of the animal or destruction of its habitat is a violation of FESA and CESA. Prior to construction activities, the agency-approved biologist will instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information will be prepared for distribution to the construction crew and anyone else who enters the project site.

Mitigation Measure 10. Construction Monitoring. An agency-approved biologist will be onsite during all Project construction activities that may result in take of any special-status species. The agency-approved biologist will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The agency-approved biologist will have oversight over implementation of all the conservation measures and will have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the agency-

approved biologist exercises this authority, the USFWS and CDFW will be notified by telephone and electronic mail within twenty-four (24) hours.

Mitigation Measure 11. Vegetation Removal. All riparian vegetation that needs to be removed will be removed under the close supervision of an agency-approved biologist, who will survey for California red-legged frogs or San Francisco garter snakes immediately prior to and periodically during the vegetation removal.

Mitigation Measure 12. Prohibition of Firearms and Pets. No firearms will be allowed on the project site, except for Federal, state, local law enforcement, or security guards. No pets will be allowed on the project site.

Mitigation Measure 13. Pipe Inspection. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods will be either securely capped prior to storage or thoroughly inspected by the agency-approved biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the agency-approved biologist or construction foreman/manager, the protocol in Mitigation Measure 15 will be followed.

Mitigation Measure 14. Steep-walled Holes and Trenches. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the agency-approved biologist and/or construction foreman/manager will ensure that all excavated, steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the agency-approved biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the agency-approved biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the agency-approved biologist or anyone else, the steps in Mitigation Measure 15 will be followed.

Mitigation Measure 15. Protocol if California Red-legged Frog or San Francisco Garter Snake is Encountered. If a California red-legged frog or San Francisco garter snake, or any animal that construction personnel believes may be either of these species, is encountered during project construction, the following will be followed:

- All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease.
- The foreman and agency-approved biologist will be immediately notified.
- The agency-approved biologist will determine if the animal is a California red-legged frog or San Francisco garter snake and if so will follow Mitigation Measure 16 for California red-legged frog or Mitigation Measure 17 for San Francisco garter snake.

Mitigation Measure 16. Relocation of California Red-legged Frogs. If any California red-legged frogs are found during implementation of Mitigation Measures 7, 8, 10-11, or 13-14 the agency-approved biologist will contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only agency-approved biologists will capture, handle, and move the California red-legged frog. The agency-approved biologist will monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

Mitigation Measure 17. Monitor San Francisco Garter Snake. The agency-approved biologist will monitor any individual of the San Francisco garter snake encountered within the impact area but allow it to leave the impact area on its own. If the agency-approved biologist determines that the snake cannot leave on its own then the USFWS and CDFW will be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes will be handled without explicit agency approval.

Mitigation Measure 18. Speed Limit. Project-related vehicles will observe a 15 mile-per-hour speed limit in all project areas, except on City and County roads, and State highways; this is particularly important on rainy nights when California red-legged frogs are most active.

Mitigation Measure 19. Daytime Restriction. Nighttime construction will be avoided.

Mitigation Measure 20. Food and Trash. To eliminate an attraction for the predators of the California red-legged frog and San Francisco garter snake, all food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site.

Mitigation Measure 21. Prohibition of Plastic Mono-filament Netting. Plastic mono-filament netting (erosion control matting), rolled erosion control products or similar material will not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species.

Mitigation Measure 22. Pesticide, Rodenticide, Herbicide Use. The use of pesticides, rodenticides, and herbicides in the impact area will be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the BSA, and the depletion of food items on which they depend. All uses of such compounds will observe label and other restrictions mandated by the U.S. Environmental Protection agency, California Department of Food and Agriculture, and other appropriate State and Federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW.

6.2.4 Impacts on the Central California Coast Steelhead and the Western Pond Turtle (Less than Significant with Mitigation)

Both Central California Coast steelhead and western pond turtles may be present in Pilarcitos Creek within or downstream of the BSA. Because the project will not occur within Pilarcitos Creek in the BSA, direct impacts of construction-related activities on these species' habitat will not occur, and impacts on individuals are not expected except that during construction, minor and temporary increases in turbidity may occur. In addition, steelhead and western pond turtles might be killed or injured as a result of the spill of petrochemicals, hydraulic fluids, or solvents into Pilarcitos Creek. However, implementation of a storm water pollution prevention plan (SWPPP) with associated BMPs (see section 6.5.1) will minimize potential impacts on steelhead and western pond turtles as a result of increased turbidity and spills of hazardous materials into Pilarcitos Creek. In addition, western pond turtles may disperse from Pilarcitos Creek to the upland in the project site and be injured or killed by project related construction activities. However, implementation of Mitigation Measures 7-10 and 12-22 described above, for western pond turtles in addition to California red-legged frogs and San Francisco garter snakes, will reduce potential impacts on western pond turtles to less-than-significant levels.

6.2.5 Impacts on the San Francisco Dusky-footed Woodrat (Less than Significant with Mitigation)

San Francisco dusky-footed woodrats may be present, and could potentially nest, in the riparian habitat associated with Pilarcitos Creek and the perennial freshwater marsh in the BSA. Although impacts on riparian habitat are expected to be limited, if they occur at all, it is possible that limited impacts could occur to riparian habitat and the riparian buffer associated with Pilarcitos Creek allowed under the City's Local Coastal Program, notably the creation of paths, trails, or other environmentally related educational uses (J. Doughty, pers. comm.). If so, such impacts could result in destruction of nests, injury or mortality of woodrats (especially if occupied nests are present), and loss of woodrat habitat. Due to the regional abundance of woodrat habitat and the limited nature of impacts to this species' habitat anticipated to result from the project, impacts to this species' habitat is less than significant. Although San Francisco dusky-footed woodrats are also fairly abundant regionally, this species is important ecologically; woodrats serve as prey for a variety of predatory species, and woodrat nests provide dens and refugia for a variety of invertebrate, reptile, amphibian, and small mammal species. Therefore, impacts to individual woodrats and their nests would be significant. Implementation of Mitigation Measure 24 will reduce impacts on San Francisco dusky-footed woodrats to less-than-significant levels.

Mitigation Measure 23. Preconstruction Survey for San Francisco Dusky Footed Woodrat Nests. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat will be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation will be warranted. If nests are found, then Mitigation Measures 24 and 25 will be implemented.

Mitigation Measure 24. Disturbance-Free Buffers. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-ft buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat will be avoided by the project, high-visibility fencing will be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located.

Mitigation Measure 25. Relocation of Nest Materials. If avoidance of occupied nests is not feasible, the woodrats will be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist will disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks will be relocated; these materials will be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests will not be less than 20 ft, unless a qualified biologist has determined that the habitat can support higher densities of nests.

6.2.6 Impacts on Nonbreeding Special-Status Animals (Less than Significant)

The monarch butterfly, American peregrine falcon, pallid bat, Townsend's big-eared bat, northern harrier, and mountain lion may occur in the BSA as occasional foragers, visitors, migrants, or transients, but are not expected to breed (or roost, in the case of the two bat species) in the BSA due to a lack of suitable habitat, or to occur in the BSA frequently or in large numbers. Project construction would permanently alter the extent of foraging and dispersal habitat for these species in the BSA. However, the loss or conversion of this habitat would affect only a very small proportion of regionally available habitat for these species and would not adversely affect local or regional populations of these species. This loss of potential foraging or dispersal habitat would not rise to the CEQA standard of having a *substantial* adverse effect, and this impact would not constitute a significant impact on these species or their habitat under CEQA. Individuals of these species could potentially be disturbed if present in or adjacent to the project site during construction, but no injury or mortality of these species will occur, and disturbance of foraging or dispersing individuals of these species would be a less-than-significant impact.

6.2.7 Impacts on the San Francisco Common Yellowthroat, Yellow Warbler, and Raptors, Including the White-tailed Kite (Less than Significant)

The San Francisco common yellowthroat, yellow warbler, and white-tailed kite, all of which are considered special-status species, may nest and forage in the BSA. In addition, other raptors, such as the red-tailed hawk, red-shouldered hawk, and Cooper's hawk, could potentially nest on the project site and are identified as Unique Species in the Half Moon Bay Zoning Code. These species are assessed together because the impacts of the project on these species would be similar.

Heavy ground disturbance, noise, and vibrations caused by project development in the BSA could disturb nesting, foraging, or roosting individuals of these species, causing them to move away from impact areas. Although adult birds are not expected to be killed or injured, as they could easily fly from the impact area prior to such effects occurring, eggs or young in nests could be lost. In addition, construction disturbance during the nesting season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through the destruction or disturbance of active nests or indirectly by causing the abandonment of nests.

Based on the extent of suitable habitat within the BSA and typical territory sizes of these species, no more than one or two pairs of raptors (considering all four aforementioned raptor species together) and one to three pairs of the San Francisco common yellowthroat and yellow warbler are expected to nest in the BSA. Therefore, the loss of suitable habitat and the potential loss of active nests potentially resulting from project activities would represent a very small fraction of the regional habitat and populations of these species and would not rise to the CEQA standard of having a *substantial* adverse effect. This type of impact would not be significant under CEQA for the species that could potentially nest in the project site due to the local and regional abundances of these species and/or the low magnitude of the potential impact of the project on these species (i.e., the project is only expected to impact one or two individual pairs of these species, which is not a significant impact to their regional populations). However, all native bird species, including San Francisco common yellowthroats, yellow warblers, and white-tailed kites, are protected from direct take by the MBTA and California Fish and Game Code. In addition, biological resources policies in the updated LCP include Policy 6-64, as follows:

> **Active Nest Monitoring.** Ensure construction and tree removal during nesting seasons (generally from February 1 to August 15) complies with the Migratory Bird Treaty Act, California Fish and Game Code, and other applicable regulations by surveying the project vicinity for active nests, avoiding disturbance if active nests are found by employing exclusion buffers or other methods recommended by a qualified biologist, and monitoring active nests until all young have fledged.

As a result, we recommend the following measures to avoid impacts to nesting birds and to comply with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code.

Recommended Measure A. Avoidance. To the extent feasible, construction activities will be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 15.

Recommended Measure B. Preconstruction Surveys and Nest Buffers. If it is not possible to schedule construction activities between August 16 and January 31, then preconstruction surveys for nesting birds will be conducted by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. These surveys will be conducted no more than seven days prior to the initiation of construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g.,

shrubs, California annual grasslands, and buildings) in and immediately adjacent to the impact area for nests. If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a construction-free buffer zone to be established around the nest (typically 300 ft for raptors and 100 ft for other species), to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation.

Recommended Measure C. Inhibition of Nesting. If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project be removed prior to the start of the nesting season (e.g., prior to February 1). This will preclude the initiation of nests in this vegetation, and prevent the potential delay of the project due to the presence of active nests in these substrates.

6.3 Impacts on Sensitive Communities: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS

6.3.1 Impacts on Riparian Habitat or Other Sensitive Natural Communities (Less than Significant with Mitigation)

Within the BSA, riparian woodland habitat is present along the banks of Pilarcitos Creek and forms a dense, wide thicket that extends up to 200 ft from the banks into the BSA. Also, riparian woodland habitat is present along the banks of the perennial freshwater marsh. The City's Zoning Code and Local Coastal Program includes riparian area and corridors as sensitive habitats. The City of Half Moon Bay Zoning Code defines the Riparian Buffer Zone as being 50 ft from the edge of the riparian canopy or 100 ft from top of bank, whichever is greater (shown on Figure 5). Additionally, all ecological systems associated with drainages (i.e., riparian habitat) and drainage and pond features with bed and bank topography may be regulated by Sections 1600-1616 of the California Fish and Game Code; therefore, the riparian habitat along Pilarcitos Creek and the perennial freshwater marsh may require an LSAA from the CDFW prior to project activities. Also, the riparian habitat along Pilarcitos Creek includes the red willow-arroyo willow vegetation alliance, which is classified as a sensitive vegetation alliance by CDFW. Project impacts to this habitat type could include riparian tree removal, direct loss of habitat around the perennial freshwater marsh, and compaction or understory removal to construct trails or other recreational or educational facilities within the Pilarcitos Creek corridor. Due to the ecological value of riparian habitats, such impacts would be significant.

Indirect impacts to these habitats will be minimized and avoided through compliance with the project SWPPP and MRP, as well as observance of the 50-foot riparian buffer zone. If project activities occur within the Riparian Buffer Zone or in riparian habitat, as allowed by the Half Moon Bay LCP, the project will mitigate impacts to riparian habitat and sensitive natural communities by implementing the following mitigation measures:

Mitigation Measure 26. Avoidance of Riparian Habitat. All riparian habitat and the 50-foot riparian buffer area to be avoided will be shown on project design plansets, and prior to project activities, these areas will be protected with high-visibility fencing. If a trail or similar facility will be installed within the riparian corridor of Pilarcitos Creek, trees to be avoided will be clearly marked for retention. The project will also comply with the MRP and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which will prevent stream downcutting, riparian bank erosion, or other dowstream impacts. If riparian vegetation is impacted, then Mitigation Measure 27 and/or 28 will be implemented.

Mitigation Measure 27. Pruning of Riparian Trees. If project activities require pruning of riparian trees or shrubs, a certified arborist will be retained to perform any necessary pruning to minimize harm to vegetation, avoid injury leading to tree death for trees intended to be retained, and ensure rapid regeneration. Pruning will be limited to the minimum area necessary.

Mitigation Measure 28. Riparian Habitat Compensatory Mitigation. If project activities require removal of riparian habitat, the project shall compensate for permanent loss of riparian habitat via preservation, enhancement, and management. Because all riparian habitat within the BSA provides foraging and dispersal habitat for California red-legged frog and San Francisco garter snake, mitigation ratios for impacts will be 3:1 for San Francisco garter snake foraging habitat, and 1:1 for dispersal habitat for both species (see Section 3.2, Mitigation Measure 5). Mitigation can include onsite and/or offsite habitat occupied by the frog and snake, and will be preserved and managed in perpetuity (e.g. for loss of riparian habitat surrounding the marsh, the riparian corridor along Pilarcitos Creek could have cape ivy removed and be restored with native vegetation, which will enhance habitat quality for special-status species).

Placement of new development within the Riparian Buffer Zone will be offset at a ratio of 1:1 through the installation of native riparian plantings within the unaffected portions of the buffer. Tree plantings will be native trees, such as arroyo willow, black cottonwood (*Populus trichocarpa*), or box elder (*Acer negundo*). Buffer plantings will be monitored for 5 years and the criteria for success will be 70% survival and no more than 5% cover of Cal-IPC rated moderate and high impact weed species (excluding common annual grasses).

Temporary impacts to riparian habitat shall be restored in place at a 1:1 ratio through re-establishment of original contours along banks, decompaction of compacted soils where necessary, and seeding with a native seed mix and native tree plantings, developed by a qualified restoration ecologist. The native seed mix will contain grass and forb species that occur in the project vicinity. Tree plantings will be native trees, such as arroyo willow, black cottonwood, or box elder. Temporary impact areas will be monitored for 2 years and the criteria for success will be 75% vegetation cover or more compared to pre-project conditions and no more than 5% cover of Cal-IPC-rated moderate and high impact weed species (excluding Cal-IPC-rated annual grasses). Any planting for impacts as described above will require the development of a Riparian Restoration Plan (RRP). The RRP will clearly enumerate project related impacts to the Riparian buffer and riparian woodland, and will be implemented for the mitigation lands. That plan will include, at a minimum, the following information:

- a summary of habitat impacts and the proposed mitigation;
- a description of the location and boundaries of the mitigation site and description of existing site conditions;
- a description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for the focal special-status species;
- a description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist);
- proposed management activities to maintain high-quality habitat conditions for the focal species;
- a description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria will include the survival requirements and restrictions on Cal-IPC rated weed infestations described above; and
- contingency measures for mitigation elements that do not meet performance criteria.

The RRP will be prepared by a qualified plant or restoration ecologist. Approval of the RRP by the City will be required before the project impact occurs.

6.3.2 Impacts Caused by Non-Native and Invasive Species (Less than Significant with Mitigation)

Several non-native, invasive plant species occur in the grassland and riparian habitats located throughout the BSA. Invasive species can spread quickly and can be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Further, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally, or whose propagules are transported by personnel, vehicles, and other equipment. Activities such as trampling, equipment staging, and vegetation removal are all factors that would contribute to disturbance. Areas of disturbance could serve as the source for promoting the spread of non-native species, which could degrade the ecological values of riparian habitat and adversely affect native plants and wildlife that occur there. Invasive species can have an adverse effect on native species and habitats in several ways, including by altering nutrient cycles, fire frequency and/or intensity, and hydrologic cycles; by creating changes in sediment deposition and erosion; by dominating habitats and displacing native species; by hybridizing with native species; and by promoting non-native animal species (Bossard et al. 2000).

Invasive species, such as French broom, Himalayan blackberry, cape ivy, and poison hemlock are already present within and adjacent to riparian habitats. However, project activities near existing riparian habitat could cause them to spread further into previously unoccupied areas within the riparian and grassland habitats.

Therefore, this impact is considered significant. Implementation of the following mitigation measure will reduce potential weed-related impacts on sensitive habitats and the species they support to a less-than-significant level.

Mitigation Measure 29. Invasive Species Best Management Practices (BMPs). The following BMPs will be implemented to limit the spread of invasive species into sensitive habitats:

- All ground disturbing equipment used adjacent to the riparian habitat will be washed (including weeks, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site.
- All applicable construction materials used on site, such as straw wattles, mulch, and fill material, will be certified weed free.
- The project will follow a Stormwater Pollution Prevention Plan as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable.
- All disturbed soils will be stabilized and planted with a native seed mix from a local source following construction.
- If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) will not be used in general soil stockpiles and will not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil will be disposed of off-site at a landfill or buried at least 2.5 ft below final grade.

6.4 Impacts on Wetlands: 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

6.4.1 Impacts on Wetlands and Waters (Less than Significant with Mitigation)

Both Pilarcitos Creek and the perennial freshwater marsh present in the BSA may be subject to the regulatory jurisdiction of the USACE, RWQCB, and CDFW and may require CWA 401/404 permits and a LSAA from the CDFW prior to project activities. Additionally, the Zoning Code and Local Coastal Program includes wetlands as sensitive habitats. The City of Half Moon Bay Zoning Code defines the Wetland Buffer Zone as "one hundred feet, measured from the high water point, except that no buffer is required for man-made ponds and reservoirs used for agriculture".

Wetlands are relatively scarce regionally, and even small wetland areas make disproportionate contributions to water quality, groundwater recharge, watershed function, and wildlife habitat in the region. Thus, any permanent loss or temporary disturbance of wetland habitat because of the project would be considered significant under CEQA.

Project development also has the potential to cause indirect impacts on jurisdictional waters to changes in water quality. However, construction projects in California causing land disturbances that are equal to 1 ac or greater must comply with State requirements to control the discharge of stormwater pollutants under the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A SWPPP must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control best management practices, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

A list of example BMPs include:

- Work areas that are temporarily impacted will be restored with respect to pre-existing contours and conditions, to the extent feasible, upon completion of work. Restoration work including re-vegetation and soil stabilization will be evaluated upon completion of work and performed, as needed.
- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater.
- Control and prevent the discharge of all potential pollutants, including solid wastes, paints, concrete, petroleum products, chemicals, wash water or sediment and non-stormwater discharges to storm drains and water courses.
- Avoid cleaning, fueling, or maintaining vehicles on site, except in a designated area in which run-off is contained and treated.
- Perform clearing and earth moving activities during dry weather to the maximum extent practical.
- Remove spoils promptly and avoid stockpiling of fill materials when rain is forecast. Cover soil stockpiles and other materials with a tarp or other waterproof material during qualifying rain events.
- Trash and construction related solid wastes must be deposited into a covered receptacle to prevent contamination and dispersal by wind.
- In the event of rain, all grading work is to cease immediately.
- Implement an erosion control plan during the wet season (October 15 through April 15), including, at a minimum, the following:
- During the rainy season, all paved areas will be kept clear of earth material and debris.
- Inlet protection will be installed at open inlets to prevent sediment from entering the storm drain system.
- Straw rolls will be placed at the toe of slopes, and along the down slope perimeter of the project area.

- The integrity and effectiveness of construction fencing and erosion control measures will be inspected on a daily basis. Corrective actions and repairs will be carried out immediately for fence breaches and ineffective BMPs.

A hazardous spill plan will be developed prior to construction of any equipment yards or similar development on the parcel. The plan will describe what actions will be taken in the event of a spill. The plan will also incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained, and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities, and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be available on site at all times. Containers for storage, transportation, and disposal of contaminated absorbent materials will be provided in the project area.

In many Bay Area counties, including San Mateo County, projects may also have to comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit* (MRP) (Water Board Order No. R2-2015-0049). This MRP requires that all projects that meet certain criteria must implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. To meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors. These same features will be used to treat any stormwater that flows to the riverine habitat during large storm events. The perennial freshwater marsh wetland is protected from indirect water quality impacts by the constructed berms for the impoundment. Thus, impacts on water quality would be reduced to a level of less-than-significant.

The project does not proposed to impact wetlands directly by filling or grading, and there is no vegetation removal proposed within the wetlands on-site. Temporary impacts due to construction access or staging are also not proposed. However, in the absence of measures to ensure that accidental impacts do not occur, it is possible that construction equipment could impact wetlands inadvertently. Implementation of the following mitigation measure will ensure that no such impacts occur, reducing impacts due to permanent or temporary disturbance of wetlands to a less-than-significant level.

6.5 Mitigation Measure 29. Avoidance of Wetlands and Waters. All wetland habitat within 100 ft of project impact areas will be shown on project design plansets, and prior to project activities, these areas will be protected with high-visibility ESA fencing. Impacts on Wildlife Movement: Interfere substantially with the movement of any native resident or migratory fish or wildlife

species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

6.5.1 Impacts on Wildlife Movement: (Less than Significant with Mitigation)

For many species, the landscape in the BSA is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The BSA is situated adjacent to a housing development on its western border, SR 92 on its northern border, and a maintenance yard at its eastern end. This adjacent development currently restricts wildlife movement to and from habitats to the north, west, and east of the BSA. Thus, the study likely does not function as a high-quality movement corridor for most species, particularly special-status species. However, because Pilarcitos Creek runs along its southern border, wildlife are able to disperse into the BSA along this riparian corridor. Wildlife dispersing into or through the BSA are currently able to move between Pilarcitos Creek and the perennial freshwater marsh in the northwestern section of the BSA. Thus, any development of the intervening annual grassland between Pilarcitos Creek and the perennial freshwater marsh would result in isolating the marsh. For example, this isolation would most likely impact any California red-legged frog population currently utilizing the marsh as breeding habitat by restricting the species' ability to disperse to and from the marsh to other habitat patches for this species in the region connected by the creek (see Section 6.4.2 above). Therefore, any project activity that isolates the perennial marsh from Pilarcitos Creek would be considered significant under CEQA. However, implementation of Mitigation Measures 4 and 5 for California red-legged frogs and San Francisco garter snakes would reduce impacts on these and other species currently using the perennial marsh to a less-than significant level. Because the project does not propose to impact Pilarcitos Creek and will have little impact, if any, on the riparian habitat and associated buffer, wildlife will be able to continue moving through the site along the creek, and the project will not result in significant impacts to wildlife movement along the creek.

6.6 Impacts due to Conflicts with Local Policies: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

6.6.1 Impacts to Heritage Trees per Municipal Code Section 7.40 (Less than Significant with Mitigation)

Per City of Half Moon Bay Municipal Code Section 7.40, Heritage Trees, a permit from the City Manager or his or her designee and payment of a fee are required for the removal of any trees which meets the definition of heritage tree, as defined in Section 3.4.2 above.

The BSA contains trees that likely meet the definition of a Heritage Tree. Because these trees are protected by the City of Half Moon Bay's heritage tree ordinance, their removal would meet the threshold of having a substantial adverse effect, and would be considered potentially significant under CEQA. Implementation of the following mitigation measure will reduce this impact to a less-than-significant level.

Mitigation Measure 30. During detailed design of the project, removal of trees protected by the City heritage tree ordinance will be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the BSA. Where removal on trees cannot be avoided, the project proponent will comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.

6.7 Impact due to Conflicts with an Adopted Habitat Conservation Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (No Impact)

The BSA is not located within an area covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans.

Section 7. References

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, Editors. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley, California.

Barnhart, R.A. 1986. Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Southwest) - Steelhead. U.S. Fish and Wildlife Service Biol. Rep. 82(11.60). U.S. Army Corps of Engineers TR EL-82-4.

Barry, S.J. 1993. The San Francisco garter snake: protection is the key to recovery. Tideline 13:1–3, 15.

Barry, S.J. 1994. The distribution, habitat, and evolution of the San Francisco garter snake, *Thamnophis sirtalis tetrataenia*. Unpublished M.A. Thesis. University of California, Davis.

Bossard C., Randall J. & Hoshovsky M., eds. 2000. Wildland Weeds of California. California Native Plant Society, Sacramento.

Bousman, W.G. 2007. Yellow warbler *Dendroica petechia*. Pages 376-377 in W.G. Bousman, editor. Breeding bird atlas of Santa Clara County. Santa Clara Valley Audubon Society, Cupertino, California.

Bulger, J.B., N.J. Scott, Jr., and R.B. Seymour. 2003. Terrestrial activity and conservation of adult California red-legged frogs *Rana aurora draytonii* in coastal forests and grasslands. Biological Conservation 110:85-95.

Bury, R. B. and D. J. Germano. 2008. Actinemys marmorata (Baird and Girard 1852) - western pond turtle, Pacific pond turtle in G. J. Rhodin, C. H. Pritchard, P. P. van Dijk, R. A. Saumure, K. A. Buhlmann, and J. B. Iverson, editors. Conservation Biology of Freshwater Turtles and Tortoises: A Compilation Project of the IUCN/SSC Tortoise and Freshwater Turtle Specialist Group. Chelonian Research Monographs.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I.V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. National Marine Fisheries Service. NOAA Tech. Memo. NMFS-NWFSC-27.

[CDFG 1994] California Department of Fish and Game. 1994. Environmental Services Division. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code

[CDFG] California Department of Fish and Game. 2007. Vegetation Classification and Mapping Program List of California Vegetation Alliances and Rarity Ranking.

[CDFG] California Department of Fish and Game. 2010. Vegetation Classification and Mapping Program: Natural Communities List. <http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp>. Accessed December 2017.

[CDFW] California Department of Fish and Wildlife. 2013. San Mateo Coastal Watersheds Stream Habitat Assessment Reports – Pilarcitos Creek. 45 pp.

California Fish and Game Commission. 2021. California Fish and Game Commission Notice of Findings – Mountain Lion (Puma concolor). Accessed April 2021 from https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178623&inline

[Cal-IPC] California Invasive Plant Council. 2021. California Invasive Plant Inventory Database. Accessed June 18-19 from http://www.cal-ipc.org/paf/

[CNDDB] California Natural Diversity Database. 2021. Rarefind 5.0. California Department of Fish and Wildlife. Accessed June 7, 2021 and other dates from http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp

[CNPS] California Native Plant Society. 2021. Inventory of Rare and Endangered Plants (online edition). Accessed June 2021 from http://www.cnps.org/inventory.

Carraway, L. N., and B. J. Verts. 1991. *Neotoma fuscipes*. Mammalian Species No. 386.

Center for Ecosystem Management and Restoration. 2008. Steelhead/rainbow trout (*Oncorhynchus mykiss*) resources south of the Golden Gate, California. Oakland, CA.

City of Half Moon Bay. 2020. Local Coastal Land Use Plan 2020 Comprehensive Update. Adopted by Half Moon Bay City Council Resolution No. C-2020-94 October 20, 2020 Certified by California Coastal Commission LCP Amendment No. LCP-2-HMB-20-0081-2 April 15, 2021.

City of Half Moon Bay. 2021. Chapter 18-38 of the Half Moon Bay Zoning Code. Accessed June 2021 from http://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay18/HalfMoonBay1838.html

Cornell Lab of Ornithology 2021. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed: June 2021]).

Dunk, J. R., and R. J. Cooper. 1994. Territory-size regulation in black-shouldered kites. Auk 111:588-595.

Dunk, J. R. 1995. White-tailed Kite (*Elanus leucurus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/178

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi.

Erichsen, E. L., K S. Smallwood, A. M. Commandatore, B. W. Wilson, and M. D. Fry. 1996. White-tailed kite movement and nesting patterns in an agricultural landscape in D. Bird, D. Varland, and J. Negro, editors. Raptors in Human Landscapes. Academic Press, San Diego, California.

Fellers, G.M. 2005. *Rana draytonii* Baird and Girard 1852. Red-legged frog. Pages 552-554 in M. Lannoo, editor. Amphibian declines: The conservation status of United States species, Vol. 2: Species accounts. University of California Press, Berkeley, California.

Fellers, G.M. and P.M. Kleeman. 2007. California red-legged frog (*Rana draytonii*) movement and habitat use: Implications for conservation. Journal of Herpetology 41:276-286.

Fukushima, L. and E.W. Lesh. 1998. Adult and juvenile anadromous salmonid migration timing in California streams. California Fish and Game 84:133-145.

Gardali, T. and J. G. Evens. 2008. San Francisco common yellowthroat (*Geothlypis trichas sinuosa*) in W. D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Western Field Ornithologists and California Department of Fish and Game, Camarillo and Sacramento, California.

Google Inc. 2021. Google Earth Pro (Version 7.3.1.4507) [Software]. Available from earth.google.com.

Guzy, M. J., and G. Ritchison. 1999. Common yellowthroat (*Geothlypis trichas*) in A. Poole and F. Gill, editors. The Birds of North America. The Birds of North America, Inc., Philadelphia.

H. T. Harvey & Associates. 1999. Santa Clara Valley Water District San Francisco Garter Snake Distribution and Status – 1999. Prepared for Santa Clara Valley Water District, December 3, 1999.

H. T. Harvey & Associates. 2005. Admin Draft, Half Moon Bay Community Park and Analysis Report, Biological Section.

H. T. Harvey & Associates. 2008. Adobe Creek Reach 5 Woodrat Mitigation Project Report. Project No. 2961-02. Prepared for the Santa Clara Valley Water District and the California Department of Fish and Game.

H. T. Harvey & Associates and RMC. 2010. Half Moon Bay Riparian and Wetland Mitigation Site, Preliminary Mitigation and Monitoring Plan.

Hall, E. R. 1981. The mammals of North America. 2nd edition. Volume II. John Wiley and Sons, New York, New York.

Haynie, M. L., C. F. Fulhorst, M. Rood, S. G. Bennett, B. D. Hess, and R. D. Bradley. 2007. Genetic variation in multilocus microsatellite genotypes in two species of woodrats (*Neotoma macrotis* and *N. fuscipes*). California Journal of Mammalogy 88:745-758.

Heath, S.K. 2008. Yellow warbler (*Dendroica petechia*) in W.D. Shuford and T. Gardali, editors. California bird species of special concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Western Field Ornithologists and California Department of Fish and Game, Camarillo and Sacramento, California.

Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game.

Jennings, M. R., and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game, Inland Fisheries Division.

Larsen, SS. 1994. Life history aspects of the San Francisco garter snake at the Millbrae habitat site. Unpublished M.S. Thesis. California State University, Hayward.

Lee, D. E., and W. D. Tietje. 2005. Dusky-footed woodrat demography and prescribed fire in a California oak woodland. Journal of Wildlife Management 69:1211-1220.

Lichvar, R. W., D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 30: 1-17.Lowther, P.E., C. Celada, N.K. Klein, C.C. Rimmer, and D.A. Spector. 1999. Yellow warbler. Pages 32 in A. Poole, and F. Gill, editors. The Birds of North America. The Birds of North America, Inc., Philadelphia.

McEwan, D. and T.A. Jackson. 1996. Steelhead Restoration and Management Plan for California. California Department of Fish and Game.

Menges, T. 1998. Common yellowthroat (*Geothlypis trichas*) in The Riparian Bird Conservation Plan: A Strategy for Reversing the Decline of Riparian-associated Birds in California. California Partners in Flight.

Miller, K.J. 1994. Endangered and threatened wildlife and plants: Proposed endangered status for the California red-legged frog. Federal Register 59:4888-4895.

[NETR] Nationwide Environmental Title Research. 2021. Online Historical Aerials. Accessed June 2021 from http://www.historicaerials.com/

[NMFS] National Marine Fisheries Service. 1997. Endangered and Threatened Species: Listing of several Evolutionary Significant Units (ESUs) of West Coast Steelhead. Federal Register 62:43937-43954.

[NMFS] National Marine Fisheries Service. 1999. Designated critical habitat; Central California Coast and Southern Oregon/Northern California Coasts coho salmon. Federal Register 64(86): 24049-24062.

[NMFS] National Marine Fisheries Service. 2005. Endangered and Threatened species: Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Steelhead and Salmon in California. Final rule. Federal Register 70:52488-52626.

[NMFS] National Marine Fisheries Service. 2006. Endangered and Threatened Species: Final listing determination for 10 Distinct Population Segments of West Coast Steelhead. Federal Register 71:834-862.

[NMFS] National Marine Fisheries Service. 2015. Endangered Species Act Section 7(a)(2) Concurrence Letter for the Pilarcitos Creek Bridge Replacement Project. June 15.

NOAA 2005. National Oceanic and Atmospheric Administration Endangered and Threatened Species: Final Listing Determinations for 10 Distinct Population Segments of West Coast Steelhead; Final Rule. 50 CFR Part 17 Vol. 70 (170): 52488- 52627. September 2.

[NRCS] National Resource Conservation Service. 2021a. National Resource Conservation Service (NRCS) National Hydric Soils List. Accessed June 2021 from http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ use/hydric/.

[NRCS] National Resource Conservation Service. 2018b. National Resource Conservation Service (NRCS) Web Soil Survey. Accessed June, 2021 from http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

Nur, N., S. Zack, J. Evans, and T. Gardali. 1997. Tidal Marsh Birds of the San Francisco Bay Region: Status Distribution, and Conservation of Five Category 2 Taxa. PRBO Conservation Science final draft report to the United States Geological Survey.

Pacific Fishery Management Council. 1999. Amendment 14 to the Pacific Coast Salmon Plan: Identification and Description of Essential Fish Habitat, Adverse Impacts, and Recommended Conservation Measures for Salmon. Portland, OR.

Phillip Williams & Associates (PWA). 2008. Pilarcitos Integrated Watershed Management Plan. Prepared for the San Mateo County Resource Conservation District. October 24. San Francisco, CA.

Polite, C. 1990. Black-shouldered Kite *Elanus caeruleus*. In California's Wildlife, Vol II: Birds. D. C. Zeiner, W. F. Laudenslayer Jr., K. E. Mayer, and M. White, Eds. California Department of Fish and Game, California Statewide Wildlife Habitat Relationships System. Pp 120-121.

Santa Cruz Puma Project. 2018. Puma Tracker. Accessed April 2021 and other dates from http://www.santacruzpumas.org/puma-tracker/

Sawyer, J. O., T. Keeler-Wolf and J. M. Evens. 2009. A Manual of California Vegetation [online]. Second Edition. California Native Plant Society.

[SFBBO] San Francisco Bay Bird Observatory. 2012. Determining the Range of Common Yellowthroat Subspecies in San Francisco Bay. Bay Bird Review. Winter 2012.

Sequoia Audubon Society. 2001. San Mateo County Breeding Bird Atlas.

Shapovalov, L., and A.C. Taft. 1954. The life histories of the steelhead rainbow trout (*Salmo gairdneri gairdneri*) and silver salmon (*Oncorhynchus kisutch*) with special reference to Waddell Creek, California, and recommendations regarding their management. DFG Bulletin No. 98

Skonieczny, M. F., and J. R. Dunk. 1997. Hunting synchrony in white-tailed kites. Journal of Raptor Research 31:79-81.

Stebbins, R. C. 2003. A Field Guide to Western Reptiles and Amphibians. Boston, Massachusetts.

Titus, R.G., D.C. Erman, and W.M. Snider. In draft. History and Status of Steelhead in California Coastal Drainages South of San Francisco Bay. California Department of Fish and Game, Fish Bulletin. August 2010.

[USACE] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Wetlands Regulatory Assistance Program.

[USFWS] United States Fish and Wildlife Service. 1985. Recovery Plan for the San Francisco Garter Snake *Thamnophis sirtalis tetrataenia*. USFWS Endangered Species Program. Portland, Oregon. 77 pp.

[USFWS] United States Fish and Wildlife Service. 1996 Endangered and threatened wildlife and plants: Determination of threatened status for the California Red-legged Frog. Federal Register 61:25813-25833

[USFWS] United States Fish and Wildlife Service. 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Region 1.

[USFWS] United States Fish and Wildlife Service. 2010a. Endangered and threatened wildlife and plants; Revised designation of critical habitat for California red-legged frog; Final rule. Federal Register 75:12815-15959.

[USFWS] U.S. Fish and Wildlife Service. 2014. National Wetlands Inventory. Wetland Mapper V2. Accessed June 2021 from https://www.fws.gov/wetlands/Data/Mapper.html.

[USFWS] U.S. Fish and Wildlife Service. 2021a. Information for Planning and Conservation (IPaC). Accessed May 2021 from https://ecos.fws.gov/ipac/.

[USFWS] U.S. Fish and Wildlife Service. 2021b. Western Monarch Butterfly Conservation Recommendations. April 29, 2021.

WorldClimate.com. 2021. Average Weather Data for Half Moon Bay, CA. Accessed June 2021 from http://www.worldclimate.com/climate/us/california/half-moon-bay

The Xerces Society. 2018. A petition to the State of California Fish and Game Commision to list the Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. October 16.

Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White, editors. 1990a. California's Wildlife. Volume II: Birds. California Department of Fish and Game, Sacramento, California

Zeiner, D. C., W. F. Laudenslayer Jr., K. E. Mayer, and M. White, editors. 1990b. California's wildlife. Volume III: Mammals. California Department of Fish and Game, Sacramento, California.

Personal Communications

John Doughty of the City of Half Moon Bay in an email on July 6, 2018 to, and a conversation on August 27, 2018 with, Jeff Wilkinson of H. T. Harvey & Associates.

Appendix A. Plants Observed

Family	Scientific Name	Common Name	Wetland Indicator Status
Agavaceae	*Chlorogalum pomeridianum*	soap plant	UPL
Anacardiaceae	*Toxicodendron diversilobum*	poison oak	FAC
Apiaceae	*Conium maculatum*	poison hemlock	FAC
	Hydrocotyle verticillata	whorled marsh-pennywort	OBL
	Torilis arvensis	field hedge parsley	UPL
Araceae	*Lemna sp.*	duckweed	OBL
Araliaceae	*Hedera helix*	English ivy	FACU
Asteraceae	*Arctotheca prostrata*	creeping capeweed	UPL
	Baccharis pilularis	coyote brush	UPL
	Carduus pycnocephalus	Italian thistle	UPL
	Cirsium vulgare	bull thistle	FACU
	Deinandra corymbosa	coastal tarweed	UPL
	Delairea odorata	cape ivy	UPL
	Helminthotheca echioides	bristly ox-tongue	FAC
	Lactuca serriola	*prickly lettuce*	FACU
	Madia sativa	Chile tarweed	UPL
	Silybum marinum	milk thistle	UPL
Azollaceae	*Azolla filiculoides*	mosquito fern	OBL
Betulaceae	*Alnus rubra*	red alder	FAC
Brassicaceae	*Brassica nigra*	black mustard	UPL
	Hirschfeldia incana	Mediterranean hoary mustard	UPL
	Raphanus sativus	wild radish	UPL
Caryophyllaceae	*Silene gallica*	windmill pink	UPL
Cupressaceae	*Sequoia sempervirens*	coast redwood	UPL
Cyperaceae	*Carex barbarae*	Santa Barbara sedge	FAC
	Carex densa	dense sedge	OBL
	Cyperus eragrostis	tall flatsedge	FACW
Equisetaceae	*Equisetum arvense*	common horsetail	FAC
Fabaceae	*Acacia dealbata*	silver wattle	UPL
	Genista monspessulana	French broom	UPL
	Lotus corniculatus	bird's foot trefoil	FAC

Family	Scientific Name	Common Name	Wetland Indicator Status
	Lupinus arboreus	coastal bush lupine	UPL
	Trifolium angustifolium	narrow leaved clover	UPL
	Vicia villosa	hairy vetch	UPL
Fagaceae	*Quercus agrifolia*	coast live oak	UPL
Junacaeae	*Juncus effusus*	bog rush	FACW
	Juncus patens	common rush	FACW
	Juncus xiphoides	iris leaved rush	OBL
Lamiaceae	*Stachys bullata*	California hedge nettle	UPL
Linaceae	*Linum bienne*	narrow leaved flax	UPL
Myrtaceae	*Eucalyptus globulus*	blue gum	UPL
Pinaceae	*Hesperocyparis macrocarpa*	Monterey cypress	UPL
	Pinus radiata	Monterey pine	UPL
	Pseudotsuga menziesii	Douglas fir	FACU
Plataginaceae	*Plantago coronopus*	cutleaf plantain	FAC
Poaceae	*Agoseris stolonifera*	creeping bentgrass	FAC
	Aira caryophyllea	silvery hairgrass	FACU
	Avena sp.	wild oats	UPL
	Briza maxima	rattlesnake grass	UPL
	Briza minor	little quaking grass	FAC
	Bromus diandrus	ripgut brome	UPL
	Bromus hordeaceus	soft chess	FACU
	Cortaderia jubata	Pampas grass	FACU
	Cynosurus echinatus	dogtail grass	UPL
	Festuca perenne	Italian ryegrass	FAC
	Holcus lanatus	velvet grass	FAC
	Hordeum murinum	meadow barley	FAC
	Polypogon monspeliensis	rabbitsfoot grass	FACW
Polygonaceae	*Rumex acetosella*	sheep sorrel	FACU
	Rumex crispus	curly dock	FAC
Primulaceae	*Lysimachia arvensis*	scarlet pimpernel	FAC
Rosaceae	*Cotoneaster pannosus*	silverleaf cotoneaster	UPL
	Rubus armeniacus	Himalayan blackberry	FAC
	Rubus ursinus	California blackberry	FACU
Salicaceae	*Salix laevigata*	red willow	FACW
	Salix lasiandra	Pacific willow	FACW

Family	Scientific Name	Common Name	Wetland Indicator Status
	Salix lasiolepis	arroyo willow	FACW
Typhaceae	*Typha latifolia*	common cattail	OBL
Urticaceae	*Urtica dioica* ssp. *dioica*	stinging nettle	FAC

Appendix B. Special-Status Plants Considered for Potential Occurrence

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Federal or State Endangered, Threatened, or Candidate Species			
San Mateo thornmint (*Acanthomintha duttonii*)	FE, SE, 1B.1	Annual herb. Occurs on serpentine in chaparral, valley and foothill grassland. Blooms April – June.	**Absen**t. There is no suitable habitat present within the BSA due to the absence of serpentine substrate. Also, this species is highly restricted in distribution and is known from only two extant natural occurrences and one introduced population in San Mateo county. Therefore, this species is determined to be absent from the BSA.
Fountain thistle (*Cirsium fontinale* var. *fontinale*)	FE, SE, 1B.1	Perennial herb. Occurs in serpentine seeps in chaparral openings and valley and foothill grassland. Blooms June – October.	**Absen**t. There is no suitable habitat for this species within the BSA due to lack of serpentine seeps in the BSA. Known only from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
San Mateo woolly sunflower (*Eriophyllum latilobum*)	FE, SE, 1B.1	Perennial herb. Occurs on serpentine in cismontane woodland, often on roadcuts. Blooms May – June.	**Absent**. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Also, this species is highly restricted in distribution and is known only from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Marin western flax (*Hesperolinon congestum*)	FT, CT, 1B.1	Annual herb. Occurs on serpentine substrate in chaparral and valley and foothill grassland. Blooms April – July.	**Absent**. No suitable habitat is present within the BSA due to lack of serpentine substrate. Known only from the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Coast yellow leptosiphon (*Leptosiphon croceus*)	SC; 1B.1	Annual herb. Occurs in coastal bluff scrub and coastal prairie. Blooms April – May.	**Absent**. There is no coastal bluff or scrub habitat present within the BSA. Also, this species is highly restricted in distribution and is known only from one population in Moss Beach. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
White-rayed pentachaeta (*Pentachaeta bellidiflora*)	FE, CE, 1B.1	Annual herb. Occurs on serpentine substrate on cismontane woodland and valley and foothill grassland. Blooms March – May.	**Absent**. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Also, this species is highly restricted in distribution and is Known only from the Crystal Springs Reservoir area and near Edgewood Park and Natural Preserve. Therefore, this species is determined to be absent from the BSA.
Hickman's cinquefoil (*Potentilla hickmanii*)	FE, SE, 1B.1, LCP	Perennial herb. Occurs in marshy areas within coastal bluff scrub and closed-cone coniferous forest. Also, vernally mesic meadows and seeps, and freshwater marshes and swamps. Blooms April – August	**Absent**. There is marginal freshwater marsh habitat for this species within the BSA. However, no suitable vegetation association is present. Additionally, this species is only known locally from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
CRPR Species and Locally Rare Species			
Blasdale's bent grass (*Agrostis blasdalei*)	1B.2	Perennial grass. Occurs in coastal scrub, dunes, and prairie. Blooms May – July.	**Absent**. There is no suitable coastal scrub, dune, or prairie habitat for this species within the BSA. Known only from coastal sites in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Franciscan onion (*Allium peninsulare* var. *franciscanum*)	1B.2	Perennial herb. Occurs on hillsides in cismontane woodland and valley and foothill grassland with serpentine, clay, and volcanic soils. Blooms May – June.	**Absent.** There is no suitable habitat for this species within the BSA due to the ack of suitable soils,ck Only known locally from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Bent-flowered fiddleneck (*Amsinckia lunaris*)	1B.2	Annual herb. Coastal bluff scrub, cismontane woodland and valley and foothill grassland, often on serpentine soils. Blooms March – June.	**Absent.** There is no suitable habitat for this species within the BSA due tolack of serpentine soils. Only known locally from the Crystal Springs Reservoir area within the Golden Gate National Recreation Area. Additionally, there are no records of coastal occurrences. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
California androsace (*Androsace elongata* ssp. *acuta*)	4.2	Annual herb. Occurs on dry grassy slopes in chaparral, foothill woodland, northern coastal scrub, and coastal sage scrub. Blooms February – April.	**Absent.** There is no suitable chaparral habitat for this species within the BSA. Additionally, there are no recent records of occurrences in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Coast rock cress (*Arabis blepharophylla*)	4.3; LCP	Perennial herb. Occurs in broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Blooms February – May.	**Absent**. There is no suitable forest, scrub, or prairie habitat for this species within the BSA. Only known locally from a coastal site in San Mateo County and from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Santa Cruz manzanita (*Arctostaphylos andersonii*)	1B.2	Occurs in openings and edges of broadleaved upland forest, chaparral, and North Coast coniferous forest. Blooms November – April.	**Absent**. There is no suitable forest or chaparral habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Therefore, this species is determined to be absent from the BSA.
Montara manzanita (*Arctostaphylos montarensis*)	1B.2, LCP	Evergreen shrub. Occurs in maritime chaparral and coastal scrub. Blooms January– March.	**Absent**. There is no suitable chaparral habitat within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Only known locally from higher elevations within the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Kings Mountain manzanita (*Arctostaphylos regismontana*)	1B.2	Evergreen shrub. Occurs on granite or sandstone in broadleaved upland forest, chaparral, and North Coast coniferous forest. Blooms January – April.	**Absent**. There is no suitable granite or sandstone substrate within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Only known locally from higher elevations within open spaces east of Half Moon Bay. Therefore, this species is determined to be absent from the BSA.
Ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*)	4.2	Perennial herb. Occurs in coastal bluff scrub and coastal dunes in rocky or sandy areas. Blooms all year.	**Absent.** There is no suitable coastal bluff or dune habitat within the BSA. Only known locally from several coastal sites in San Mateo County and the Presidio in San Francisco. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Coastal marsh milk-vetch (*Astragalus pycnostachyus* var. *pycnostachyus*)	1B.2	Perennial herb. Occurs in coastal salt marshes, seeps and mesic coastal dunes. Blooms April – October.	**Absent**. There is no salt marsh or coastal dune habitat for this species within the BSA. Only known locally from several coastal sites in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Brewer's calandrinia (*Calandrinia breweri*)	4.2	Annual herb. Occurs in chaparral and coastal scrub. Blooms January – June.	**Absent.** There is no chaparral or coastal scrub habitat for this species within the BSA. Only known locally from the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Oakland star-tulip (*Calochortus umbellatus*)	4.2	Perennial herb. Occurs in open chaparral or woodland, usually on serpentine substrate. Blooms March – May.	**Absent.** There is no suitable chaparral or woodland habitat for this species within the BSA. Only known locally from several locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.
Johnny-nip (*Castilleja ambigua* var. *ambigua*)	4.2	Annual herb. Occurs in mesic areas in coastal bluffs, coastal prairie, coastal scrub, and valley and foothill grassland. Also occurs in marshes and vernal pools. Blooms May – August.	**Absent.** There is marginal mesic grassland habitat present within the BSA. However, the grassland habitat is dominated by ruderal species. Additionally, no suitable vegetation association is present. Known locally from several coastal locations in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Pappose tarplant (*Centromadia parryi* ssp. *parryi*)	1B.2	Annual herb. Occurs in coastal prairie, meadows and seeps coastal salt marshes and swamps and vernally mesic valley and foothill grassland often in alkaline soils. Blooms May – November.	**Absent**. There is no suitable mesic alkaline habitat present within the BSA. Only known locally from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
San Francisco Bay spineflower (*Chorizanthe 4uspidate* var. *4uspidate*)	1B.2	Annual herb. Occurs on sandy soils in coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub.	**Absent.** There is no suitable habitat for this species within the BSA due to lack of sandy soils. Known from only one recent occurrence at Thorton State Beach near San Francisco. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Franciscan thistle (*Cirsium andrewsii*)	1B.2	Perennial herb. Occurs on mesic and sometimes serpentine substrates in broadleaved upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Blooms March – July.	**Absent**. There is no suitable habitat for this species within the BSA, due to the lack of fserpentinitic bedrock geology. This species is presumed extirpated from San Mateo County. Therefore, this species is determined to be absent from the BSA.
San Francisco collinsia (*Collinsia multicolor*)	1B.2	Annual herb. Occurs in moist, shady areas in closed cone coniferous forest and coastal scrub. Blooms March – May.	**Absent**. There is no suitable forest or coastal scrub habitat for this species within the BSA. There are no records of occurrences along the San Mateo coast. Therefore, this species is determined to be absent from the BSA.
Clustered lady's slipper (*Cypripedium fasciculatum*)	4.2	Perennial herb. Occurs in mesic, shady areas of conifer forests. Blooms March – July.	**Absent.** Known from several locations in the Santa Cruz Mountains, but there is no suitable habitat for this species within the BSA, so this species is considered absent from the BSA.
Mountain lady's slipper (*Cypripedium montanum*)	4.2	Perennial herb. Occurs in moist areas and dry slopes in mixed evergreen and conifer forests. Blooms March – June.	**Absent.** Known from one non-specific location near La Honda in San Mateo County, but there is no suitable habitat for this species within the BSA, so this species is considered absent from the BSA.
Western leatherwood (*Dirca occidentalis*)	1B.2	Deciduous shrub. Occurs on mesic sites in broadleaved upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian scrub, and riparian woodland. Blooms January – April.	**Absent**. There is marginal habitat for this species within the BSA, and this species is known from higher elevation locations in the Santa Cruz Mountains in San Mateo County. Vegetative material would have been detectable during the June 2018 site visit and was not observed, so this species is considered absent from the BSA.
California bottle-brush (*Elymus californicus*)	4.3	Perennial grass. Occurs in broadleaved upland forest, cismontane woodland, north coast coniferous forest, and riparian woodland. Blooms May – November.	**Absent.** There is marginal habitat for this species within the BSA. Known from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. However, there are no records of occurrences along the San Mateo coast, so this species is considered absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
San Francisco wallflower (*Erysimum franciscanum*)	4.2; LCP	Perennial herb. Occurs on serpentine and granite substrate in coastal strand, northern coastal scrub, and valley grassland. Blooms March – June.	**Absent**. Known from the Crystal Springs Reservoir area. No suitable habitat for this species is present within the BSA due to lack of bedrock geology, so this species is considered absent from the BSA.
Beach strawberry (*Fragaria chiloensis*)	LCP	Perennial herb. Occurs near the coast in sandy soils often in road cuts, on coastal bluffs, and on cliffs. Blooms February – March.	**Absent**. There is no suitable habitat present within the BSA due to lack of sandy soils. This species would have been detectable during the June 2018 site visit and was not observed, so this species is considered absent from the BSA.
Stinkbells (*Fritillaria agrestis*)	4.2	Perennial herb. Occurs in clay soils on banks, depressions, and slopes in chaparral, valley grassland, and foothill woodland. Sometimes occurs in serpentine soils. Blooms March – June.	**Absent.** Known only from Año Nuevo State Park in southern San Mateo County. There is no suitable habitat present within the BSA, so this species is considered absent from the BSA.
Hillsborough chocolate lily (*Fritillaria biflora* var. *lneziana*)	1B.1	Perennial herb. Occurs on serpentine in cismontane woodland and valley and foothill grassland. Blooms March – April.	**Absent**. Known only from the Hillsborough area of San Mateo County. There is no suitable habitat for this species in the BSA due to lack of serpentine substrate, so this species is considered absent from the BSA.
Marin checker lily (*Fritillaria lanceolata* var. *tristulis*)	1B.1	Perennial herb. Occurs in coastal prairie, coastal scrub, and coastal bluff scrub. Blooms February –May.	**Absent**. Known mainly from Marin County. There is one non-specific occurrence in Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA, so this species is considered absent from the BSA.
Fragrant fritillary (*Fritillaria liliacea*)	1B.2	Perennial herb. Occurs in cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland near the coast, on heavy clay and serpentine soils. Blooms February – April.	**Absent**. Known from the Crystal Springs area. There is no suitable habitat for this species within the BSA due to a lack of bedrock geology, so this species is considered absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
San Francisco gumplant (*Grindelia hirsutula* var. *maritima*)	1B.2	Perennial herb. Occurs on serpentine or sandy substrates in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Blooms August – September.	**Absent**. Known from Mc Nee State Park area. There is no suitable habitat present within the BSA due to lack of sandy or serpentine substrates, so this species is absent from the BSA.
Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*)	2.2	Annual herb. Occurs on sandy substrates in coastal bluff scrub and coastal dunes. Blooms March – June.	**Absent**. There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat within the BSA due to the lack of serpentine or sandy substrates, so this species is absent from the BSA.
Kellogg's horkelia *Horkelia 7uneate* subsp. *sericea*)	1B.1	Annual herb. Occurs on sandy substrate in closed-cone coniferous forest, chaparral, coastal dunes, old sand hills, coastal scrub. Blooms April – September.	**Absent**. Known from near Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA due to lack of sandy substrate, so this species is absent from the BSA.
Point Reyes horkelia (*Horkelia marinensis*)	1B.2	Perennial herb. Occurs on sandy substrates in coastal dunes, coastal prairie, and coastal scrub. Blooms May – September.	**Absent.** Known mainly from coastal areas in Santa Cruz County. There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. There is no suitable habitat present within the BSA due to lack of sandy substrate, so this species is absent from the BSA.
Harlequin lotus (*Hosackia gracilis*)	4.2	Perennial herb. Occurs in marshes, shores, ponds, ditches, wet areas in meadows in mixed evergreen forest, northern coastal scrub, and closed-cone pine Forest. Blooms March – July.	**Possible**. There is suitable habitat present within the BSA. Known from several locations along the San Mateo coast and the Crystal Springs Reservoir area. Could potentially occur in the riparian habitat along Pilarcitos Creek
Coast iris (*Iris longipetala*)	4.2	Perennial herb. Occurs in seeps and mesic areas in coastal prairie and lower montane coniferous forest.	**Absent.** Known from the Crystal Springs Reservoir area. There is no suitable habitat present within the BSA, so this species is absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
perennial goldfields (*Lasthenia californica* ssp. *Macrantha*)	1B.2	Perennial herb. Occurs in coastal dunes, coastal bluff scrub, coastal scrub, and grasslands along immediate coast. Blooms January – November.	**Absent**. Known from nearby open spaces along the San Mateo County Coast, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Bristly leptosiphon (*Leptosiphon acicularis*)	4.2	Annual herb. Occurs in grassy areas in coastal prairie, chaparral, and foothill woodland. Blooms April – May.	**Absent.** Known from the Crystal Springs Reservoir area, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Serpentine leptosiphon (*Leptosiphon ambiguous*)	4.2	Annual herb. Occurs in grassy areas on serpentine soils. Blooms April – May.	**Absent.** There is no suitable habitat present within the BSA due to lack of serpentine substrate. There are no records of occurrences along the San Mateo coast. This species is absent from the BSA.
Large-flowered leptosiphon (*Leptosiphon grandiflorus*)	4.2	Annual herb. Occurs in open grassy flats in coastal strand, foothill woodland, northern coastal scrub, coastal sage scrub, closed-cone pine forest, valley grassland, and coastal prairie, generally in sandy soil.	**Absent.** There is no suitable habitat present within the BSA, and there are no recent records occurrences in San Mateo County. Mainly known from Henry Coe State Park and the Mt. Hamilton area. This species is absent from the BSA.
Rose linanthus (*Leptosiphon rosaceus*)	1B.1	Annual herb. Occurs in coastal bluff scrub. Blooms April – June.	**Absent**. Known from the Pillar Point Bluff area, but there is no suitable habitat present within the BSA, so this species is absent from the BSA.
Crystal Springs lessingia (*Lessingia arachnoidea*)	1B.2	Annual herb. Occurs on serpentine in cismontane woodland, coastal scrub, and valley and foothill grassland. Blooms July – October.	**Absent**. Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate, so this species is absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Woolly-headed lessingia (*Lessingia hololeuca*)	3	Annual herb. Occurs in broadleaved upland forest, coastal scrub, lower montane coniferous forest and valley and foothill grassland on clayey and serpentine substrates. Blooms June – October.	**Absent.** Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA due to lack of serpentine and clayey substrates, so this species is absent from the BSA.
Coast lily (*Lilium maritimum*)	1B.1	Perennial herb. Occurs in broadleaved upland forest, closed-cone coniferous forest, coastal prairie, coastal scrub, and freshwater marshes and swamps. Blooms May – July.	**Absent.** Known from Point Reyes National Seashore in Marin County. There is suitable habitat for this species within the BSA. However, this species is presumed extirpated from San Mateo County, so this species is absent from the BSA.
Ornduff's meadowfoam (*Limnanthes douglasii* var. *ornduffii*)	1B.2	Annual herb. Occurs in mesic meadows and seeps as well as agricultural fields in coastal prairie. Referred to as yellow meadowfoam in the LCP Blooms. March – May.	**Absent**. There is marginal habitat present within the BSA. However, this species is highly restricted in distribution and is known only from the Pillar Point Bluff area, so this species is absent from the BSA.
San Mateo tree lupine (*Lupinus arboreus* var. *eximius*)	3.2; LCP	Evergreen shrub. Occurs in chaparral and coastal scrub. Referred to as Davy's Bush Lupine in the LCP. Blooms April – July.	**Absent.** Known from McNee Ranch State Park and Montara mountain. There is no suitable habitat for this species within the BSA, so this species is absent from the BSA.
Indian Valley bush mallow (*Malacothamnus aboriginum*)	1B.2	Deciduous shrub. Occurs on rocky and often burned areas in chaparral and cismontane woodland. Blooms April – October.	**Absent.** There is one non-specific occurrence from Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Known mainly from San Benito County. There is no suitable habitat for this species within the BSA due to lack of rocky substrate, so this species is absent from the BSA.
Arcuate bush mallow (*Malacothamnus arcuatus*)	1B.2	Evergreen shrub. Occurs in chaparral. Blooms April – September.	**Absent**. Known from the Crystal Springs Reservoir area. There is no suitable habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit but none was seen. Therefore, this species is absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Davidson's bush mallow (*Malacothamnus davidsonii*)	1B.2	Deciduous shrub. Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Blooms June – January.	**Absent**. There is marginal habitat present within the BSA. However, this species is known only from locations in the Santa Cruz Mountains, so this species is absent from the BSA.
Hall's bush mallow (*Malacothamnus hallii*)	1B.2	Evergreen shrub. Occurs in open areas in chaparral and coastal scrub. Blooms May – September.	**Absent**. There is no suitable chaparral or coastal scrub habitat for this species within the BSA. Vegetative material would have been detectable during the June 2018 site visit. Additionally, this species is only known locally from locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.
Marsh microseris (*Microseris paludosa*)	1B.2	Perennial herb. Occurs in moist areas in closed-cone coniferous forest, cismontane woodland, coastal scrub and valley and foothill grassland. Blooms April – June.	**Absent.** There is marginal mesic grassland habitat for this species within the BSA. However, this species is known only from one recent occurrence in San Mateo County, near Pescadero. Therefore, this species is determined to be absent from the BSA.
Elongate copper moss (*Mielichhoferia elongata*)	4.3	Moss. Occurs in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, and subalpine coniferous forest on vernally mesic, acidic metamorphic rock.	**Absent.** There is no suitable metamorphic rock habitat for this species within the BSA. Known only from one non-specific location in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Woodland woolythreads (*Monolopia gracilens*)	1B.2	Annual herb. Occurs on serpentine substrate in broadleaved upland forest, chaparral, cismontane woodland, north coast coniferous forest and valley and foothill grassland, usually in open areas. Blooms February – July	**Absent**. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Only known locally from locations in the Santa Cruz Mountains. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Gairdner's yampah (*Perideridia gairdneri* ssp. *gairdneri*)	4.2; LCP	Perennial herb. Occurs in moist soils within broadleaved upland forest, chaparral, coastal prairie, valley and foothill grassland, and vernal pools. Blooms June – October.	**Absent**. There is marginal mesic grassland habitat for this species within the BSA. However, only known from the Crystal Springs Reservoir area and the Pescadero area. Additionally, no suitable vegetation association is present. Therefore, this species is determined to be absent from the BSA.
Dudley's lousewort (*Pedicularis dudleyi*)	1B.2	Perennial herb. Occurs in coastal chaparral and coniferous forest.Blooms April – June.	**Absent**. There is no suitable chaparral and forest habitat for this species within the BSA. Also, this species is known only from several locations in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Choris's popcorn-flower (*Plagiobothrys chorisianus* var. *chorisianus*)	1B.2	Annual herb. Occurs in moist areas within coastal scrub and chaparral, Blooms March – June.	**Absent**. There is no suitable coastal scrub habitat for this species within the BSA. Only known locally from coastal scrub habitats along the San Mateo County Coast, including Half Moon Bay. Therefore, this species is determined to be absent from the BSA.
Monterey pine (*Pinus radiata*)	1B.1, LCP	Perennial evergreen tree. Occurs in Closed-cone coniferous forest and Cismontane woodland. Commonly planted as an ornamental throughout coastal California.	**Present as an ornamental.** The Monterey pines present within the BSA were planted as part of landscaping and do not naturally occur in the BSA. Only three native stands are known in CA, at Año Nuevo, Cambria, and the Monterey Peninsula. Therefore, native stands of Monterey pine are determined to be absent from the BSA.
Michael's rein orchid (*Piperia michaelii*)	4.2	Perennial herb. Occurs in coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Blooms April – June.	**Absent.** There is no suitable woodland or chaparral habitat for this species within the BSA. Only known from coniferous forest locations in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Oregon polemonium (*Polemonium carneum*)	2.2	Perennial herb. Occurs in coastal scrub and lower montane coniferous forest. Blooms from April – September	**Absent**. There is no suitable scrub or forest habitat for this species within the BSA. Only known locally from the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
Lobb's aquatic buttercup (*Ranunculus lobbii*)	4.2	Annual herb. Occurs in freshwater ponds, wetlands, and vernal pools. Blooms from February – May.	**Absent.** There is marginal habitat present within the BSA. Additionally, No suitable vegetation association is present. Only known locally form the Crystal Springs Reservoir area. Therefore, this species is determined to be absent from the BSA.
Hoffmann's sanicle (*Sanicula hoffmannii*)	4.3	Perennial herb. Occurs in broadleafed upland forest, coastal bluff scrub, chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forest. Blooms March – May.	**Absent.** There is suitable chaparral or woodland habitat present within the BSA. Only known from several locations in southern San Mateo County. Therefore, this species is determined to be absent from the BSA.
Chaparral ragwort (*Senecio aphanactis*)	2B.2	Annual herb. Occurs in dry, open rocky areas in chaparral, cismontane woodland, and coastal scrub. Also occurs in alkaline flats. Blooms February – May.	**Absent.** There is no suitable chaparral or woodland habitat for this species within the BSA. Locally, there is only one non-specific occurrence near Purisima Creek Redwoods and Open Space Preserve. Therefore, this species is determined to be absent from the BSA.
San Francisco campion (*Silene verecunda* ssp. *Verecunda*)	1B.2, LCP	Perennial herb. Occurs on sandy substrate in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Referred to as Dolores campion in the LCP Blooms February – August.	**Absent**. There is no suitable habitat for this species within the BSA due to lack of sandy substrate. Only known locally from the higher elevations within the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Marsh zigadenus (*Toxicoscordion fontanum*)	4.2	Perennial herb. Occurs in vernally moist areas, marshes, and wetlands, often on serpentine soils in chaparral and mixed evergreen forest. Blooms April – July.	**Absent.** There is no suitable habitat for this species within the BSA due to lack of serpentine soils. Known from only one location near Crystal Spring Reservoir area. Therefore, this species is determined to be absent from the BSA.
Saline clover (*Trifolium.hydrophilum*)	1B.2	Annual herb. Occurs in salt marshes, mesic sites in valley and foothill grassland, and vernal pools on alkaline soils. Blooms April – June.	**Absent**. There is no suitable habitat for this species within the BSA due lack of alkaline soils. Additionally, there is only one non-specific occurrence for this species in San Mateo County. Therefore, this species is determined to be absent from the BSA.

Name	Status[1]	General Habitat Description	Potential for occurrence in the BSA[2]
San Francisco owl's clover (*Triphysaria floribunda*)	1B.2	Annual herb. Usually occurs on serpentine substrate in coastal prairie, coastal scrub, valley and foothill grassland. Blooms April – June.	**Absent**. There is no suitable habitat for this species within the BSA due to lack of serpentine substrate. Only known from the higher elevations within the Rancho Corral de Tierra area of the Golden Gate National Recreation Area. Therefore, this species is determined to be absent from the BSA.
Coastal triquetrella (*Triquetrella californica*)	1B.2	Moss. Occurs on soil in coastal bluff scrub and coastal scrub.	**Absent**. There is no suitable coastal scrub habitat present within the BSA. Only known from near Pilarcitos Lake in San Mateo County. Therefore, this species is determined to be absent from the BSA.
Methuselah's beard lichen (*Usnea longissima*)	4.2	Lichen. Occurs in broadleafed upland forest and North Coast coniferous forest.	**Absent.** There is no suitable forest habitat present within the BSA. Known from a single occurrence in the Santa Cruz Mountains near Purisima Creek Redwoods Open Space Reserve. Therefore, this species is determined to be absent from the BSA.

[1] Status definitions:

FE = federally listed as endangered.

FT = federally listed as threatened.

SE = state listed as endangered.

ST = state listed as threatened.

SC = State Candidate for listing

LCP = Species identified as rare, threatened or endangered and are located in the San Mateo County Coastal Zone as indicated in the City of Half Moon Bay Local Coastal Plan (1993).

California Rare Plant Rank (CRPR)

1A = plants presumed extirpated in California and either rare or extinct elsewhere.

1B = plants rare, threatened, or endangered in California and elsewhere.

2A = plants presumed extirpated in California, but common elsewhere.

2B = plants rare, threatened, or endangered in California, but more common elsewhere.

3 = plants about which more information is needed—a review list.

4 = plants of limited distribution—a watch list.

Threat code extension

.1 = seriously threatened in California.

.2 = fairly endangered in California.

.3 = not very endangered in California.

[2] Definitions regarding potential occurrence:

Possible =Species was not observed during the reconnaissance surveys, but suitable habitat is present (habitat type, soils, and elevation), and the species is known to occur in the project vicinity.

Absent = Suitable habitat is not present, or the project site is outside the species' local distribution or elevational range.

Appendix C. Special-Status Animals Considered for Potential Occurrence

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
Federal or State Endangered, Threatened, or Candidate Species			
Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT	Native grasslands on serpentine soils. Larval host plants are *Plantago erecta* and/or *Castilleja* sp.	**Absent.** No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, *Plantago erecta* and/or *Castilleja* sp., is not present in the BSA. Determined to be absent.
Mission blue butterfly (*Plebejus icarioides missionensis*)	FE	Coastal chaparral and coastal grasslands. Larval host plant are *Lupinus* spp.	**Absent.** No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, *Lupinus* spp., is not present in the BSA. Determined to be absent.
Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*)	FE	Coastal dune and prairie habitat. Larval host plants are violets, typically *Viola adunca*.	**Absent.** No suitable breeding or feeding habitat is present in the BSA. Further, suitable habitat for the species larval host plants, violets (typically *Viola adunca*), is not present in the BSA. Determined to be absent.
Monarch butterfly (*Danaus plexippus*)	FC	Overwintering roosts along the California coast from Mendocino County south to Baja California. Feed and breed exclusively on plant species in the subfamily Asclepiadoideae.	**Possible.** No suitable breeding or feeding habitat is present in the BSA due to the absence of milkweeds (*Asclepias* spp.). No overwintering roosts known in the BSA according to the Western Monarch Count's mapping tool – linked to in the Service's April 29, 2021 "Western Monarch Butterfly Conservation Recommendations" (USFWS 2021b). May occur as an occasional migrant, but not expected to breed or occur commonly/regularly in the BSA.
San Bruno elfin butterfly (*Callophrys mossii bayensis*)	FE	Coastal mountains near San Francisco Bay in the fog-belt of steep, north-facing slopes. Larval food plant is *Sedum spathulifolium*.	**Absent.** The San Bruno elfin butterfly is known only from the San Bruno Mountain, Milagra Ridge, and Montara Mountain in San Mateo County. Further, suitable habitat for the species larval host plant, broadleaf stonecrop (*Sedum spathulifolium*), a low growing succulent that grows in rocky outcrops on steep north facing slopes, is not present in the BSA. Determined to be absent.
Crotch bumble bee *Bombus crotchii*	SC	Open grassland and scrub habitats.	**Absent.** Although the species was historically found throughout the southern two-thirds of California, including the project vicinity, it is not expected to occur on the site due to recent range contractions (The Xerces Society 2018). Therefore, the species is determined to be absent.

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
Western bumble bee *Bombus occidentalis*	SC	Meadows and grasslands with abundant floral resources.	**Absent.** Although the species was historically found throughout much of central and northern California, including the project vicinity, it is not expected to occur on the site due to recent range contractions (The Xerces Society 2018). Therefore, the species is determined to be absent.
Delta smelt (*Hypmesus transpacificus*)	FT, SE	Estuarine systems in the Sacramento-San Joaquin Delta.	**Absent.** The Delta smelt occurs in estuarine waters in the Sacramento/San Joaguin Delta region of San Francisco Bay. The reach of Pilarcitos Creek within the BSA is considered a freshwater stream. No suitable aquatic habitat is present in the BSA. Determined to be absent.
Longfin smelt (*Spirinchus thaleichthys*)	FC, ST	Spawns in fresh water in the upper end of the San Francisco Bay; occurs year-round in the South Bay.	**Absent.** No suitable aquatic habitat is present in the BSA. The BSA is not associated with the San Francisco Bay habitat for the species within the county. Determined to be absent.
Central California Coast steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	**Possible.** Adult steelhead migrate upstream in winter months, when adequate flows allow passage to upstream areas. This typically occurs between December and March. Eggs are laid in gravelly sections of the streambed, and hatch in spring. Juvenile steelhead remain in the creek system for one to three years before migrating to the ocean. Thus, steelhead can occur in Pilarcitos Creek year-round.
Tidewater goby (*Eucyclogobius newberryi*)	FE, CSSC	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels.	**Absent.** The tidewater goby occurs in brackish, tidally influenced waters. The reach of Pilarcitos Creek within the BSA is approximately 1.7 mi upstream of the Pacific Ocean and is considered a freshwater stream. Further, the reach within the BSA lacks shallow lagoons or pools of still, non-stagnant waters, and is subject to flashy flows. These conditions make the BSA unsuitable for these and similar tidal species. Determined to be absent.
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Present.** California red-legged frog adults and juveniles were observed in the perennial freshwater marsh in the BSA in 2005 (H. T. Harvey & Associates 2005). California red-legged frog adults were observed in Pilarcitos Creek approximately 0.5 mi from the BSA in 2006, and California red-legged frogs were observed in a pond in the vicinity of Pilarcitos Creek approximately 1.3 mi of the BSA in 2016 (CNDDB 2021).

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
Foothill yellow-legged frog (*Rana boylii*)	SE	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	**Absent.** Nearest CNDDB record is over 16 mi southeast of the BSA (CNDDB 2021). Typical suitable habitat for the foothill yellow-legged frog (i.e., boulders and cobbles in open stream habitat) is not present. Determined to be absent.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	**Absent.** No suitable habitat is present in the BSA. Further, populations have largely been extirpated from San Mateo County due to habitat loss, and the species is now considered absent from most of the project vicinity, including the BSA. The closest occurrence in the project vicinity is at Lake Lagunita on the Stanford campus, which is approximately 14 mi south of, and on the opposite side of the Santa Cruz Mountains from, the BSA (CNDDB 2021). Determined to be absent.
San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)	FE, SE, SP	Prefer densely vegetated freshwater habitats. May use upland burrows for aestivation.	**Possible.** Pilarcitos Creek and the perennial freshwater marsh in the BSA provides suitable foraging habitat. An observation of the San Francisco garter snake in Pilarcitos Creek approximately 0.5 mi from the BSA has been recorded in CNDDB in 2004.
Salt marsh harvest mouse (*Reithrodontomys raviventris*)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed or alkali bulrush.	**Absent.** No suitable habitat is present in the BSA. Outside the species' range. Determined to be absent.
Bank swallow (*Riparia riparia*)	ST	Colonial nester on vertical banks or cliffs with fine textured soils near water.	**Absent.** No suitable habitat present in the BSA. Determined to be absent.
Marbled murrelet (*Brachyramphus marmoratus*)	FT, SE (nesting)	Requires dense, mature forests of redwood and Douglas-fir for breeding.	**Absent.** The BSA lacks suitable coastal coniferous forest nesting habitat for the marbled murrelet. Determined to be absent.
Mountain lion *Puma concolor*	SC	Occurs in a variety of habitats, such as deserts, woodlands, wetlands, and high-alpine forests. Preferred habitat is strongly correlated with densely vegetated areas, higher elevations, steep slopes, and abundant prey (Murphy 1983, Logan and Irwin 1985, Logan and Sweanor 2001).	**Possible.** Movement records of multiple mountain lions fitted with GPS-enabled wildlife-tracking collars, have shown individual lions moving through the surrounding area of the BSA over the past 10 years (Santa Cruz Puma Project 2018). The BSA does not provide suitable breeding and denning habitats, which is found far removed from the frequent human disturbances that occur within the BSA. Individual mountain lions may occur occasionally within the BSA as transients, as they move across their extensive home ranges, but they are expected to occur very infrequently.
California Species of Special Concern			

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
California giant salamander (*Dicamptodon ensatus*)	CSSC	Usually found in cool, moist, forest habitat, associated with rocky streams and springs. Water, preferably cold and flowing, is necessary for egg-laying sites and for the aquatic larval and adult forms.	**Absent.** Nearest CNDDB records are over 3 mi southeast and 5 mi north of the BSA (CNDDB 2021). The BSA is outside the montane/foothill habitat where this species occurs. Determined to be absent.
Santa Cruz black salamander (*Aneides niger*)	CSSC	Primarily found in moist habitats. Prefers cool, moist and shaded conditions along ravines and water courses.	**Absent.** Nearest CNDDB record is over 7 mi southeast of the BSA (CNDDB 2021). The BSA is outside the montane/foothill habitat where this species occurs. Determined to be absent.
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats.	**Possible.** The reach of Pilarcitos Creek within and adjacent to the BSA is degraded due to surrounding development; however, suitable basking and foraging habitat for pond turtles is present in these areas. In addition, the nearest CNDDB recorded observations are over 4 mi from the BSA in the area of the Crystal Springs Reservoir (CNDDB 2021). Thus, there is some potential for pond turtles to be present in the BSA, though they are likely present in low numbers and/or infrequently. The perennial freshwater marsh is too shallow, with emergent vegetation too thick, to be considered suitable aquatic foraging habitat for this species.
American badger (*Taxidea taxus*)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	**Absent.** Badgers are not expected to occur in the BSA due to disturbance, both on the site and in surrounding areas, coupled with the absence of nearby records. Determined to be absent.
Pallid bat (*Antrozous pallidus*)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**Possible.** No suitable roosting habitat in the BSA. Individuals from colonies located within several miles of the BSA could potentially forage on the site in low numbers, though nothing about the site suggests that it provides particularly important foraging habitat for the species. Expected to occur in the BSA as an occasional forager, albeit infrequently and in low numbers.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	**Possible.** Roosting habitat does not occur in the BSA but roosts do occur along the coastal region near Half Moon Bay, and individuals may occasionally occur in the BSA to forage or disperse. Expected to occur in the BSA as an occasional forager over the site, albeit infrequently and in low numbers.

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	**Possible.** The riparian habitat associated with Pilarcitos Creek and around the freshwater marsh in the BSA provides suitable nesting habitat. The nearest CNDDB record is near Pilarcitos Creek over 3 mi east-northeast of the BSA. No nests were observed during the reconnaissance-level survey, but this species could potentially nest or forage in, or disperse through, the riparian habitat in the BSA.
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	**Absent.** The BSA is outside of the area where the species nests in San Mateo County, which is along the San Francisco Bay marsh habitat of the county. Determined to be absent.
Burrowing owl (*Athene cunicularia*)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels (*Spermophilus beecheyi*).	**Absent.** No nesting burrowing owls are known to occur in the surrounding project vicinity (CNDDB 2021). The California annual grassland found in the BSA is too limited and surrounded by trees and development to provide good burrowing owl habitat. Thus, the species is not expected to occur in the BSA. Determined to be absent.
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	Nests in marshes and moist fields, forages over open areas.	**Present.** The perennial freshwater marsh in the BSA provides suitable habitat. An individual (but not a nest) was observed foraging within this perennial freshwater marsh in 2014. Low probability of nesting in this marsh due to its limited size, though the species forages in low numbers in the marsh and ruderal grassland.
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	**Possible.** The riparian habitat associated with Pilarcitos Creek and the perennial freshwater marsh in the BSA provide suitable nesting and foraging habitat.
Yellow warbler (*Setophaga petechia*)	CSSC (nesting)	Nests in riparian woodlands.	**Possible.** The riparian habitat associated with Pilarcitos Creek and around the perennial freshwater marsh in the BSA provides suitable foraging and nesting habitat. Likely to occur primarily as a migrant, but one or two pairs could potentially breed in the BSA.
California Fully Protected Species			

Name	Status[1]	General Habitat Description	Potential for Occurrence in the BSA[2]
American peregrine falcon (*Falco peregrinus anatum*)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	**Possible.** The riparian habitat associated with Pilarcitos Creek at the BSA and nearby open space provide suitable foraging habitat, but suitable nesting habitat is absent.
Golden eagle (*Aquila chrysaetos*)	SP	Breeds on cliffs or in large trees (rarely on electrical towers), forages in open areas.	**Absent.** No suitable nesting habitat is present in the BSA, and the BSA is not expected to provide suitable prey or sufficiently extensive open foraging habitat for this species.
White-tailed kite (*Elanus leucurus*)	SP	Nests in trees and forages in extensive grasslands or marshes.	**Present.** The riparian habitat associated with Pilarcitos Creek and around the perennial freshwater marsh in the BSA provide ostensibly suitable nesting habitat. An individual was observed in the vicinity of the perennial freshwater marsh in 2014.

[1] Special-status Species Code Designations:

FE = Federally listed Endangered
FT = Federally listed Threatened
FC = Federal Candidate for listing
SE = State listed Endangered
ST = State listed Threatened
SC = State Candidate for listing
CSSC = California Species of Special Concern

[2] Definitions regarding potential occurrence:

Present = Species or sign of its presence was observed on the site, or there are records of the species' occurrence on the site.

Possible =Species was not observed during the reconnaissance surveys, but suitable habitat is present (habitat type, soils, and elevation), and the species is known to occur in the project vicinity.

Absent = Suitable habitat is not present, or the project site is outside the species' local distribution or elevational range.

APPENDIX B2

Peer Review of the Biological Resources Report
880 Stone Pine Road Project
Technical Memorandum, SWCA Environmental Associates

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TECHNICAL MEMORANDUM

To: Todd Seeley
City of Half Moon Bay
501 Main Street
Half Moon Bay, California 94019

From: Jessie Henderson-McBean, Project Wildlife Biologist

Date: November 22, 2021

Re: **Biological Resources Report (BRR) Peer Review for the City of Half Moon Bay Corporation Yard Upgrade Project, Half Moon Bay, San Mateo County, California / SWCA Project No. 67708**

INTRODUCTION

At the request of the City of Half Moon Bay (City), SWCA Environmental Consultants (SWCA) has prepared this Biological Resources Report (BRR) Peer Review to discuss the results of the site visit conducted by SWCA on September 2, 2021, to provide comments on the H.T. Harvey & Associates (H.T. Harvey) BRR results, and to provide recommendations regarding suggested avoidance measures. SWCA understands that the City Corporation Yard Upgrade Project (project) description was refined after the BRR prepared by H.T. Harvey on June 25, 2021, was finalized; therefore, there is now a better understanding of the project area and associated potential impacts. The Biological Study Area (BSA) analyzed in the H.T. Harvey BRR includes the current project area, and therefore potential impacts to biological resources are either expected to remain consistent with those identified in the BRR or have been reduced due to the smaller, refined project area.

PROJECT OVERVIEW

The project area is located at the east end of Stone Pine Road between State Route (SR-) 92 and Pilarcitos Creek in the city of Half Moon Bay, San Mateo County, California (Figure 1). The project includes a lot line adjustment affecting two existing parcels. Parcel 1 would contain the Corporation Yard, access road, existing agricultural pond, conservation easement, and wildlife corridor for California red-legged frog (CRLF) (*Rana draytonii*) and San Francisco garter snake (SFGS) (*Thamnophis sirtalis tetrataenia*), and Parcel 2 would include the remaining area between the Corporation Yard and Stone Pine Road (see Figure 1). The project includes improvements to Parcel 1, including demolishing the existing trash enclosure; constructing a new paved road and parking areas; upgrades to electrical, water, and sewer facilities; and constructing new facilities, including a fabric tension warehouse building with restrooms, a covered trash/materials enclosure, and a solar field. The project also includes removal of existing fencing, which surrounds both parcels, and installing new fencing only around the corporation yard area in Parcel 1. On Parcel 2, the project activities will be limited to removal and restoration of the existing southern loop of the dirt access road. The access road alignment would be located as far north as is practicable, while taking into account driving safety, existing vegetation, and slope stability.

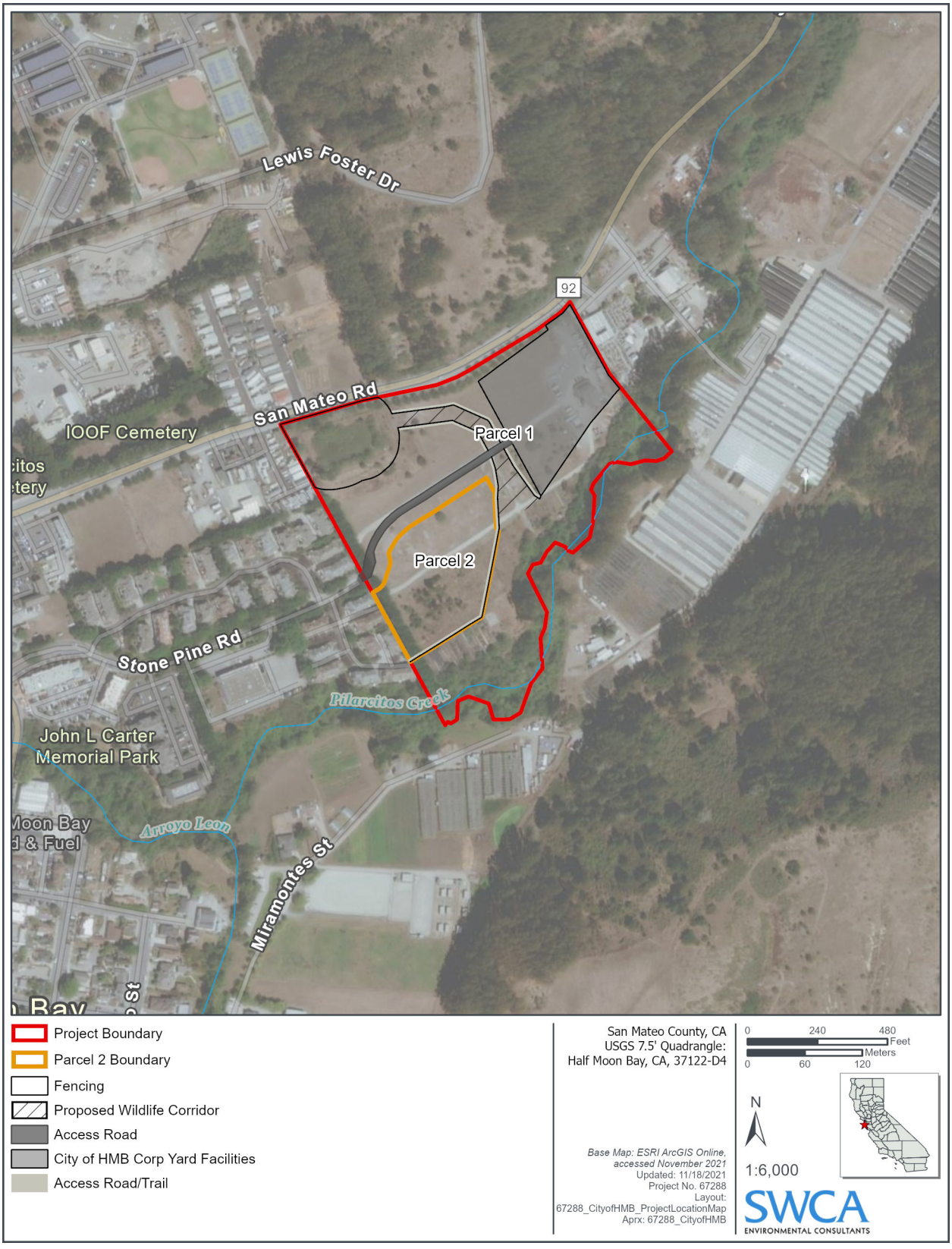


Figure 1. Project vicinity map.

The project would also include the construction of a wildlife corridor that would connect the existing agricultural pond in the northwest corner of the property with Pilarcitos Creek to the south. Development of the wildlife corridor would require construction of a wildlife-safe tunnel beneath the Corporation Yard access road, fencing to direct dispersing amphibians and reptiles through the tunnel, and temporary or permanent fencing along the riparian corridor to funnel any dispersing wildlife through the wildlife corridor. Additionally, the existing chain link fencing currently surrounding the existing agricultural pond would be removed and replaced at the Half Moon Bay Local Coastal Land Use Plan (LCLUP)–required 100-foot setback.

METHODS

SWCA biologists reviewed the survey and literature review results in the H.T. Harvey BRR and then conducted an updated literature review. The literature review consisted of a records search of current versions of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CNDDB 2021); the U.S. Fish and Wildlife Service (USFWS) online Information, Planning, and Conservation System (IPaC) species list system (USFWS 2021b); and the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants (CNPS 2021) within the Half Moon Bay, Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda U.S. Geological Survey (USGS) topographic quadrangles. The USFWS Critical Habitat Mapper (USFWS 2021a) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries ESA Critical Habitat Mapper (NOAA 2021) were reviewed to identify critical habitat for terrestrial and aquatic species near the BSA. The National Wetlands Inventory Database (USFWS 2021c) and USGS National Hydrography Dataset (NHD) (USGS 2019), U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Soil Survey for San Mateo County (NRCS 2021), and aerial imagery were also reviewed to provide additional information about soils and potential wetland features known to occur in the BSA.

A reconnaissance-level field survey was conducted on September 2, 2021, by SWCA biologist Jessie Henderson-McBean. The study area was surveyed by walking meandering transects through the area to document habitat conditions and to determine the potential for sensitive species presence. Special attention was paid to the hydrology present within the agricultural pond located in the northwest corner of the site. No focused species surveys or protocol-level surveys were conducted.

RESULTS

The SWCA literature review results were consistent with those reported in the H.T. Harvey BRR, prepared in June 2021. SWCA reviewed the Regulatory Setting information outlined in Section 3 of the H.T. Harvey BRR and found that no additional regulatory information is needed.

Based on the results of the September 2021 site visit, SWCA concurs with the BSA existing conditions and habitat conditions reported in Section 4 of the H.T. Harvey BRR. However, it should be noted that the current project area consists of ruderal grassland and developed or landscaped areas. Riparian woodland, perennial freshwater marsh, and aquatic riverine habitats, reported in the H.T. Harvey BRR, are located in and adjacent to Parcel 1, but outside of the project area. No work is proposed within these sensitive habitats.

SWCA concurs with the Special-Status Species and Sensitive Habitats identified in Section 5 of the H.T. Harvey BRR. No additional special-status species or sensitive habitats were identified during the literature review or site assessment. Therefore, no additional CNDDB maps, species lists, or habitat maps have been included in this memorandum.

IMPACTS AND MITIGATION MEASURES

While the regulatory background, literature review, and sensitive species lists in the H.T. Harvey BRR were consistent with SWCA's findings, the potential impacts of the project have changed due to the refined project description. Additional analysis has been provided below to identify suggested edits to the impacts and mitigation measures reported in Section 6, Impacts and Mitigation Measures, of the H.T. Harvey BRR.

The H.T. Harvey BRR stated that it was assumed that no disturbance would occur to Pilarcitos Creek, the agricultural pond (freshwater marsh), or the riparian habitat associated with Pilarcitos Creek beyond existing allowed use under the City LCLUP. No direct disturbance to aquatic features or riparian habitat is anticipated as a result of the current project design. Therefore, the H.T. Harvey BRR assumption of avoidance of aquatic features and associated buffers is correct under the current project design with the exception of encroachment within the 100-foot buffer surrounding the agricultural pond to remove existing chain link fencing. The fencing to be removed will be replaced at the edge of the 100-foot buffer to protect the riparian habitat and agricultural pond. The relocated fencing will also provide a barrier to encourage dispersing reptiles and amphibians to utilize the wildlife corridor and prevent them from crossing the access road where they could encounter a vehicle. The removal of this fencing is anticipated to require minimal ground disturbance, but short-term impacts to species could occur in the vicinity of the fence removal as wildlife may be temporarily displaced due to increased human presence, noise, and dust disturbance. With implementation of additional suggested mitigation measures (31 through 39 below) and mitigation measures outlined in the H.T. Harvey BRR, potential short-term impacts to species would be minimized.

Potential impacts to ruderal grassland, developed areas, landscaped areas, and non-native woodland areas in the current project description are consistent with those analyzed in the H.T. Harvey BRR, although the project area within these habitats has been reduced.

Impacts on Common Plant and Animal Species

SWCA concurs with the H.T. Harvey BRR finding that potential impacts to common plant and animal species would be less than significant. Although impacts to common plant and animal species would be minimal, SWCA recommends the following mitigation measures to further minimize any impacts to common wildlife during construction activities which may increase potential harm to wildlife:

Mitigation Measure 31: If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord, and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits.

Impacts on Special-Status Plants

The H.T. Harvey BRR identified one special-status plant species as having moderate to high potential to occur in the agricultural pond (freshwater marsh habitat) and associated dense riparian woodland: harlequin lotus (*Hosackia gracilis*); California Rare Plant Rank 4.2). However, this species was not observed during the field-level reconnaissance survey conducted by H.T. Harvey in June 2018, the time at which this species is at the height of its bloom period.

As currently proposed, the project will not disturb the agricultural pond (freshwater marsh habitat) or riparian woodland vegetation. Although chain link fence removal is proposed within the 100-foot buffer surrounding the agricultural pond, no disturbance to the mesic portions of freshwater marsh habitat (i.e.,

suitable for harlequin lotus) is anticipated. Therefore, this species is not expected to occur within the current project area, and no impacts are expected as a result of the project. No additional mitigation measures are recommended.

SWCA recommends that H.T. Harvey BRR Mitigation Measures 1–3 (special-status plant surveys, avoidance buffers, and compensatory mitigation) be removed from project requirements. If any changes to the project description occur and ground disturbance is proposed within the riparian habitat, then Mitigation Measures 1–3 should be implemented as proposed by the H.T. Harvey BRR.

Impacts to California Red-Legged Frog and San Francisco Garter Snake

SWCA concurs with the H.T. Harvey BRR findings that CRLF and SFGS are potentially present in Pilarcitos Creek and the agricultural pond (perennial freshwater marsh) located within the BSA. While the project is not anticipated to disturb either of these habitats, CRLF and SFGS individuals may forage and disperse through upland areas within the project area, as they potentially travel between Pilarcitos Creek and the agricultural pond. SWCA concurs with the implementation of Mitigation Measures 4, 8–15, and 17–22 to minimize potential impacts to these species during construction activities.

H.T. Harvey BRR Mitigation Measure 5 refers to off-site mitigation if avoidance of CRLF and SFGS habitat is not feasible. The proposed project will not disturb marsh or riparian habitat. While the proposed project will involve 1.4 acres of development in ruderal grassland habitat, the location of the Corporation Yard Upgrades is not within high-quality upland dispersal habitat and the development will be located east of the most direct dispersal pathway between the agricultural pond and Pilarcitos Creek (see Figure 1). Furthermore, the City retained Dr. Mark Jennings to consult on the design of a wildlife corridor connecting the existing agricultural pond with Pilarcitos Creek to ensure that the dispersal corridor between these two features was protected. The construction of this wildlife corridor would further minimize potential impacts to CRLF and SFGS during construction, as well as during operations and maintenance of the Corporation Yard. SWCA recommends that Mitigation Measure 5 be removed as it is no longer relevant to the project. In place of Mitigation Measure 5, SWCA suggests implementing the following additional mitigation measure pertaining to the wildlife corridor construction design:

Mitigation Measure 33: A wildlife corridor shall be constructed as part of the project and would funnel any potentially dispersing CRLF or SFGS into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact CRLF or SFGS. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual CRLF and SFGS would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent CRLF or SFGS from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both CRLF and SFGS to provide a safe and suitable movement corridor without any further management actions required.

SWCA recommends implementation of the following additional mitigation measure to reduce impacts to CRLF and SFGS during wildlife corridor construction:

Mitigation Measure 34: Installation of the wildlife corridor fencing should take place during dry weather conditions to ensure that no dispersing CRLF or SFGS are trapped in upland areas.

In addition to construction of the wildlife corridor, SWCA recommends implementation of the following mitigation measure to ensure efficacy of the wildlife corridor:

Mitigation Measure 35: The wildlife corridor fencing will be maintained as a solid boundary to allow for safe wildlife movement between the agricultural pond and Pilarcitos Creek by funneling any dispersing wildlife through a tunnel beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The fencing, tunnel, and corridor will be maintained and repaired as needed by the City. A temporary material may be used for the fencing, such as ERTEC or similar, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing it will be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife boundary (e.g., chain link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist.

H.T. Harvey BRR Mitigation Measure 6 calls for submittal of biologists resumes to USFWS and CDFW, and Mitigation Measure 7 requires that the wildlife exclusion barrier installation plan is submitted to USFWS and CDFW. No consultation with CDFW or USFWS is currently required for the project, and therefore submittal of materials to these agencies without a consultation is not required. Accordingly, SWCA recommends that Mitigation Measures 6 and 7 be replaced with the following two proposed mitigation measures:

Mitigation Measure 36: The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species.

Mitigation Measure 37: A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area and shall remain in place until all development activities have been completed. This barrier shall be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier.

H.T. Harvey BRR Mitigation Measures 8, 10, 13, 14, 15, and 17 all refer to "agency-approved biologists." SWCA recommends that these measures be implemented as described in the H.T. Harvey BRR with the exception of replacement of the term "agency-approved biologist" with the term "qualified biologist" throughout these measures.

H.T. Harvey BRR Mitigation Measure 16 describes the protocol for relocation of CRLF. The proposed project does not intend to consult with USFWS as the project does not require this consultation at this time. Therefore, SWCA proposes an amendment to Mitigation Measure 16, rewritten as follows:

Mitigation Measure 38: If any California red-legged frogs are found during implementation of mitigation measures, the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

With implementation of the mitigation measures described above and in the H.T. Harvey BRR, impacts to CRLF and SFGS would be less than significant.

Impacts to Central California Coast Steelhead and Western Pond Turtle

SWCA concurs with the H.T. Harvey BRR findings that Central California Coast steelhead (*Oncorhynchus mykiss irideus)* and western pond turtle (*Actinemys marmorata)* may be present in Pilarcitos Creek; however, direct impacts to these species are not expected as no disturbance is expected to occur within Pilarcitos Creek. As stated in the H.T. Harvey BRR, potential impacts to Pilarcitos Creek as a result of construction-related pollutants would be minimized with implementation of the stormwater pollution prevention plan (SWPPP), California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater NPDES Permit (MRP) (Water Board Order No. R2-2015-0049) and best management practices (BMPs).

While potential impacts to individual western pond turtles could occur if an individual were to enter the upland areas within the project area, the proposed wildlife corridor and wildlife fencing would allow any dispersing western pond turtles to freely move between Pilarcitos Creek and the agricultural pond (freshwater marsh habitat) without entering the project area. The construction of the wildlife corridor will not only minimize potential impacts to western pond turtle during construction, but will also protect individuals from potentially being injured or killed by vehicle traffic along the access road during operation and maintenance.

Potential impacts to these species will be minimized through implementation of Mitigation Measures 7–10 and 12–22 described in the H.T. Harvey BRR, such that potential impacts to these species would be less than significant.

Impacts to San Francisco Dusky-Footed Woodrat

SWCA concurs with the H.T. Harvey BRR finding that impacts to San Francisco dusky-footed woodrat would be less than significant with implementation of Mitigation Measures 23–25. No additional mitigation measures are recommended.

Impacts on Nonbreeding Special-Status Animals

The H.T. Harvey BRR concluded that potential impacts to non-breeding special-status animals on-site would be less than significant. While no large cavities are present within the project area that could provide suitable habitat for large maternity colonies of roosting bats, individual tree-roosting bats such as western red bat (*Lasiurus blossevillii*) may roost within the project area. Tree removal may result in injury or death to individual roosting bats, and therefore SWCA recommends the addition of the following mitigation measure:

Mitigation Measure 39: Minimize potential impacts to individual roosting bats:

a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary.

b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal will begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees will be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.

With implementation of the mitigation measures described above and in the H.T. Harvey BRR, impacts to non-breeding special-status animals would be less than significant.

Impacts on the San Francisco Common Yellowthroat, Yellow Warbler, and Raptors including White-Tailed Kite

SWCA concurs with the H.T. Harvey BRR findings that impacts to San Francisco common yellowthroat (*Geothlypis trichas sinuosa)*, yellow warbler (*Setophaga petechia)*, white-tailed kite (*Elanus leucurus)*, and other raptors would be less than significant. SWCA concurs with the implementation of Recommended Measures A–C to comply with the Migratory Bird Treaty Act and California Fish and Game Code. No additional mitigation measures are recommended.

Impacts to Riparian Habitats or Other Sensitive Natural Communities

SWCA concurs with the H.T. Harvey BRR findings regarding potential impacts to riparian habitat or other sensitive natural communities. The project will not directly disturb the riparian habitat present; however, the project does propose removal of the existing chain link fencing surrounding the agricultural pond that is currently within the 100-foot buffer surrounding the agricultural pond. Fence removal is not expected to directly impact riparian habitat, and indirect impacts will be minimized and avoided through implementation of the SWPPP, MRP, and BMPs. SWCA concurs with the implementation of Mitigation Measure 26 and impacts to riparian habitats or sensitive natural communities would be less than significant.

Mitigation Measures 27 and 28 refer to pruning riparian trees and removal of riparian habitat. No removal of riparian vegetation is currently proposed as part of the project, and therefore SWCA recommends removal of these mitigation measures as they are no longer relevant to the project.

Impacts Caused by Non-Native and Invasive Species

SWCA concurs with the H.T. Harvey BRR findings that impacts caused by non-native and invasive species would be less than significant with the implementation of Mitigation Measure 29. No additional mitigation measures are recommended.

Impacts on Wetlands and Waters

SWCA concurs with the H.T. Harvey BRR findings regarding potential impacts to wetlands and waters. No direct impacts to wetlands or waters are currently part of the proposed project. Indirect impacts to wetlands and waters may occur during construction activities; however, with the implementation of the SWPPP, MPR, and BMPs, potential impacts would be less than significant. No additional mitigation measures are recommended.

Impacts on Wildlife Movement

SWCA concurs with the H.T. Harvey BRR findings that impacts to wildlife movement as a result of the project would be less than significant with implementation of mitigation measures. Wildlife will be able to move and disperse freely along Pilarcitos Creek and the riparian corridor. The construction of the wildlife corridor linking Pilarcitos Creek with the agricultural pond on-site will ensure that dispersing wildlife will be able to safely move between these two aquatic habitats. No additional mitigation measures are recommended.

Impacts to Heritage Trees per Municipal Code Section 7.40

The H.T. Harvey BRR identified over 100 trees present within the site; however, a tree survey was not included as part of the H.T. Harvey BRR preparation. Given that a refined project description is now available, a tree survey (i.e., arborist report) is recommended to determine if any of the trees within the project area have heritage status in accordance with the standards of Chapter 7.40 of the City of Half Moon Bay Municipal Code. SWCA concurs with the H.T. Harvey BRR findings that impacts to heritage trees would be less than significant with implementation of Mitigation Measure 30, which addresses heritage tree avoidance or tree replanting where avoidance is not possible.

Impacts due to Conflicts with an Adopted Habitat Conservation Plan

SWCA concurs with the H.T. Harvey BRR findings regarding potential conflicts with a Habitat Conservation Plan (HCP). The BSA is not located within an area covered by an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

LITERATURE CITED

California Native Plant Society (CNPS). 2021. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). California Native Plant Society. Available at: http://www.rareplants.cnps.org/. Accessed October 2021.

California Natural Diversity Data Base (CNDDB). 2021. Rarefind data for the Half Moon Bay, Montara Mountain, San Mateo, Woodside, San Gregorio, and La Honda 7.5-minute U.S. Geological Survey topographic quadrangles.

City of Half Moon Bay. 2020. Local Coastal Land Use Plan 2020 Comprehensive Update. Adopted by Half Moon Bay City Council Resolution No. C-2020-94, October 20, 2020. Certified by California Coastal Commission LCP Amendment No. LCP-2-HMB-20-0081-2, April 15, 2021.

H.T. Harvey & Associates. 2021. 880 Stone Pine Road Project Biological Resources Report. Prepared for the City of Half Moon Bay.

National Oceanic and Atmospheric Administration (NOAA). 2021. ESA Critical Habitat Mapper. Available at: https://www.webapps.nwfsc.noaa.gov/portal7/apps/webappviewer/index.html?id=5c178cec58504ca1a72c048eb552b029. Accessed October 25, 2021.

U.S. Fish and Wildlife Service (USFWS). 2021a. Critical Habitat Portal. Available at: http://criticalhabitat.fws.gov/. Accessed October 25, 2021.

———. 2021b. Information for Planning and Conservation (IPaC). Available at: http://ecos.fws.gov/ipac/. Accessed October 25, 2021.

———. 2021c. National Wetlands Inventory. Available at: http://www.fws.gov/wetlands/. Accessed October 25, 2021.

U.S. Geological Survey (USGS). 2019. National Hydrography Dataset GIS Data. Available at: http://nhd.usgs.gov/. Accessed October 25, 2021.

APPENDIX B3

Preliminary Delineation of Wetlands and Other Waters
Delineation of Coastal Zone Wetlands Within
California Coastal Commission Jurisdiction
880 Stone Pine Road Project
H.T. Harvey & Associates











H. T. HARVEY & ASSOCIATES
Ecological Consultants

50 years of field notes, exploration, and excellence

880 Stone Pine Road Project
Half Moon Bay, San Mateo County, California

Preliminary Delineation of Wetlands
and Other Waters/Delineation of Coastal Zone Wetlands
Within California Coastal Commission Jurisdiction

Project #4182-03

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October 12, 2020

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Executive Summary

H. T. Harvey & Associates surveyed an approximately 21-acre (ac) study area located in Half Moon Bay in San Mateo County that encompasses the public works yard at 880 Stone Pine Road for wetlands and other waters potentially subject to regulation under Section 404 of the Clean Water Act as administered by the United States Army Corps of Engineers (USACE). The survey also delineated the extent of waters of the state that may be subject to regulation by the Regional Water Quality Control Board (RWQCB) under Section 401 of the Clean Water Act and under the Porter Cologne Water Quality Control Act. Lastly, the survey also delineated jurisdictional habitats subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by the California Department of Fish and Wildlife (CDFW). Areas were also surveyed using the California Coastal Commission (CCC) approach to wetland delineation (i.e. any one of the three parameters typically used by USACE present at a sample point is indicative of CCC wetland habitat).

In total, approximately 0.91 acres of potentially jurisdictional features as defined by the USACE and the RWQCB were identified in the study area. These include approximately 0.29 acres of Section 404 and Section 401 waters situated below the ordinary high water mark (OHWM) line of Pilarcitos Creek, which forms the southeastern edge of the property. Sections 404 and 401 wetlands are also present within an abandoned stock pond which is perennially inundated and presently occupied by emergent freshwater marsh totaling 0.38 acres. Section 401 waters of the state extend farther up to the top of the bank from Pilarcitos Creek, for an additional 0.24 acres.

CDFW jurisdictional features as defined by bed and bank topography and riparian habitat were identified in the study area, which totaled 3.52 acres and includes riparian habitat beyond the top of bank. Approximately 2.85 acres of riparian habitat were identified in the project area. Areas that fall with the jurisdiction of the CCC include all 3.52 acres that are also considered jurisdictional by CDFW.

Summary of Jurisdictional Waters and Habitats within the Project and Study Areas

Potentially Jurisdictional Habitats	Study Area (Acres)[1]
Section 404 Waters of the U.S. Total	**0.67**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Section 401 Waters of the State (Up to Top of Bank) Total	**0.91**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland (within top of bank)	0.24
CDFW and CCC Jurisdiction Total	**3.52**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland	2.85

[1] Note: Values are approximate due to rounding.

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Section 1. Introduction

1.1 Study Area Description

The approximately 21-acre (ac) study area is located in Half Moon Bay in San Mateo County (Figure 1). The study area is located between State Route (SR) 92 and Pilarcitos Creek near downtown Half Moon Bay and is the site of a former plant nursery (Figure 2). It is located within the *Half Moon Bay California* 7.5-minute USGS quadrangle (Figure 3). A man-made impoundment and several buildings occur in the northwest corner and northeast corners of the site, respectively. Additionally, there is still infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete channels, and irrigation pumps and pipes. During the site visit, a large portion of the grassland had been recently mowed. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth. West of the study area is high-density development associated with the City of Half Moon Bay; north of the study area is SR 92, a heavily used road between Half Moon Bay and Interstate 280; east of the study area between SR 92 and Pilarcitos Creek, and on both sides of Pilarcitos Creek are various small agricultural parcels with associated infrastructure and development; south of the study area is agricultural parcels along Pilarcitos Creek that opens to rural land, with the Miramontes Ridge Open Space Reserve to the southeast.

The climate at the study area is coastal Mediterranean, with most rain falling in the winter and spring. Fog and cool temperatures are common in the summer. Climate conditions in the study area include a 30-year average of approximately 29.16 inches of annual precipitation with an average temperature range from 52ºF to 61ºF (PRISM 2020). Relative to the 30-year climate normal, precipitation in the preceding rain year (June 2019–May 2020; 15.99 inches) was approximately 55% of normal for that time period (PRISM 2020). Elevations within the study area range from approximately 60 feet (ft) to 110 ft above sea level (WGS84) (Google 2020).

Based on a review of available soil survey maps for the area including those by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), the study area is generally comprised of coarse sandy loam soils adjacent to Pilarcitos Creek, such as the Farallone soil series, and clay loams, such as the Tierra soil series, upslope to SR 92 (NRCS 2020a). Soils across the study area are generally greater than 60 inches in depth with the exception of areas in the northeastern portion of the site containing Gazos (GoF3 and Gv) soils, which are less than 30 inches to a root-restrictive layer. The Farallone loam, nearly level, Gullied land, Gullied land (Gazos-Lobitos soil material), and Tierra clay loam, moderately steep, eroded soil series (totaling 12.3 acres) are listed as hydric in San Mateo County on the National Hydric Soils List (NRCS 2020b). Eight major soil series within the study area are shown on Figure 4 and are summarized in Table 3 below.

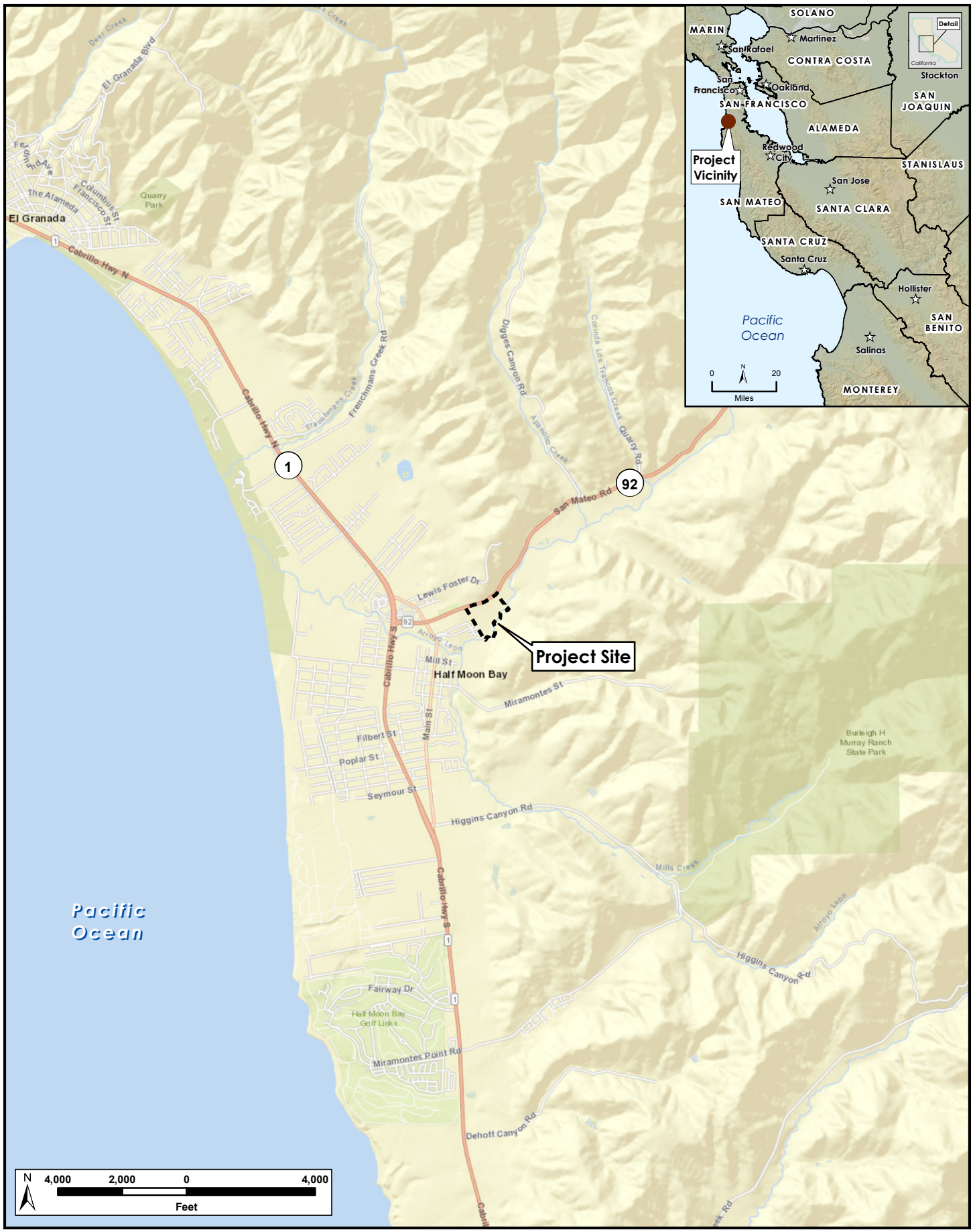
Table 1. Soils within the Biological Study Area

Soil Series	Acreage	Hydric
Farallone loam, nearly level (FaA)	8.8	Yes
Tierra loam, steep, severely eroded (TeE3)	3.1	No
Farallone coarse sandy loam, moderately steep, eroded (FcD2)	4.5	No
Gazos and Lobitos soils, steep and very steep, severely eroded (GoF3)	1.3	No
Gullied land (alluvial soil material; Gu)	1.7	Yes
Tierra loam, sloping, eroded (TeC2)	1.1	Yes
Gullied land (Gazos-Lobitos soil material; Gv)	0.7	Yes
Tierra clay loam, moderately steep, eroded (TcD2)	0.1	No

The U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) map of the study area is depicted in Figure 5. The NWI identified one feature in the study area, Pilarcitos Creek, which it classified as a palustrine, forest, seasonally flooded wetland (FPOC) (NWI 2020). NWI maps are based on interpretation of aerial photography, limited verification of mapped units, and/or classification of wetland types using the classification system developed by Cowardin et al. (1979). These wetland data are available for general reference purposes and do not necessarily correspond to jurisdictional waters.

1.2 Survey Purpose

H. T. Harvey & Associates surveyed the study area for features that may meet the physical criteria and regulatory definition of "waters of the United States" and waters of the state (jurisdictional waters). The purpose of the field survey was to identify the extent and distribution of potentially jurisdictional waters, such as wetlands and other waters, occurring within the proposed work area boundaries under conditions existing at the time of the June 2020 survey. In addition, we surveyed the study area to determine the extent of areas likely subject to regulation by the California Coastal Commission (CCC), and for features that meet the criteria for regulation by the California Department of Fish and Wildlife (CDFW) under California Fish and Game Code Section 1603.



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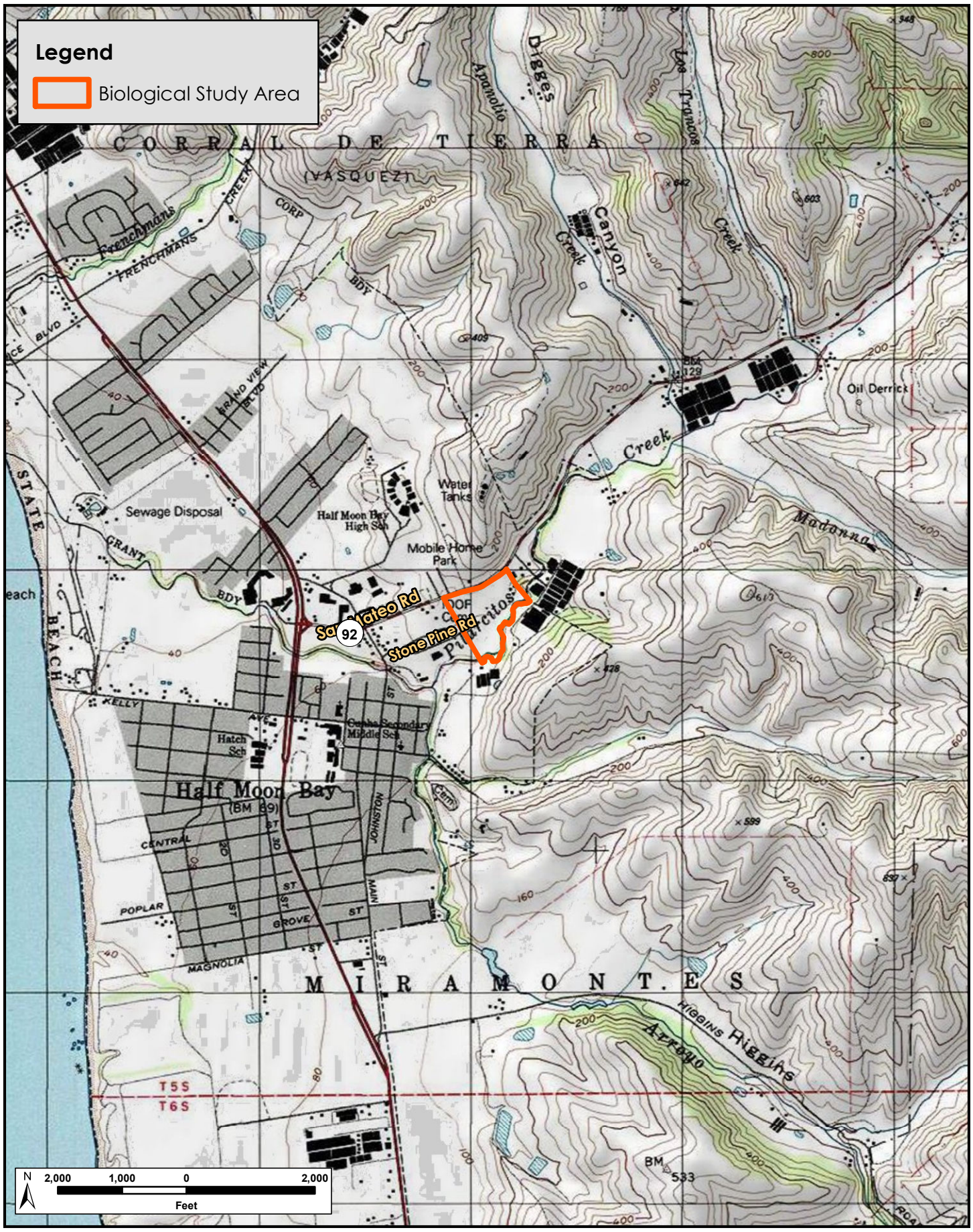
Figure 1. Vicinity Map
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)
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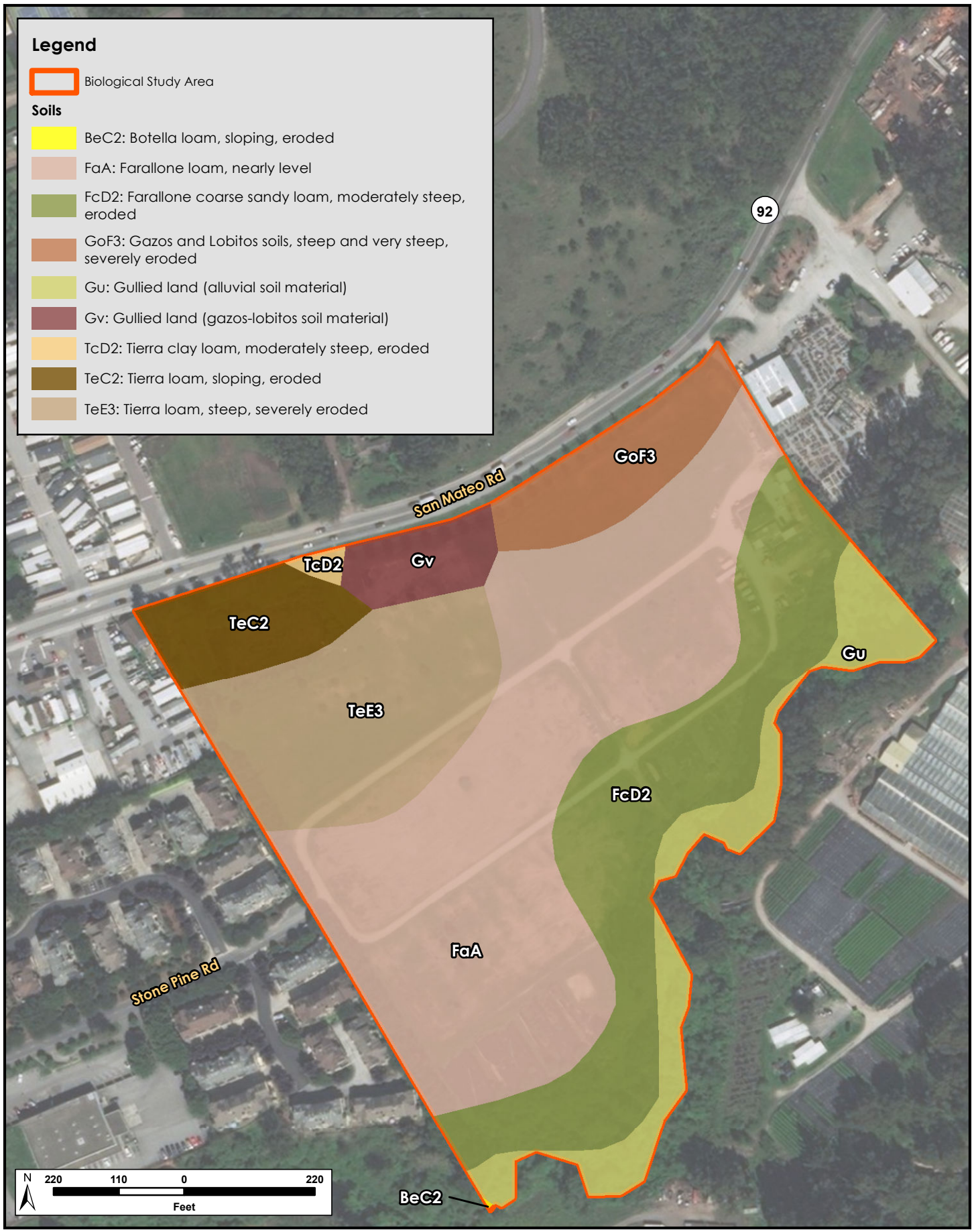
Figure 2. Study Area
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)
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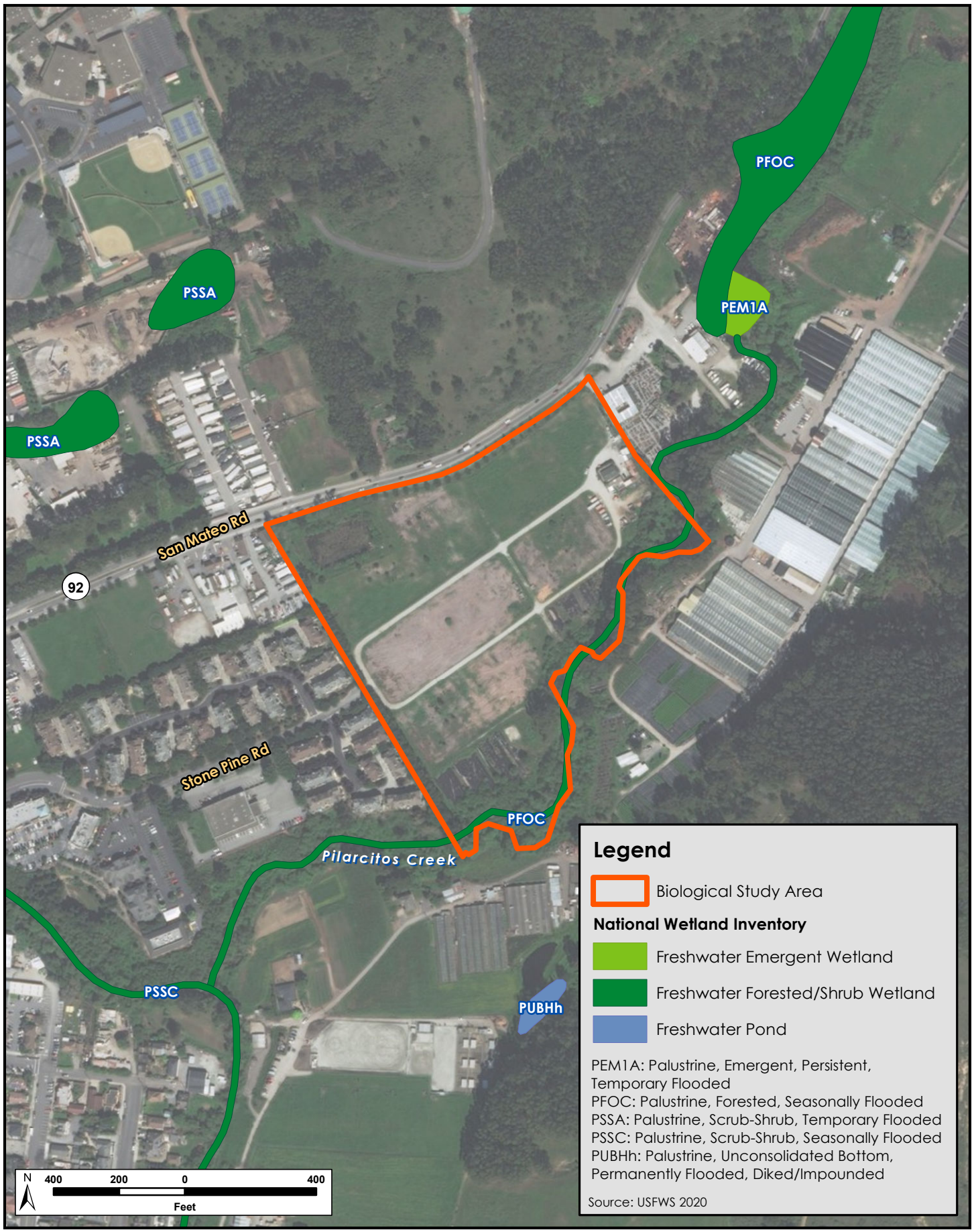
Figure 3. USGS Topographic Map
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)
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Figure 4. Soils Map
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)
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Figure 5. NWI Map
880 Stone Pine Road Project, Wetland Delineation Report (4182-03)
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Section 2. Survey Methods

Before the delineation survey was conducted, topographic maps and aerial photos of the study area were obtained and reviewed from several sources, such as the USGS (Figure 3), NRCS (Figure 4), NWI (Figure 5), and Google Earth software (Google 2020). Additionally, information was derived from surveys and background research conducted for the preparation of the 880 Stone Pine Road Project Biological Resources Report, concurrently prepared by H. T. Harvey & Associates (H. T. Harvey & Associates in prep).

On June 12, 2020, H. T. Harvey & Associates plant ecologist, Mark Bibbo, M.S., performed a technical delineation of wetlands and other waters in the study area, in accordance with the *Corps of Engineers 1987 Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987). Additionally, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (Regional Supplement) (USACE 2010) were followed to document site conditions relative to hydrophytic vegetation, hydric soils, and wetland hydrology. Mr. Bibbo mapped the extent and distribution of wetlands and other waters of the U.S. that may be subject to regulation under Section 404 of the Clean Water Act (CWA) as well as waters of the state that may be subject to regulation under the Porter Cologne Water Quality Control Act, which is administered by the RWQCB. The study area was also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC), as well as aquatic and riparian habitat that may be subject to regulation under Sections 1600-1607 of the California Fish and Game Code, which is administered by CDFW.

2.1 Identification of Jurisdictional Waters

The "Routine Determination Method, On-Site Inspection Necessary (Section D)" outlined in the Corps Manual (Environmental Laboratory 1987), and the updated data forms, vegetation sampling methods, and hydric soil and hydrology indicators developed for the Regional Supplement (USACE 2010) were used to examine the vegetation, soils, and hydrology in the accessible areas of the study area. This three-parameter approach to identifying wetlands is based on the presence of a prevalence or dominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

In addition to applying these survey methods, Mr. Bibbo compiled this report in accordance with guidance provided in *Updated Map and Drawing Standards for the South Pacific Division Regulatory Program* (USACE 2016a) and *Information Requested for Verification of Corps Jurisdiction* (USACE 2016b). These documents list the information that must be submitted as part of a request for a jurisdictional determination, including:

- Locality map (Figure 1)
- Study area map (Figure 2)
- USGS quadrangle sheet (Figure 3)

- Soils map (Figure 4)
- National Wetlands Inventory map (Figure 5)
- Vegetation communities map (Figure 6)
- Delineation map (Figure 7)
- Current soil survey report (Appendix A)
- Plant species observed (Appendix B)
- Data forms for wetlands sample points (Appendix C)
- Written rationale for sample point choice (Section 3.1, "Observations, Rationales, and Assumptions")
- Color photos (Appendix D)
- Aquatic resources table (Appendix E)
- Signed statement from the property owner(s) allowing USACE personnel to enter the property and collect samples during normal business hours (Appendix F).

During the survey, the study area was examined for topographic features, drainages, alterations to site hydrology or vegetation, and recent significant disturbance. A determination was then made as to whether normal environmental conditions were present at the time of the field survey. In the field, the techniques used to identify wetlands included digging soil pits to sample soil from various depths, observing the vegetation growing near the soil sample points, and characterizing the current surface and subsurface hydrologic features present near the sample points. Features meeting wetland vegetation, soil, and hydrology criteria were then mapped in the field using a Trimble GeoXT™ GPS unit capable of submeter accuracy.

2.2 Identification of Section 404 Potential Jurisdictional Wetlands (Special Aquatic Sites)

Where wetland field characteristics were present, Mr. Bibbo examined vegetation, soils, and hydrology using the Routine Determination Method outlined in the Corps Manual (Environmental Laboratory 1987) and the updated data forms, vegetation sampling methods, and hydric soil and hydrology indicators developed for the Regional Supplement (USACE 2010).

Vegetation. Plants observed at each of the sample sites were identified to species, where possible, using *The Jepson Manual, Vascular Plans of California, Second Edition* (Baldwin et al. 2012). The wetland indicator status of each species was obtained from the *Western Mountains, Valleys, and Coast 2016 Regional Wetland Plant List* (Lichvar et al. 2016). Wetland indicator species are designated according to their frequency of occurrence in wetlands. For instance, a species which is usually a hydrophyte, but occasionally found in uplands is designated a



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Figure 6. Vegetation Communities and Photo Points Map

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facultative wetland indicator species. The wetland indicator groups, indicator symbol, and the qualitative frequency of occurrence of species within wetlands are shown in Table 2.

Table 2. Wetland Indicator Status Categories for Vascular Plants

Indicator Category	Symbol	Ecological Description[1]
Obligate	OBL	Almost always a hydrophyte, rarely in uplands
Facultative wetland	FACW	Usually is a hydrophyte, but occasionally found in uplands
Facultative	FAC	Commonly occurs as either a hydrophyte or nonhydrophyte
Facultative upland	FACU	Occasionally is a hydrophyte, but usually occurs in uplands
Upland[2]	UPL	Rarely is a hydrophyte, almost always in uplands

[1] Based on the National Wetland Plant List Indicator Rating Definitions (Lichvar et al 2016)

[2] Plant species that are not listed in the Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016) are considered UPL species

Obligate and facultative wetland indicator species are hydrophytes that occur "in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present" (Environmental Laboratory 1987). Facultative indicator species may be considered wetland indicators when found growing in hydric soils that experience periodic saturation. Plant species that are not on the regional list of wetland indicator species are considered upland species. A complete list of the vascular plants observed in the study area, including their current indicator status, is provided in Appendix B.

Hydric Soils. Up to 20 inches of the soil profile were examined for hydric soil indicators. The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as one formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper 12 inches of soil (NRCS 2010). Hydric soils include soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. In general, evidence of a hydric soil includes characteristics such as organic soils (histosols), reducing soil conditions, gleyed soils, soils with bright mottles and/or low matrix chroma, soils listed as hydric by the U.S. Department of Agriculture (USDA) on the National Hydric Soils List (NRCS 2020), and iron and manganese concretions. Reducing soil conditions can also include circumstances where there is evidence of frequent ponding for long or very long duration. A long duration is defined as a period of inundation for a single event that ranges from seven (7) days to a month and a very long duration is greater than one month (Environmental Laboratory 1987).

Munsell Soil Notations (Munsell 2009) were recorded for the soil matrix of each soil sample. The Munsell color system is based on three color properties: hue, value, and chroma. A brief description of each component of the system is described below, in the order they are used in describing soil color (i.e., hue/value/chroma):

1. **Hue.** The Munsell Soil Color Chart is divided into five principal hues: yellow (Y), green (G), purple (P), blue (B), and red (R), along with intermediate hues such as yellow-red (YR) and green-yellow (GY). Example of commonly encountered hue numbers include 2.5YR, 10YR, and 5Y.
2. **Value.** *Value* refers to lightness, ranging from white to grey to black. Common numerical values for value in the Munsell Soil Color Chart range from 2 for saturated soils to 8 for faded or light colors. Hydric soils often show low-value colors when soils have accumulated sufficient organic material to indicate development under wetland conditions, but can show high-value colors when iron depletion has occurred, removing color value from the soil matrix. Value numbers are commonly reported as 8/, 2.5/, and 6/.
3. **Chroma.** *Chroma* describes the purity of the color, from "true" or "pure" colors to "pastel" or "washed out" colors. Chromas commonly range from 1 to 8, but can be higher for gleys. Soil matrix chroma values that are 1 or less, or 2 or less when mottling is present, are typical of soils that have developed under anaerobic conditions. Chroma numbers are listed, for example, as /1, /5, and /8.

The NRCS Web Soil Survey (NRCS 2020a) was consulted to determine which soil types have been mapped in the study area (Table 1, Figure 4). Detailed descriptions of these soil types are provided in Appendix A.

Wetland Hydrology. Wetland hydrology is defined as an area that is inundated either permanently or periodically at mean water depths less than 6.6 feet, or where the soil is saturated at the surface at some time during the growing season of the prevalent vegetation. The period of inundation or soil saturation varies according to the hydrologic/soil moisture regime and occurs in both tidal and non-tidal situations.

Wetland hydrology encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Wetland hydrology indicators provide evidence that the site has a continuing wetland hydrologic regime. Primary indicators might include visual observation of surface water (A1), high water table (A2), soil saturation (B1), water-stained leaves (B9), and hydrogen sulfide odor (C1). Secondary indicators might include riverine drift deposits (B3), drainage patterns (B10), and passing score for the FAC-neutral test (D5). Each of the sample points was examined for positive field indicators (primary and secondary) of wetland hydrology, following the guidance provided in the Regional Supplement.

2.3 Identification of Section 404 Jurisdictional Other Waters

"Other waters", which includes lakes, slough channels, seasonal ponds, tributary waters, non-wetland linear drainages, and salt ponds were also mapped within the study area. Such areas are identified by the (seasonal or perennial) presence of standing or running water and generally lack hydrophytic vegetation. In non-tidal or muted tidal waters, such as this site, USACE jurisdiction extends to the OHWM which is defined in 33 CFR Part 328.3 as "the line on the shore established by the fluctuations of water and indicated by physical characteristics, such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris." In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line (HTL)

(see 33 CFR, Part 328.4). The HTL is defined in 33 CFR, Part 328.3 as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The HTL may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gauges, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other tides that occur with periodic frequency, but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm."

2.4 Identification of Coastal Zone Wetlands within CCC Jurisdiction

The project area were also surveyed for areas that meet the physical criteria of a wetland according to the California Coastal Commission (CCC). Under the California Coastal Act, the CCC regulates development in the coastal zone, including land and water use. Wetlands found in the coastal zone are regulated under the California Coastal Act of 1976 (CCA) and the federal Coastal Zone Management Act (CZMA), and are within jurisdiction of the CCC (CCC 2008). Any activities within the coastal zone that affect aquatic resources, including wetlands, require a coastal development permit from either the CCC or a certified Local Coastal Program (LCP) (Division 20 of the Public Resources Code). The CCC is responsible for protecting coastal resources and assessing potential impacts on wetlands and other waters subject to regulation under the California Coastal Act (Pub. Res. Code §30330-30344).

Under the CCA, wetlands are defined as "Lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, or fens." (Pub. Res. Code §30121). The CCC uses definitions similar to the federal government in defining wetland habitat. The U.S. Fish and Wildlife Service (USFWS) uses a general definition from its wetlands classification system first published in 1979:

> *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water (Cowardin, et al. 1979). For purposes of this classification, wetlands must have 1 or more of the following 3 attributes: "(1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Cowardin, 1979). The USFWS definition includes, swamps; freshwater, brackish water, and saltwater marshes; bogs; vernal pools, periodically inundated saltflats; intertidal mudflats; wet meadows; wet pastures; springs and seeps; portions of lakes, ponds, rivers and streams; and all other areas which are periodically or permanently covered by shallow water, or dominated by hydrophytic vegetation, or in which the soils are predominantly hydric in nature.*

For purposes of implementing Section 404 of the federal Clean Water Act, the United States Environmental Protection Agency (EPA) and the USACE define wetlands as:

> *Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (40 CFR 232.2).*

Both the CCC and the federal government (in the USFWS and the USACE) provide further specificity in their wetlands definitions to guide the process of wetlands delineation. The CCC's regulations (California Code of Regulations Title 14 (14 CCR)) establish a **"one parameter definition"** that only requires evidence of a single parameter to establish wetland conditions and accepts wetland determinations based on the presence of one parameter—wetland vegetation, wetland soils, or, under certain conditions, wetland hydrology (using the criteria described above, under the USACE methods, for each parameter), similar to the USFWS wetlands classification system:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.*

In contrast, the USACE generally uses a **three parameter definition** for delineating wetlands. In the California coastal zone, the CCC, with the assistance of the California Department of Fish and Wildlife (CDFW), is responsible for determining the presence of wetlands subject to regulation under the CCA. The local government also has a direct role in the identification and delineation process in areas with a certified LCP. For wetland development projects requiring USACE review, the applicant may, in some cases, need to obtain two delineation approvals, one for the coastal development permit, and another for the USACE Section 404 permit (CCC 2008).

The CCC delineation of wetlands in the field typically requires substantial evidence of indicators that can be easily observed or assayed. Wetlands typically occur on physical gradients (i.e., wet to dry conditions, hydric to non-hydric soils, and hydrophytic to meso/xerophytic vegetation). Delineations document boundaries between a predominance of hydrophytic vegetation and upland vegetation and boundaries between hydric and non-hydric soils. Because wetland delineation is not an exact science, the CCC recognizes the importance of professional judgement:

> *Some wetlands may not be readily identifiable by simple means. In such cases, the CCC will also rely on the presence of hydrophytes and/or the presence of hydric soils. Thus, the presence or absence of hydrophytes and hydric soils make excellent physical parameters upon which to judge the existence of wetland habitat areas for the purposes of the Coastal*

Act, but they are not the sole criteria. In some cases, proper identification of wetlands will require the skills of a qualified professional.

Resource and regulatory agencies have found it difficult to strictly define some wetlands because of the often transient hydrology, the absence of hydric soils, and the heterogeneous vegetation composition. Yet these areas exhibit many of the functions and values found in other wetlands. In the past, CCC staff has recognized some of these areas, including riparian areas, as "environmentally sensitive areas" within the meaning of Coastal Act §30107.5, and then regulated development through §30240. The semi-arid climate of California also presents problems for the identification and delineation of wetlands. Some wetlands in this part of California can remain dry for one or more seasons because of the Mediterranean climate typical of the state.

The CCC's regulations acknowledge these distinctions by specifying some general decision rules for establishing the upland boundary of wetlands:

…the upland limit of a wetland shall be defined as:

a. the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;

b. the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or

c. in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not (14 CCR Section 13577).

Therefore, additional scientific methods and guidance are required to facilitate the wetland delineation process in the field. A common source of guidance for wetland delineators is the *1987 USACE Wetland Delineation Manual* and the *Regional Supplement.* Another important guidance document is the USFWS's *List of Plant Species that Occur in Wetlands*. Similarly, guidance on the identification of hydric soils is provided by the Natural Resource Conservation Service in its *Field Indicators of Hydric Soils in the United States* (2010).

In a CCC delineation, the extent of both hydric soils and wetland vegetation should be determined and the wetland boundary drawn to coincide with that parameter that results in the larger wetland area. Where the presence of wetlands is difficult to determine because some field indicators appear ambiguous or unreliable, the CCC has occasionally, in past actions, considered strong evidence of upland conditions in making its wetland determination. However, the CCC has not considered the simple absence of standard field indicators of either hydric soils or wetland hydrology to be strong evidence of upland conditions and, hence, evidence that wetland conditions do not exist. Showing strong evidence of upland conditions requires collecting field data during the rainy season to determine whether the site evaluated becomes inundated or not or whether the major portion of the root zone of the predominant vegetation becomes saturated for greater than seven continuous days or not. This information can then be used to determine if the previously assessed vegetation or soil field indicator found to be ambiguous or unreliable is indicative of wetland or upland conditions.

Prior to conducting fieldwork, H. T. Harvey & Associates reviewed a variety of pertinent technical documents. During the CCC delineation, the presence and frequency of hydrophytic vegetation, hydrology indicators, and hydric soil indicators (or lack thereof) were used as the primary indicators for identifying potential wetland areas.

2.5 Identification of Waters of the State

The Porter Cologne Water Quality Control Act (Porter-Cologne) broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the state include headwaters, wetlands, and riparian areas. Where forested riparian habitat is not present, jurisdiction is taken to the top of bank or levee. Where forested habitat occurs, the outer canopy of any riparian trees rooted within top of bank may be considered jurisdictional as these trees can provide allochthonous input to the channel below.

On April 2, 2019, the California State Water Resources Control Board (SWRCB) adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

The 2019 Procedures also clarify that wetland-upland boundaries for wetlands comprising waters of the state should be set using the USACE delineation framework (Environmental Laboratory 1987, USACE 2010), with one important distinction. Some areas in California function as wetlands despite lacking abundant wetland vegetation. For example, non-vegetated playas, tidal flats, and some types of seasonal wetlands provide a variety of wetland functions, including water filtration, groundwater recharge, and the support of wetland wildlife. While USACE procedures require 5% vegetative cover to be considered a wetland rather than "other waters", the RWQCB has determined that no such minimum vegetative cover is necessary for an area to be considered a wetland under the State Wetland Definition. Waters of the state were identified within the study area.

2.6 Identification of CDFW Jurisdiction

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under California Department of Fish and Wildlife (CDFW) jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A stream is defined in Title 14, California Code of Regulations §1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. Jurisdiction

does not include tidal areas such as tidal sloughs unless there is freshwater input. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as a part of a watercourse. California Fish and Game Code §2786 defines riparian habitat as "lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream's bed and bank. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats. CDFW jurisdictional habitats were mapped within the study area.

Section 3. Survey Results and Discussion

The following vegetation communities and land cover types were mapped in the study area: (1) aquatic riverine (Pilarcitos Creek), (2) perennial freshwater wetland, (3) Willow/alder stands (one parameter CCC wetland), (4) California annual grassland, (5) mixed riparian woodland, and (6) developed (Figure 6). Ten sample points (SPs) were examined to identify jurisdictional features (Figure 7; Appendix C). In the study area, approximately 3.77 ac of potentially jurisdictional waters regulated by USACE, RWQCB, CDFW, and the CCC were identified (Table 3). The results of the June 2020 delineation are described below.

Table 3. Summary of Jurisdictional Waters and Habitats within the Study Area

Potentially Jurisdictional Habitats	Study Area (Acres)[1]
Section 404 Waters of the U.S. Total	**0.67**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Section 401 Waters of the State (Up to Top of Bank) Total	**0.91**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland (within top of bank)	0.24
CDFW and CCC Jurisdiction Total	**3.52**
Perennial Freshwater Marsh	0.38
Aquatic Riverine	0.29
Riparian Woodland	2.85

Note: Values are approximate due to rounding.

Study Area. Approximately 0.91 ac of Section 404 and Section 401 waters, including wetlands are found in the study area (Figure 7; Appendix D, Photos 2, 6).

Waters of the state (Section 401 waters only) extend to the top of bank of Pilarcitos Creek in the study area and includes approximately 0.24 ac of riparian habitat (Figure 8; Appendix D, Photos 1 and 3 in Appendix D)..

Pilaricitos Creek is a perennial drainage following from headwaters on Montara Mountain east of the study area to the Pacific Ocean west of the study area. As such, this feature would be regulated by CDFW under California Fish and Game Code Section 1603. Approximately 0.38 acres of freshwater wetland, 0.26 ac of streambed and approximately 2.85 ac of associated riparian woodland that would be regulated by CDFW occur within the study area (Figure 9). Areas falling within CCC jurisdiction include those same 3.52 total acres (Figure 9).

Information assembled during this investigation and pertinent to the identification of jurisdictional wetlands and other waters is presented in the six appendices of this report. In addition, Appendix E provided at the end of this document is an electronic attachment in Microsoft Excel format, per USACE (2016b) guidelines.

- Appendix A—Custom Soil Report for Project Study Area
- Appendix B—Plants Observed in the Study Area
- Appendix C—Western Mountains, Valley, and Coast Wetland Determination Data Forms
- Appendix D—Photographic Documentation of the Study Area
- Appendix E—Aquatic Resources Table
- Appendix F—Signed Statement from the Property Owner Allowing Access

3.1 Observations, Rationale, and Assumptions

Study area conditions observed during the delineation survey are reported here, along with pertinent background information and precipitation data.

3.1.1 Background Information

This preliminary delineation assumes that normal circumstances prevailed at the time of the June 2020 survey, and results are based upon the conditions present. The survey was performed using the "Routine Method of Determination" using three parameters, as outlined in the Regional Supplement, although areas meeting at least one parameter were delineated as CCC-jurisdictional wetlands. All features that were noted as potential USACE-jurisdictional wetlands or other waters are also considered potential CCC-jurisdictional wetlands because they possess at least one parameter for a CCC-jurisdictional wetland.

Land use surrounding the study area consists of agriculture to the east and south, open space to the north and south, suburban residential to the west, and commercial to the east.



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Figure 7. Preliminary Identification of Waters of the United States
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Figure 8. Preliminary Identification of Waters of the State
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Figure 9. CDFW/CCC Jurisdictional Habitats
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October 2020

3.1.2 Precipitation Data

The survey took place in the 2020 dry season. Relative to the 30-year climate normal, precipitation in the study area was below average for the twelve month period leading up to the delineation. Total precipitation recorded for the twelve months prior to the delineation was 15.99 in., which is approximately 55% of the 30-year average (1981–2010) (PRISM 2020). These conditions were taken into account when assessing the biotic habitats present on the site. Despite the below average precipitation, water was still flowing in Pilarcitos Creek, and the abandoned stock pond was still inundated and surface water was present. The boundaries of wetlands remained clear owing to the presence of hydrophytic vegetation and hydrology indicators.

3.1.3 Site Conditions and Observations

Several areas containing at least one parameter indicative of wetlands, but lacking one or more parameters (*i.e.*, CCC wetlands not claimed by the USACE), were detected within the study area.

The southern boundary of the study area is demarcated by Pilarcitos Creek, a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean. The creek drains approximately 30 square mi and has numerous tributaries. The study area is approximately 1.7 mi upstream from the mouth of the Creek at the Pacific Ocean. Pilarcitos Creek has a well-developed riparian corridor for much of its length upstream and downstream of the study area. Pilarcitos Creek and its riparian corridor fall within the jurisdiction of the USACE, RWQCB, CDFW, and the CCC (Figures 7–10).

The study area is located in the Arroyo Leon hydrologic unit (180500060201) within the San Francisco Coastal South Sub Region of the California Region.

The majority of site was previously in agricultural nursery production. A man-made impoundment and several buildings occur in the northwest corner and northeast corners of the site, respectively. Additionally, there is still infrastructure present from former nursery operations, including several unused dilapidated buildings, areas with black ground plastic (adjacent to the riparian woodland along Pilarcitos Creek), several vaulted culverts, concrete channels, and irrigation pumps and pipes. Areas of the site that are currently in ruderal grassland appear to be regularly mowed to keep vegetation low for fire prevention. At the time of the June 2020 survey, the site was beginning to be mowed for the first time that season. Also, sections of the grassland were covered in wood chips. As such, the ground cloths and mulch inhibit vegetation growth.

The manmade impoundment in the northwest corner of the study area is approximately 200 ft by 110 ft. The impoundment is a raised earthen embankment design and sits at an elevation of 114 ft (WGS84). Water was previously pumped into this impoundment from Pilarcitos Creek to be used by the nursery for its operations (H. T. Harvey & Associates and RMC 2010). The pump appears to be currently inactive. However, the impoundment continues to hold water and extensive emergent vegetation and is classified as perennial

freshwater marsh habitat, indicating that the pond as it was excavated may have some connection to groundwater. At the time of the June 2020 survey, there was no evidence of flow from the pond.

Within the ruderal grassland, there are willow-alder stands characterized by individual or small stands of arroyo willows (*Salix lasiolepis*, FACW) and red alder red alder (*Alnus rubra*, FACW, Appendix D, Photo 3). These species generally do not require the soil to be inundated to persist, but they generally do require access to a permanent water source, such as a creek or high groundwater, which they can access with deep roots. This also indicates that in at least some areas of the parcel in some years, the upper soil profile was moist enough to allow recruitment of these typically riparian tree species. Based on an analysis of historical aerials in Google Earth, the clumps of trees appear to be less than 10 years old, and sprouted and grew following the abandonment of nursery activities on the site (Google, Inc. 2020), possibly with assistance from artificial hydrology from irrigation in the last years of the nursery. These two tree species are functional phreatophytes, meaning that they are woody perennials with a deep taproot that are able to access deeper groundwater. They may have germinated and established in a wet year or assisted by irrigation overspray, and have been able to persist due to their deep taproot. Again, these trees occur on upland terraces that were previously cultivated for agriculture and are spatially separated from the riparian corridor along Pilarcitos Creek. We do not believe that this entire area truly stays saturated for a substantial portion of the growing season each year, as the site lacks hydric soil and hydrology indicators. Despite the fact that both arroyo willow and red willow have a wetland indicator status (FACW), we feel that in this situation these trees are indicators of a high groundwater table, as opposed to wetland conditions, or presence of a riparian corridor. Therefore we do not consider these patches of trees to be CCC jurisdictional wetlands.

There were areas within the California annual grassland, primarily along the western edge of the study area that supported dense monotypic stands of poison hemlock (*Conium maculatum,* FAC) (SP7 and SP10, Appendix C; Photo 4 , Appendix D), indicative of disturbance and infestation. Both these areas were portions of the study area that had previously been in nursery production. The soils at the sample points were similar to nearby upland soils, with low chroma and low value soil colors throughout the soil profile (10 YR 3/2 or 3/3). Soils were dry and no hydric soil indicators were observed at either sample point. Additionally, no indicators of hydrology were observed in association with these stands of poison hemlock.

Poison hemlock is adapted to grow as a hydrophyte or non-hydrophyte depending on environmental conditions and is classified as an invasive plant by the California Invasive Plant Council (Cal-IPC 2020). It is tolerant of a wide range of moisture conditions including habitats with hydric, mesic (damp or moist soils that are not hydric), or even mildly xeric (dry) soils. Poison hemlock is a serious weed that is capable of rapid establishment, particularly on disturbed sites or where little vegetation exists at the start of the growing season. Once it is firmly established under such conditions, it can prevent the growth of most other vegetation. The soils within the project area are disturbed, based on the historical use of the area for agriculture and the presence of non-native vegetation, and as previously stated do not exhibit evidence of being hydric. The occurrence of poison hemlock is most likely in response to the highly disturbed soils found within the project area; therefore, it is not a strong wetland indicator in this situation because it is growing as a non-hydrophyte. It is our professional

opinion that these areas are not functioning as wetlands and should not be mapped as one-parameter CCC wetlands due to the lack of hydric soils, hydrology, and poison hemlock not growing as a hydrophyte.

3.1.4 Rationale for Sample Point Choice

Ten sample points were selected to document conditions in representative jurisdictional and non-jurisdictional areas (Figure 7, Appendix C). Rationale and findings for wetland data form sample point locations are summarized in Table 4.

Table 4. Summary of Sample Point Locations and Results

Name	Sampling Rationale	Hydrophytic Vegetation?	Hydric Soil?	Wetland Hydrology?	Overall Wetland Assessment
SP1	Placed to examine abandoned agricultural ditch.	Yes	No	No	Upland position; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP2	Placed to examine the hillslope adjacent the ditch – upland position.	No	No	No	Upland position; this area does not meet the three parameter wetland criteria.
SP3	Emergent freshwater marsh in an abandoned (but still inundated) agricultural pond – FM1.	Yes	Yes	Yes	This area is a three parameter wetland.
SP4	Upland paired point to SP4.	Yes	No	No	Upland; this area does not meet the three parameter. Hydrophytic vegetation is riparian vegetation dominated by Arroyo willow.
SP5	Placed to examine the willow/alder stands that occur throughout the site.	Yes	No	No	These small stands do not meet the three parameter USACE wetland criteria, hydric soils and wetland hydrology not present, presence of these trees does not necessarily indicate wetland conditions.
SP6	Upland paired point to SP5.	No	No	No	This area does not meet the three parameter wetland criteria.
SP7	Placed to examine poison hemlock infestation on terrace in southern portion of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP8	Placed to investigate the riparian corridor of Pilarcitos Creek	Yes	No	No	This area does not meet the three parameter wetland criteria.

Name	Sampling Rationale	Hydrophytic Vegetation?	Hydric Soil?	Wetland Hydrology?	Overall Wetland Assessment
SP9	Placed to investigate the riparian corridor of Pilarcitos Creek in southwest corner of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria.
SP10	Placed to investigate area of poison hemlock infestation on terrace in southern portion of property.	Yes	No	No	Upland; this area does not meet the three parameter wetland criteria. The wetland vegetation observed is FAC-dominated and weedy.
SP11	Placed in upland grassland in the northeastern corner of the property.	No	No	No	Upland position; this area does not meet the three parameter wetland criteria.

OHWM-1 was placed perpendicular to Pilarcitos Creek (R-1) in the northeast corner of the wetland delineation study area (Appendix C; Appendix D, Photo 1). Pilarcitos Creek is a perennial creek with a well-defined OHWM that was identified by the observations of shelving, the clear presence of a bed and bank, and drift deposits.

3.1.5 Photo Points

Photo point labels, coordinates, and rationale for the photo are include in Table 4. Photos are included in Appendix D.

Table 5. Coordinates and Rationale for Photo Points

Label	Latitude	Longitude	Rationale
Photo 1	37.469261	-122.421798	Riparian habitat along Pilarcitos Creek
Photo 2	37.468813	-122.425454	Emergent freshwater marsh habitat around the abandoned agricultural pond
Photo 3	37.468319	-122.423926	Willow/Alder patches in the ruderal grassland matrix – SP5
Photo 4	37.468084	-122.423153	Portion of project area dominated by poison hemlock – SP7
Photo 5	37.469411	-122.423262	Upland grassland habitat typical of the site
Photo 6	37.467987	-122.422659	Pilarcitos Creek

3.2 Identification of Section 404 Waters

Approximately 0.29 ac of Section 404 waters were observed within the study area including the aquatic riverine habitat within the OHWM of Pilarcitos Creek (R1, Figure 7; Photo 6 in Appendix D) forming the eastern edge of study area. The extent of Section 404 waters was demarcated by the boundary formed by the OHWM.

Pilarcitos Creek is a 13.5-mile perennial stream that flows from the western slopes of the Santa Cruz Mountains through Pilarcitos Canyon and discharges into the Pacific Ocean approximately 1.7 mi downstream of the study area. Pilarcitos Creek is within the Arroyo Leon hydrologic unit (180500060201) within the San Francisco Coastal South Sub Region of the California Region. There is no tidal influence within Pilarcitos Creek in the study area.

3.3 Identification of Section 404 Potentially Jurisdictional Wetlands (Special Aquatic Sites)

In general, areas that were considered to be wetlands included solid stands of hydrophytes and/or areas observed to be ponded and/or saturated for long duration. Approximately 0.38 ac of potential USACE jurisdictional wetlands were identified in the study area (Figure 7). Three parameters identifying Section 404 wetlands were observed at one sample point (Figure 7; SP3, Appendix C). The feature that was determined to be a potentially USACE jurisdictional wetland is summarized below.

3.3.1 Perennial Freshwater Marsh (FM1)

Approximately 0.38 ac of emergent perennial freshwater marsh was mapped within study area, occupying an abandoned agricultural pond (FM1, Figure 7; SP3, Appendix C; (Photo 2 in Appendix D)).

Vegetation. Dominant vegetation associated with the wetlands included hydrophytes such as common cattail (*Typha latifolia*, OBL), whorled marsh-pennywort (*Hydrocotlye verticillata*, OBL), duckweeds (*Lemna* spp., OBL), and mosquito fern (*Azolla filiculoides*, OBL).

Soils. The soils were assumed to be hydric since the sample point was under several inches of water and soils are inundated year round. In addition, a hydrogen sulfide smell was observed in a shallow pit dug on the edge of the marsh.

Hydrology. The hydrology indicator observed at this location was the presence of surface water. Based on the timing of the survey, it would appear that this agricultural pond supports year-round surface water. Inundation was observed in aerial photos from recent years in fall months (Google Inc. 2020).

3.4 Identification of Section 401 Waters of the State

The extent of Section 401 waters of the state (RWQCB jurisdiction) in the study area includes a total of 0.91 ac, including areas within Section 404 jurisdiction as described above and riparian habitat up to the top of the banks. In the field, the top of bank was determined by mapping the first significant topographic break in slope. Waters of the state include all waters of the U.S., and cover approximately 0.38 ac of open water, 0.29 ac of perennial marsh, and 0.24 ac of riparian habitat (Figure 8). Characteristics of waters of the state, including wetlands, are described above in Sections 3.2 and 3.3.

3.5 Identification of CDFW Jurisdiction

The study area contains a perennial stream (Pilarcitos Creek) with a defined bed and bed topography along with associated riparian habitat, as defined by CDFW (Figure 9; Photo 1 and 6 in Appendix D). Riparian habitat was mapped by the dripline of trees and the extent of riparian vegetation. Pond features were mapped by the top of bank (which can extend beyond the OHWM used to measure the extent of waters of the U.S.).

Mixed Riparian Woodland. Approximately 2.85 ac of riparian woodland habitat extends from the water's edge and up the bank of Pilarcitos Creek. This riparian corridor is wide, well-developed, and extends upstream and downstream of the wetland delineation study area along Pilarcitos Creek. In addition, because the centerline of the creek is roughly equivalent to the eastern edge of the parcel, the riparian corridor on the eastern bank of the creek extends outside of the study area. Dominant trees and shrubs observed include arroyo willow (*Salix lasiolepis*, FACW), red willow (*Salix laevigata,* FACW), and red alder (*Alnus rubra*, FACW). The understory is mostly composed of dense and overlapping layers of Himalayan blackberry (*Rubus armeniacus*, FAC), cape ivy (*Delairea odorata, UPL*), and English ivy (*Hedera helix,* FACU). Given the density of the shrub/vine understory, herbaceous vegetation is limited.

3.6 Areas Not Meeting the Regulatory Definition of Section 404 Wetlands and Waters/Coastal Zone Wetlands within CCC Jurisdiction

In general, areas that were not considered to be wetlands, were not dominated by hydrophytic vegetation, and did not exhibit hydrology indicators were considered uplands. Approximately 17.64 ac of the study area do not meet the regulatory definitions of jurisdictional waters or jurisdictional habitats (Figure 6). This includes the ruderal grassland and developed landscape with ornamental vegetation (Photos 4 and 5, Appendix D).

Ruderal Grassland. Ruderal (i.e., disturbed) California annual grassland habitat is the most extensive vegetation community in the project area at 8.16 ac. Non-native grasses within this plant community are strongly dominant, generally outcompeting other forb and native grass species that may otherwise be present. At the time of the reconnaissance survey, this habitat was dominated by non-native grasses and forbs, including wild oat (*Avena* sp., UPL), Italian rye grass (*Festuca perenne*, FAC), soft brome (*Bromus hordeaceus*, FACU), black mustard (*Brassica nigra*, UPL), wild radish (*Raphanus sativus*, UPL), and prickly lettuce (*Lactuca serriola*, FACU).

In addition to these species, many other forbs and grass species are commonly found but to a much lower extent. These species include bristly ox-tongue (*Helminthotheca echioides,* FAC), poison hemlock (FAC), and curly dock (*Rumex crispus*, FAC). All of these, as well as Italian rye grass, are technically scored as facultative hydrophytes (Lichvar et al. 2016), or plants that sometimes occur in wetlands and sometimes occur in uplands, and can potentially indicate moist condition. However, all these species often dominate disturbed upland areas, especially along the coast where frequent fog occurs, without indicating wetlands, and often form monotypic stands, indicating infestation.

A number of small patches of either arroyo willow (FACW) or red alder (FACW) occur throughout the ruderal grassland, as mentioned above (Photo 3 in Appendix D). These clumps consist of either one or a few two trees and are situated on terraces within the central portion of the study area in areas that were previously in agricultural production. These trees are not associated with the riparian corridor along Pilarcitos Creek, though they likely are able to persist due to locally higher groundwater (within several feet of the surface) near Pilarcitos Creek. We do not believe that this entire area, or any area in the ruderal grassland supporting isolated willows or alders, truly stays saturated within 2 ft of the surface for a substantial portion of the growing season each year, as the site lacks hydric soil and hydrology indicators, or localized topography that would lead to seasonal ponding. Although both arroyo willow and red willow have a wetland indicator status (FACW), we feel that in this situation these trees are functioning as phreatophytes (i.e. woody perennials with a deep taproot that are able to access deep groundwater) as opposed to indicators of wetland conditions, or presence of a riparian corridor. Therefore we do not consider these patches of trees to be CCC jurisdictional wetlands.

Developed/Ornamental. Developed/landscaped land use (1.38 ac) includes areas where remnant structures and/or pavement and landscaping from the previous land use of agriculture production remain, and native or ruderal vegetation is largely lacking. The areas of former landscaping largely include the dense hedgerows of Monterey cypress (*Hesperocyparis macrocarpa,* UPL) and Monterey pine (*Pinus radiata*, UPL) trees along the north and western edge of the study area. The areas of development also include areas at the eastern end of the property consisting of several buildings, steel storage containers, and dirt parking areas. The buildings are in active use by the City of Half Moon Bay. Additionally, there are several unused dilapidated structures, including unused concrete channels and culverts present within the grassland and adjacent to the riparian habitat.

Section 4. Literature Cited

Baldwin, Goldman, Keil, Patterson, Ronatti, and Wilkin (eds.) 2012. The Jepson Manual: Vascular Plants of California. 2nd Edition. University of California Press, Berkeley, California.

[CCC] California Coastal Commission. 2008. Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone. http://www.coastal.ca.gov

[Cal-IPC] California Invasive Plant Council. 2020. California Invasive Plant Inventory Database. <http://www.cal-ipc.org/paf/>. Accessed June 2020.

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. (Version 04DEC98).

Environmental Laboratory. 1987. U.S. Corps of Engineers Wetlands Delineation Manual. Department of the Army.

Google Inc. 2020. Google Earth Pro (Version 7.3.3.7699) [Software]. Available from earth.google.com.

H. T. Harvey & Associates. In Preparation. 880 Stone Pine Road Project. Biological Resources Report. Prepared for City of Half Moon Bay, California.

H. T. Harvey & Associates and RMC. 2010. Half Moon Bay Riparian and Wetland Mitigation Site, Preliminary Mitigation and Monitoring Plan.

Lichvar, R. W., D. L. Banks, W. N. Kirchner, and N. C. Melvin. 2016. Western Mountains, Valleys, and Coast 2016 Regional Plant List. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Prepared for the U.S. Army Corps of Engineers.

Munsell. 2009. Soil Color Charts, Munsell Color X-rite. Grand Rapids, Michigan.

[NRCS] Natural Resources Conservation Service. 2010. Field Indicators of Hydric Soils in the U.S.: A Guide for Identifying and Delineating Hydric Soils (Version 7.0). U.S. Department of Agriculture. Prepared with the National Technical Committee for Hydric Soils.

[NRCS] Natural Resources Conservation Service. 2020a. Web Soil Survey. U.S. Department of Agriculture. <http://websoilsurvey.nrcs.usda.gov>. Accessed June 2020.

[NRCS] National Resource Conservation Service. 2020b. National Hydric Soils List. <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. Accessed June 2020.

[NWI] National Wetlands Inventory. 20208. Wetlands Mapper. U.S. Fish and Wildlife Service. <http://www.fws.gov/wetlands/Wetlands-Mapper.html>. Accessed June 2020.

PRISM Climate Group. 2020. Online PRISM Data Explorer. Oregon State University, Corvallis, Oregon. <http://www.prism.oregonstate.edu/>. Accessed June 2020.

[USACE] U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region. May. U.S. Army Engineer Research and Development Center.

[USACE] U.S. Army Corps of Engineers. 2016a. Updated Map and Drawing Standards for the South Pacific Division Regulatory Program.

[USACE] U.S. Army Corps of Engineers. 2016b. Information Needed for Verification of Corps Jurisdiction, San Francisco District. April. <http://www.spn.usace.army.mil/Portals/68/docs/regulatory/2%20-%20Info%20Req.pdf>.

Appendix A. Custom Soil Report for Project Study Area

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Mateo Area, California

880 Stone Pine Road Project



October 12, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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GoF3—Gazos and Lobitos soils, steep and very steep, severely eroded...16
Gu—Gullied land (alluvial soil material).....18
Gv—Gullied land (gazos-lobitos soil material).....20
TcD2—Tierra clay loam, moderately steep, eroded.....20
TeC2—Tierra loam, sloping, eroded.....22
TeE3—Tierra loam, steep, severely eroded.....23
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,980 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Mateo Area, California
Survey Area Data: Version 14, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 29, 2019—Jun 5, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BeC2	Botella loam, sloping, eroded	0.0	0.0%
FaA	Farallone loam, nearly level	8.7	41.5%
FcD2	Farallone coarse sandy loam, moderately steep, eroded	4.3	20.4%
GoF3	Gazos and Lobitos soils, steep and very steep, severely eroded	1.4	6.8%
Gu	Gullied land (alluvial soil material)	1.3	6.2%
Gv	Gullied land (gazos-lobitos soil material)	0.8	3.8%
TcD2	Tierra clay loam, moderately steep, eroded	0.1	0.7%
TeC2	Tierra loam, sloping, eroded	1.2	5.8%
TeE3	Tierra loam, steep, severely eroded	3.1	14.8%
Totals for Area of Interest		**21.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Mateo Area, California

BeC2—Botella loam, sloping, eroded

Map Unit Setting

National map unit symbol: h9v8
Elevation: 50 to 800 feet
Mean annual precipitation: 20 to 30 inches
Mean annual air temperature: 57 to 59 degrees F
Frost-free period: 250 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Botella and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Botella

Setting

Landform: Alluvial fans, terraces, benches
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 20 inches: loam
H2 - 20 to 60 inches: silty clay loam

Properties and qualities

Slope: 7 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Soquel

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed
Percent of map unit: 5 percent
Hydric soil rating: No

Dublin
Percent of map unit: 5 percent
Hydric soil rating: No

FaA—Farallone loam, nearly level

Map Unit Setting
National map unit symbol: 2yrdy
Elevation: 30 to 210 feet
Mean annual precipitation: 28 to 30 inches
Mean annual air temperature: 56 to 57 degrees F
Frost-free period: 365 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Farallone and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Farallone

Setting
Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
Ap - 0 to 20 inches: loam
AC - 20 to 48 inches: sandy loam
C - 48 to 60 inches: stratified coarse sandy loam to sandy loam

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Denison

Percent of map unit: 10 percent
Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Miramar

Percent of map unit: 4 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

FcD2—Farallone coarse sandy loam, moderately steep, eroded

Map Unit Setting

National map unit symbol: h9x5
Elevation: 50 to 200 feet
Mean annual precipitation: 20 to 30 inches
Mean annual air temperature: 55 degrees F
Frost-free period: 325 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Farallone and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Farallone

Setting

Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 15 inches: coarse sandy loam
H2 - 15 to 48 inches: sandy loam
H3 - 48 to 60 inches: stratified coarse sandy loam to sandy loam

Properties and qualities

Slope: 10 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Denison

Percent of map unit: 10 percent
Hydric soil rating: No

Miramar

Percent of map unit: 5 percent
Hydric soil rating: No

GoF3—Gazos and Lobitos soils, steep and very steep, severely eroded

Map Unit Setting

National map unit symbol: h9xw
Elevation: 50 to 2,380 feet
Mean annual precipitation: 15 to 30 inches
Mean annual air temperature: 55 to 63 degrees F
Frost-free period: 200 to 300 days

Farmland classification: Not prime farmland

Map Unit Composition

Gazos and similar soils: 45 percent
Lobitos and similar soils: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gazos

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Shale

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 20 inches: silt loam
H3 - 20 to 24 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent
Depth to restrictive feature: 20 to 24 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Lobitos

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Shale

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 25 inches: channery clay loam
H3 - 25 to 29 inches: channery loam
H4 - 29 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 75 percent
Depth to restrictive feature: 29 to 34 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Gullied land

Percent of map unit: 10 percent
Hydric soil rating: No

Sweeney

Percent of map unit: 5 percent
Hydric soil rating: No

Calera

Percent of map unit: 5 percent
Hydric soil rating: No

Gu—Gullied land (alluvial soil material)

Map Unit Setting

National map unit symbol: 2yrf4
Elevation: 20 to 420 feet
Mean annual precipitation: 29 to 32 inches
Mean annual air temperature: 56 to 57 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Gullied land, (aluvial): 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land, (aluvial)

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and qualities

Slope: 2 to 15 percent
Frequency of flooding: OccasionalNone

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Draws
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Botella

Percent of map unit: 4 percent
Landform: Alluvial fans, terraces, benches
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Farallone

Percent of map unit: 3 percent
Landform: Alluvial fans, flood plains
Landform position (two-dimensional): Backslope, toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Soquel

Percent of map unit: 3 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Gv—Gullied land (gazos-lobitos soil material)

Map Unit Composition

Gullied land, (gazos-): 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gullied Land, (gazos-)

Setting

Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from shale

Typical profile

H1 - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 5 percent
Landform: Draws
Hydric soil rating: Yes

Gazos

Percent of map unit: 5 percent
Hydric soil rating: No

Lobitos

Percent of map unit: 5 percent
Hydric soil rating: No

TcD2—Tierra clay loam, moderately steep, eroded

Map Unit Setting

National map unit symbol: 2yrf9
Elevation: 60 to 720 feet
Mean annual precipitation: 29 to 31 inches
Mean annual air temperature: 56 to 57 degrees F

Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Tierra and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 17 inches: clay loam
Bt - 17 to 37 inches: clay
C - 37 to 60 inches: sandy clay loam

Properties and qualities

Slope: 11 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Colma

Percent of map unit: 10 percent
Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Santa lucia

Percent of map unit: 5 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

TeC2—Tierra loam, sloping, eroded

Map Unit Setting

National map unit symbol: 2yrfd
Elevation: 80 to 510 feet
Mean annual precipitation: 28 to 32 inches
Mean annual air temperature: 56 to 57 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Tierra and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 17 inches: loam
Bt - 17 to 37 inches: clay
C - 37 to 60 inches: sandy clay loam

Properties and qualities

Slope: 5 to 11 percent
Depth to restrictive feature: 10 to 24 inches to abrupt textural change
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Colma
Percent of map unit: 10 percent
Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Santa lucia
Percent of map unit: 3 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Unnamed
Percent of map unit: 2 percent
Landform: Swales
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

TeE3—Tierra loam, steep, severely eroded

Map Unit Setting
National map unit symbol: 2yrfg
Elevation: 100 to 650 feet
Mean annual precipitation: 29 to 31 inches
Mean annual air temperature: 56 to 57 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Tierra and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tierra

Setting
Landform: Hills

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 13 inches: loam
Bt - 13 to 33 inches: clay
C - 33 to 60 inches: sandy clay loam

Properties and qualities

Slope: 21 to 41 percent
Depth to restrictive feature: 10 to 24 inches to abrupt textural change
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: Very low (about 2.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Colma

Percent of map unit: 10 percent
Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Santa lucia

Percent of map unit: 5 percent
Landform: Mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix B. Plants Observed in the Project Area

Family	Scientific Name	Common Name	Wetland Indicator Status[1]
Agavaceae	*Chlorogalum pomeridianum*	Soap plant	UPL
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	FAC
Apiaceae	*Conium maculatum*	poison hemlock	FAC
	Hydrocotyle verticillata	Whorled Marsh-Pennywort	OBL
	Torilis arvensis	field hedge parsley	UPL
Araceae	*Lemna sp.*	duckweed	OBL
Araliaceae	*Hedera helix*	English ivy	FACU
Asteraceae	*Arctotheca prostrata*	creeping capeweed	UPL
	Baccharis pilularis	Coyote brush	UPL
	Carduus pycnocephalus	Italian thistle	UPL
	Cirsium vulgare	Bull thistle	FACU
	Deinandra corymbosa	Coastal tarweed	UPL
	Delairea odorata	cape ivy	UPL
	Helminthotheca echioides	Bristly ox-tongue	FAC
	Lactuca serriola	*prickly lettuce*	FACU
	Madia sativa	Chile Tarweed	UPL
	Silybum marinum	Milk thistle	UPL
Azollaceae	*Azolla filiculoides*	*mosquito fern*	OBL
Betulaceae	*Alnus rubra*	red alder	FAC
Brassicaceae	*Brassica nigra*	Black mustard	UPL
	Hirschfeldia incana	Mediterranean hoary mustard	UPL
	Raphanus sativus	Wild radish	UPL
Caryophyllaceae	*Silene gallica*	windmill pink	UPL
Cupressaceae	*Sequoia sempervirens*	Coast redwood	UPL
Cyperaceae	*Carex barbarae*	Santa Barbara Sedge	FAC
	Carex densa	Dense sedge	OBL

Family	Scientific Name	Common Name	Wetland Indicator Status[1]
	Cyperus eragrostis	Tall flatsedge	FACW
Equisetaceae	*Equisetum arvense*	common horsetail	FAC
Fabaceae	*Acacia dealbata*	Silver wattle	UPL
	Genista monspessulana	French broom	UPL
	Lotus corniculatus	bird's foot trefoil	FAC
	Lupinus arboreus	coastal bush lupine	UPL
	Trifolium angustifolium	Narrow leaved clover	UPL
	Vicia villosa	Hairy vetch	UPL
Fagaceae	*Quercus agrifolia*	Coast live oak	UPL
Junacaeae	*Juncus effusus*	Bog rush	FACW
	Juncus patens	Common rush	FACW
	Juncus xiphoides	Iris leaved rush	OBL
Lamiaceae	*Stachys bullata*	California hedge nettle	UPL
Linaceae	*Linum bienne*	narrow leaved flax	UPL
Myrtaceae	*Eucalyptus globulus*	blue gum	UPL
Pinaceae	*Hesperocyparis macrocarpa*	Monterey cypress	UPL
	Pinus radiata	Monterey pine	UPL
	Pseudotsuga menziesii	Douglas fir	FACU
Plataginaceae	*Plantago coronopus*	cutleaf plantain	FAC
Poaceae	*Agoseris stolonifera*	Creeping bentgrass	FAC
	Aira caryophyllea	Silvery hairgrass	FACU
	Avena sp.	Wild oats	UPL
	Briza maxima	Rattlesnake grass	UPL
	Briza minor	Little quaking grass	FAC
	Bromus diandrus	Ripgut brome	UPL
	Bromus hordeaceus	soft chess	FACU
	Cortaderia jubata	Pampas grass	FACU
	Cynosurus echinatus	dogtail grass	UPL
	Festuca perenne	Italian ryegrass	FAC

Family	Scientific Name	Common Name	Wetland Indicator Status[1]
	Holcus lanatus	Velvet grass	FAC
	Hordeum murinum	meadow barley	FAC
	Polypogon monspeliensis	rabbitsfoot grass	FACW
Polygonaceae	*Rumex acetosella*	Sheep sorrel	FACU
	Rumex crispus	curly dock	FAC
Primulaceae	*Lysimachia arvensis*	scarlet pimpernel	FAC
Rosaceae	*Cotoneaster pannosus*	silverleaf cotoneaster	UPL
	Rubus armeniacus	Himalayan blackberry	FAC
	Rubus ursinus	California blackberry	FACU
Salicaceae	*Salix laevigata*	red willow	FACW
	Salix lasiandra	Pacific willow	FACW
	Salix lasiolepis	arroyo willow	FACW
Typhaceae	*Typha latifolia*	common cattail	OBL
Urticaceae	*Urtica dioica* ssp. *dioica*	stinging nettle	FAC

Notes:

Wetland Indicator Status obtained from Lichvar et al. (2016)

[1] Wetland Indicator Status Key:

OBL = Obligate wetland species, occur almost always in wetlands (>99% probability).

FACW = Facultative Wetland species, usually occur in wetlands (67 to 99% probability), but occasionally found in non-wetlands.

FAC = Facultative species, equally likely to occur in wetlands or non-wetlands (34 to 66% probability).

FACU = Facultative Upland, usually occur in non-wetlands (67% to 99%), but occasionally found in wetlands.

UPL = Obligate Upland species, occur almost always in non-wetlands (>99% probability).

NI = Non Indicator, not present on list.

Appendix C. Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP1
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): LRR-C Lat: 37.468385 Long: -122.425183 Datum: WGS84
Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine swale on edge of property - appears to be a head-cut or erosional feature, perhaps an abandoned agricultural ditch.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Conium maculatum*	40	X	
2. *Festuca perennis*	30	X	
3. *Raphanus sativus*	20	X	
4. *Helminthotheca*	10		
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X 1 – Rapid Test for Hydrophytic Vegetation
2 – Dominance Text is >50%
3 – Prevalence Index is ≤3.0[1]
4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
5 – Wetland Non-vascular Plants[1] (Explain)
Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Ruderal vegetation dominated by Conium. Not a strong demarcation between vegetation in swale and surrounding hillslope.

SOIL

Sampling Point: **SP1**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 4/2	100					clay loam	many roots

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

Soil appears to be well-drained. No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature is ditch/swale-like and appears to be eroding via head cut. Likely a former agricultural ditch, used to convey run-off and has been long since abandoned. No indicators of recent flow observed. Feature does not appear to pond water either. Water may flow through here immediately flowing strong storm events, but then would transition to sheet flow at bottom of slope (i.e. does not drain directly into another stream or drainage.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP2
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 3-4
Subregion (LRR): LRR-C Lat: 37.46845 Long: -122.42513 Datum: NAD83
Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X
Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine the hillslope adjacent the swale.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Festuca perennis*	60	X	FAC
2. *Avena fatua*	30	X	UPL
3. *Raphanus sativa*	5		UPL
4. *Vicia sativa*	5		UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	60	x 3 =	180
FACU species		x 4 =	
UPL Species	40	x 5 =	200
Column totals	100 (A)		380 (B)

Prevalence Index = B/A = 3.8

Hydrophytic Vegetation Indicators:
- 1 – Rapid Test for Hydrophytic Vegetation
- 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No X

Remarks:
Italian rye-grass dominated grassland – other co-dominant species are upland grasses and forbs.

SOIL

Sampling Point: **SP2**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/3	50					clay loam	
0-16	5 YR 5/4	50					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Soil has a mixed matrix of two soil colors. Redox features not observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hillslope, upland landscape position.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP3
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 3-4
Subregion (LRR): LRR-C Lat: 37.46882 Long: -122.42505 Datum: WGS84
Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No
Is the Sampled Area within a Wetland? Yes X No

Remarks:
Freshwater marsh in an abandoned (but still inundated) agricultural pond.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Typha latifolia*	60	X	OBL
2. *Azolla spp.*	20	X	OBL
3. *Lemna spp.*	10		OBL
4. *Hydrocotyle verticillata*	10		OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
X 1 – Rapid Test for Hydrophytic Vegetation
X 2 – Dominance Text is >50%
3 – Prevalence Index is ≤3.0[1]
4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
5 – Wetland Non-vascular Plants[1] (Explain)
Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Cattail-dominated freshwater marsh.

SOIL

Sampling Point: **SP3**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
n/a							mucky	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soil pit not dug, due to standing water. Hydrogen sulfide smell observed in a shallow pit dug on the edge of the marsh. Soils presumed hydric based on dominance of OBL species, and year-round inundation of soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): ~6"

Water Table Present? Yes X No ___ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): N/A

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Perennially inundated pond, likely fed by groundwater. Water present year round. The water depth in the middle of the pond feature is unknown.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP4
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): LRR-C Lat: 37.46877 Long: -122.42499 Datum: WGS84
Soil Map Unit Name: Tierra loam, steep, severely eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Upland paired point to SP4 - point taken to examine the riparian vegetation on the banks of the abandoned agricultural pond.

VEGETATION

Tree Stratum (Plot size: 30 x 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	60	X	FACW
2.			
3.			
4. *5*			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Holcus lanatus*	60	X	FAC
2. *Vicia tetrasperma*	30	X	UPL
3. *Festuca perennis*	20	X	FAC
4. *Geranium molle*	<1		UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size: 30 x 30 ft.)			
1. *Rubus ursinus*	5	X	FACU
2.			
Total Cover:	5		
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL Species	x 5 =
Column totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Overstory willow cover is rooted at edge of marsh, the remainder of the riparian vegetation on the bank is dominated by FAC grasses.

SOIL

Sampling Point: **SP4**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	2.5Y 5/3	100	7.5 YR 5/4	<1	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

Some very faint redox concentrations in the matrix. Soils are not in a landscape position (mid banks of a constructed pond) where they would be seasonally inundated.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Hillslope bank of artificial pond. All surface flow in the winter season would readily drain into the adjacent pond.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP5
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.46825 Long: -122.42389 Datum: WGS84
Soil Map Unit Name: Farallone loam, nearly level NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X
Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine the willow/alder stands that occur on the site - may be considered "one-parameter CCC wetlands".

VEGETATION

Tree Stratum (Plot size: 30 x 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	90	X	FACW
2.			
3.			
4.			
Total Cover:	90		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 30 x 30')			
1. *Festuca perennis*	2	X	FAC
2. *Avena fatua*	1		UPL
3. *Bromus diandrus*	1		UPL
4. *Bromus catharticus*	1		UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	5		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
___ 1 – Rapid Test for Hydrophytic Vegetation
X 2 – Dominance Text is >50%
___ 3 – Prevalence Index is ≤3.0[1]
___ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 – Wetland Non-vascular Plants[1] (Explain)
Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Wetland boundary defined by overstory canopy of willow. Understory is absent (i.e. bare) to very sparsely vegetated by FAC and UPL grasses.

SOIL

Sampling Point: **SP5**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The willow/alder patches are situated on a flat terrace that was previously leveled and in agricultural production. There may be a high water table that the roots are tapping into.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP6
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.46822 Long: -122.42382 Datum: WGS84
Soil Map Unit Name: Farallone loam, nearly level NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X
Is the Sampled Area within a Wetland? Yes No X

Remarks:
Paired point to SP5.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Avena fatua*	50	X	UPL
2. *Bromus diandrus*	25	X	UPL
3. *Festuca myuros*	10		UPL
4. *Festuca perennis*	10		FAC
5. *Carduus pychnocephalus*	3		UPL
6. *Erigeron canadensis*	2		UPL
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
___ 1 – Rapid Test for Hydrophytic Vegetation
___ 2 – Dominance Text is >50%
___ 3 – Prevalence Index is ≤3.0[1]
___ 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 – Wetland Non-vascular Plants[1] (Explain)
Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No X

Remarks:
Dominated by upland grasses.

SOIL

Sampling Point: **SP6**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Level terrace, no indication of seasonal inundation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP7
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local Relief (concave, convex, none): None Slope (%): 1
Subregion (LRR): LRR-C Lat: 37.46808 Long: -122.42309 Datum: WGS84
Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine poison hemlock infestation on terrace in southern portion of property.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Conium maculatum*	100	X	FAC
2. *Hirschfeldia incana*	2		UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)

Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Ruderal vegetation dominated by poison hemlock, a FAC plant. Hemlock is not "acting" like a wetland plant in this situation.

SOIL

Sampling Point: **SP7**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 4/2	100					Sandy loam	coarse

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No redox features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Upland landscape position.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP8
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.469925 Long: -122.42175 Datum: WGS84
Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine the riparian corridor of Pilarcitos Creek.

VEGETATION

Tree Stratum (Plot size: 30 x 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	100	X	FACW
2.			
3.			
4.			
Total Cover:	100		
Sapling/Shrub Stratum (Plot size: 30 x 30ft)			
1. *Rubus armeniacus*	20	X	FAC
2.			
3.			
4.			
5.			
Total Cover:	20		
Herb Stratum (Plot size: 30 x 30ft)			
1. *Urtic dioica*	5	X	FAC
2. *Stachys rigida*	5	X	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	10		
Woody Vine Stratum (Plot size: 30 x 30ft)			
1. *Delairea odorata*	75	X	FAC
2.			
Total Cover:	75		
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)

Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Willow-dominated, dense, multi-layered riparian vegetation.

SOIL

Sampling Point: **SP8**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/3	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

Terrace soils, well-drained. No redoximorphic features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Upland landscape position - high terrace above Pilarcitos Creek.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP9
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.46687 Long: -122.42311 Datum: WGS84
Soil Map Unit Name: Farallone coarse sandy loam, moderately steep, eroded NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine the riparian corridor of Pilarcitos Creek. Point taken in southwest corner of property.

VEGETATION

Tree Stratum (Plot size: 30 x 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata*	60	X	FACW
2.			
3.			
4.			
Total Cover:	60		
Sapling/Shrub Stratum (Plot size: 30 x 30ft)			
1. *Rubus armeniacus*	60	X	FAC
2.			
3.			
4.			
5.			
Total Cover:	60		
Herb Stratum (Plot size: 30 x 30ft)			
1. *Conium maculatum*	20	X	FAC
2. *Urtica dioica*	10	X	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	30		
Woody Vine Stratum (Plot size: 30 x 30ft)			
1. *Delairea odorata*	75	X	FAC
2.			
Total Cover:	75		
% Bare Ground in Herb Stratum			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Willow-dominated, dense, multi-layered riparian vegetation.

SOIL

Sampling Point: **SP9**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ **No X**

Remarks:

Terrace soils, well-drained. No redoximorphic features observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Upland landscape position - high terrace above Pilarcitos Creek.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP10
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.46701 Long: -122.42410 Datum: WGS84
Soil Map Unit Name: Farallone loam, nearly level NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine poison hemlock infestation on terrace in south west portion of property. Hemlock is extensive on this portion of the property.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Conium maculatum*	40	X	FAC
2. *Festuca perennis*	20	X	FAC
3. *Bromus diandrus*	35	X	UPL
4. *Lotus corniculatus*	5		FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL Species		x 5 =	
Column totals	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- X 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)

Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Ruderal vegetation dominated by poison hemlock and Italian rye-grass, FAC plants, though neither are "acting" like a wetland plants in this situation.

SOIL

Sampling Point: **SP10**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

Soils appear to be well-drained, no redoximorphic features present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Level terrace, no indication of seasonal inundation.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project Site: 880 Stone Pine Road Project City/County: Half Moon Bay, San Mateo Sampling Date: 6/12/2020
Applicant/Owner: City of Half Moon Bay State: California Sampling Point: SP11
Investigator(s): M. Bibbo Section/Township/Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local Relief (concave, convex, none): None Slope (%): 0
Subregion (LRR): LRR-C Lat: 37.46938 Long: -122.42328 Datum: WGS84
Soil Map Unit Name: Farallone loam, nearly level NWI classification None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Point taken to examine grassland in the northeastern corner of the property. This grassland is typical of the site.

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0		
Herb Stratum (Plot size: 10 x 10 ft.)			
1. *Avena fatua*	60	X	UPL
2. *Bromus diandrus*	30	X	UPL
3. *Hirschfeldia incana*	5		UPL
4. *Helminthotheca echioides*	2		FAC
5. *Vicia sativa*	2		UPL
6. *Rumex crispus*	<1		FAC
7.			
8.			
9.			
10.			
11.			
Total Cover:	100		
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			
% Bare Ground in Herb Stratum 0			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL Species	x 5 =
Column totals (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- 1 – Rapid Test for Hydrophytic Vegetation
- 2 – Dominance Text is >50%
- 3 – Prevalence Index is ≤3.0[1]
- 4 – Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- 5 – Wetland Non-vascular Plants[1] (Explain)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No X

Remarks:
Dominated by upland grasses.

SOIL

Sampling Point: **SP11**

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ **No X**

Remarks:

Soils appear to be well-drained.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LLR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? Yes _____ No X Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ **No X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Level terrace, no indication of seasonal inundation.

Appendix D. Photographic Documentation of the Project Area



Photo 1. Riparian habitat along Pilarcitos Creek (SP8).



Photo 2. Emergent freshwater marsh habitat around the abandoned agricultural pond (FM-1; SP3).



Photo 3. Willow/Alder stands in the California annual grassland occupying the old agricultural terraces (SP5).



Photo 4. Portion of project area dominated by poison hemlock (SP7).



Photo 5. Upland grassland habitat typical of the site (SP11).



Photo 6. OWHM and streambed of Pilarcitos Creek forming the eastern edge of the project study area.

Appendix E. Aquatic Resources Table

Waters Name	State	Cowardin Code	HGM Code	Measurement Type	Amount	Units	Water Type	Latitude	Longitude	Local Waterway
R1	CALIFORNIA	R2UB	RIVERINE	Area	1.46 ac	ACRE	RPW	37.467987	-122.422659	Pilarcitos Creek
FM1	CALIFORNIA	PEM	DEPRESS	Area	1.17 ac	ACRE	RPWWN	37.468813	-122.425454	Pilarcitos Creek

Appendix F. Signed statement from the property owner(s) allowing USACE personnel to enter the property

I, John Doughty, will allow Corps personnel to enter the 880 Stone Pine Road Project property in San Mateo County, California to collect samples during normal business hours. The property is not land-locked, therefore permission from the adjacent property owner(s) in order to provide access is not necessary.

Thank you,

John Doughty
City of Half Moon Bay
jdoughty@hmbcity.com
(650) 726-8252

APPENDIX B4

Draft Frog/Snake Tunnel Design Proposal

Dr. Mark Jennings, Rana Resources

DRAFT

FROG AND SNAKE TUNNEL DESIGN PROPOSAL

Mark R. Jennings
Rana Resources
October 12, 2021

The proposed frog/snake tunnel and surrounding fencing for the Half Moon Bay Corporation Yard Upgrade Project is designed as follows.

The width of the movement corridor shall be 50 feet. This approximates half of the width of the natural riparian corridor along Pilarcitos Creek (i.e.: a natural corridor along the water's edge). Because no future uses of the open space west of the corporation yard are proposed at this time, the movement corridor shall be placed as close as possible to the western boundary of the Corporation Yard and then head directly south to Pilarcitos Creek (to the location of the 50-foot riparian set back; see Figure 1). This allows for future use of the open space parcels to the west of the movement corridor and makes the distance to the creek as short as possible.

The fencing around the current pond should remain as a 6-foot high chain link fence. The northern and western fence lines should be expanded to the current boundaries of the property. The eastern and southern fence lines should be expanded to the 100-foot wetland setback. The access gate located in the northeast corner of the fence should remain in place.

This fencing will be installed with aluminum slats or vinyl slats (with wings). Gaps at the ends of the fencing will be covered with slats bolted together. The bottom of the fencing should be buried in the soil to a depth of 2 inches (except at the entrance to the movement corridor on the east side of the fence line. Here, no slats will be installed and the fencing shall leave a gap of 2 inches at the bottom for frogs and snakes to pass).

The fencing around the movement corridor itself shall be chain link fencing 4-feet high. It should also be buried 2 inches at the bottom and be covered with aluminum or vinyl slats. Gaps at the ends of the fencing will be covered with slats bolted together. Access gates will be installed on the west side of the fence lines where indicated (Figure 1). This fence will also connect on either side of the roadway to prevent frogs and snakes from entering the roadway (Figure 1).

The frog/snake tunnels shall be composed of 4 concrete box culverts, 3-feet wide and 2-feet high. They should be spaced under the roadway with culverts on the west and east sides flush against the adjacent fencing, and the remaining 2 culverts spaced approximately 14 feet from one another (Figure 2). The culvert bases should be at ground level and installed at a 2% slope to drain water. Either a trench or raising the roadway will be required to ensure that the culvert bases are properly aligned on the ground level. Whichever method is used, the end result is to prevent any water from ponding in the culverts for extended periods.

The floor of each culvert should contain an inch or so of natural soil (so as to cover the concrete base). The level of this soil base should be even with the soil level at the entrance and exit of each box culvert.

Gated access will be provided for any check of the area (e.g., for fire, utilities, culvert or pond inspections, etc.). It is anticipated that vegetation fuels management of the pond area and migration corridor will use grazing by domestic goats on an annual basis.

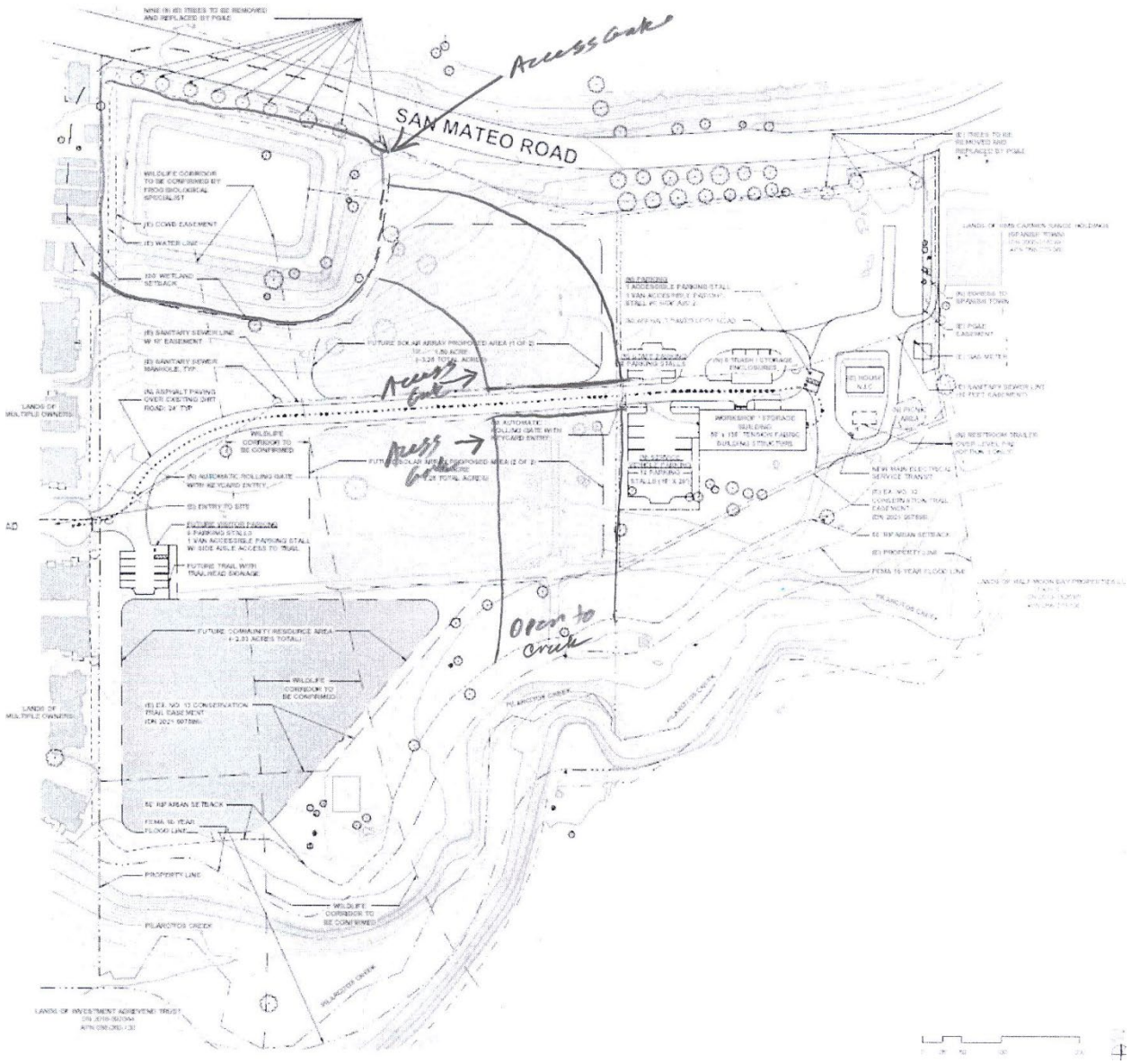


Figure 1. Proposed location of the fencing and movement corridor.

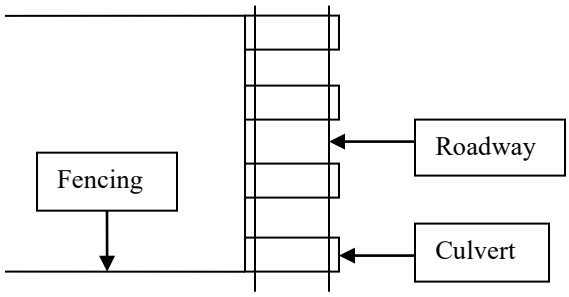


Figure 2. Diagram of fencing to the west with culverts evenly spaced under the roadway.

APPENDIX B5

Peer Review of H.T. Harvey & Associates Biological Resources Report for the City of Half Moon Bay Corporation Yard Upgrade Project

Dr. Mark Jennings, Rana Resources

RANA RESOURCES
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RanaResources@aol.com

To: Jessica Henderson-McBean
SWCA Environmental Consultants
60 Stone Pine Road, Suite 100
Half Moon Bay, CA 94019

From: Mark R. Jennings, Consulting Biologist

Date: #20,048
January 09, 2022

Re: Peer Review of H.T. Harvey & Associates Biological Resources Report for the City of Half Moon Bay Corporation Yard Upgrade Project.

I have had the chance to review the Biological Resources Report (BRR) prepared by H.T. Harvey & Associates, as well as the November 21, 2021 Technical Memorandum (TM) prepared by yourself for Todd Seely of the City of Half Moon Bay. Based on my peer review of these documents, I find that the conclusions reached in the BRR, as well as the conclusions and suggestions in the TM to be appropriate and biologically justified. Although the agricultural pond mentioned in these documents was discussed as "perennial," recent years of drought have shown that most of the pond bottom is subject to annual drying if rainfall levels are less than average. Additionally, there is a spring located at the base of the old well in the southwest corner of the pond. Both of these findings should be included in considering future management practices with ensuring that the pond continues to be suitable breeding, rearing, and feeding habitat for both California red-legged frogs (*Rana draytonii*) and San Francisco gartersnakes (*Thamnophis sirtalis tetrataenia*). The old well could be used to mitigate against the extensive drying of the pond during extended drought years.

I attempted to determine how long the agricultural pond had been present on site and also if it was regularly filled with water in the past. A check of Google Earth photographs show the pond to be present in the 1980s. However, it probably was constructed many years before that and water storage was probably variable depending on the crops irrigated. It might be useful to find out what kind of crops were irrigated in the past and if this resulted in the agricultural pond historically containing water year around.

Additionally, the pond is almost certainly used by western pond turtles (*Actimemys marmorata*), both for feeding and rearing, and potentially for nesting on the soils that are exposed to sunlight around the edges of the pond. The currently proposed wildlife habitat corridor and fencing appears to be compatible for this species, as well as for California red-legged frogs and San Francisco gartersnakes. However, one issue that was not mentioned and does need to be considered is the potential treatment of the pond for mosquito larvae. The BRR should state in a

mitigation measure that any treatment of the pond for mosquito larvae by the Mosquito Abatement District should not include the planting of western mosquitofish (*Gambusia affinis*). Instead, other approved methods by the District (e.g., insect growth regulators), should be used to control local mosquito populations here.

In the same context, the use of rodenticides (i.e.: anticoagulants) for controlling introduced rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*) should prohibited. Instead, localized trapping of rodents should conducted, if needed.

APPENDIX C

Mitigation Monitoring and Reporting Plan

Half Moon Bay Corporation Yard Upgrade Project Initial Study / Mitigated Negative Declaration (IS/MND)
Mitigation Monitoring and Reporting Program

Color Codes

Measure Implemented Prior to Construction or Pending Approval

Measure Implemented During Construction

Measure Implemented Following Construction Completion

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Comments	Responsible Party	Timing / Milestone
Biological Resources				
BIO-1	**The following general mitigation measures shall be implemented during the project:** a. Prior to the start of the project, all construction crew members shall attend an environmental awareness training presented by a qualified biologist. A training brochure describing special-status species, project avoidance and minimization measures, key contacts, and potential consequences of impacts to special-status species and potentially jurisdictional features shall be distributed to the crew members during the training. Trainees shall sign an environmental training attendance sheet. These personnel shall be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the project area and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act and the California Endangered Species Act. Prior to construction activities, the qualified biologist shall instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. A fact sheet conveying this information shall be prepared for distribution to the construction crew and anyone else who enters the project site. b. Disturbance to vegetation shall be kept to the minimum necessary to complete the project activities. To minimize impacts to vegetation, a qualified biologist shall work with the contractor to designate the work area and any staging areas as well as delineate areas that shall be avoided with signage and tape. Areas that shall be avoided include Pilarcitos Creek, the impoundment, riparian habitat, and the wildlife corridor. Specifically, the buffer shall be 50 feet outward from the limit of riparian vegetation along Pilarcitos Creek or 100 feet from the top of bank within Pilarcitos Creek (whichever is greater) and 100 feet outward from the impoundment. The identified buffer shall be clearly depicted on any construction plans. Work may occur within these buffer areas under the supervision of a qualified biologist, and shall be limited to removal of the existing materials enclosure and the existing fencing around the impoundment. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around the impoundment, associated riparian habitat, and annual grassland to be avoided shall be flagged or fenced. c. All riparian habitat and the 50-foot riparian buffer area to be avoided shall be shown on project design plan sets, and prior to project activities, these areas shall be protected with high-visibility fencing. d. If any wildlife is encountered during project activities, said wildlife must be allowed to leave the work area unharmed. All listed wildlife species shall be allowed to leave the work area of their own accord and without harassment. Animals shall not be picked up or moved in any way. If non-listed and/or non-special-status wildlife does not leave the	Prepare environmental awareness training materials and administer environmental awareness training on site. Ensure that all new personnel are trained before they begin work. Minimize disturbance to vegetation. Do not enter buffer areas unless biologist is present. Do not handle wildlife that is encountered during project activities. Wildlife will be allowed to leave the work area of their own accord and without harassment or may be moved by a biologist. Contain, remove, and properly dispose of trash on a regular basis. Minimize disturbance to the minimum necessary to complete the project. Do not allow firearms or pets. Maintain 10 mph speed limit on unpaved roads.	Construction Contractor / City of Half Moon Bay	Prior to / during construction

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Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Comments	Responsible Party	Timing / Milestone
	work area of their own accord, the qualified project biologist may relocate the wildlife outside of the project limits. e. During project activities, all trash that may attract predators such as wrappers, cans, bottles, and food scraps shall be disposed of in solid, closed containers (trash cans) and removed at the end of each working day from the entire construction site. Following construction, trash/construction debris shall be removed from work areas. f. The area of disturbance shall be limited to the minimum necessary to complete the project. Project boundaries shall be clearly demarcated, and these areas shall be outside of sensitive areas. g. No firearms shall be allowed on the project site, except for federal, state, or local law enforcement, or security guards. No pets shall be allowed on the project site. h. Project-related vehicles shall observe a 10 mile-per-hour speed limit in all project areas, except on City and County roads, and state highways; this is particularly important on rainy nights when California red-legged frogs are most active. i. Nighttime construction shall be avoided.			
BIO-2	**Minimize impacts to special-status amphibians and reptiles:** a. The City will retain professional qualified biologists with experience monitoring for California red-legged frog and San Francisco garter snake to provide biological monitoring during all project construction activities that may result in take of any special-status species. b. A qualified biological monitor (or as required by project permits) shall be on-site during all project construction activities that may result in take of any special-status species. The qualified biologist shall be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The qualified biologist shall have oversight over implementation of all the conservation measures and shall have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled. If the qualified biologist exercises this authority, the USFWS and CDFW shall be notified by telephone and electronic mail within twenty-four (24) hours. c. A temporary wildlife exclusion barrier shall be installed at the discretion of the qualified biologist (or as required in project permits). Prior to any ground disturbance in the impact area, the temporary wildlife exclusion barrier shall be installed along the limits of disturbance. A qualified biologist shall inspect the area prior to installation of the barrier. The barrier shall be designed to allow the California red-legged frog and San Francisco garter snake to leave the impact area and prevent them from entering the impact area,	Ensure that a qualified biological monitor is present during all ground disturbing activities. If a California red-legged frog and San Francisco garter snake is encountered at any time during construction, the contractor will immediately cease work and notify the biologist. Ensure that a wildlife exclusion fencing is installed at the discretion of the biological monitor prior to ground disturbing activities. No work shall occur before the qualified biologist conducts a focused preconstruction survey. The preconstruction survey must occur no more than 24 hour prior to the start of construction. Work should occur during the dry season (June 1 to October 15) to avoid impacts to special-status amphibians and reptiles. No plastic monofilament netting (erosion control matting) will be used during construction.	Construction Contractor / City of Half Moon Bay	Prior to / during construction During operation

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Measure Implemented During Construction

Measure Implemented Following Construction Completion

Impact	Applicant Proposed Measure (APM) or Mitigation Measure	Comments	Responsible Party	Timing / Milestone
	and shall remain in place until all development activities have been completed. This barrier shall be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs or San Francisco garter snakes on the outer side of the barrier. d. Plastic mono-filament netting (erosion control matting), rolled erosion control products, or similar material shall not be used at the project site to prevent trapping California red-legged frogs, San Francisco garter snakes, or other species. e. Within 24 hours of the planned start of project activities, a focused preconstruction survey for sensitive and listed species, including but not limited to California red-legged frog and San Francisco garter snake, shall be conducted by a qualified biologist within the impact area. The qualified biologist shall investigate all potential areas that could be used by the California red-legged frog and San Francisco garter snake for feeding, breeding, sheltering, movement, and other essential behaviors. This includes an adequate examination of mammal burrows. Construction activities shall not take place until the survey is completed. f. Construction materials, including, but not limited to, wooden pallets, BMPs, equipment, or other materials, that are left on the ground for more than 24 hours shall be inspected before and during moving of the materials to prevent potential impacts to animals that may have utilized the materials as a temporary refuge. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the qualified biologist and/or the construction foreman/manager for animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a California red-legged frog or San Francisco garter snake is discovered inside a pipe or culvert by the qualified biologist or construction foreman/manager, the protocol in Mitigation Measure BIO-2(h) shall be followed. g. To prevent inadvertent entrapment of the California red-legged frog or San Francisco garter snake during construction, the qualified biologist and/or construction foreman/manager shall ensure that all excavated, steep-walled holes or trenches more than 1 foot deep are completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the qualified biologist. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the qualified biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or San Francisco garter snake is discovered by the qualified biologist or anyone else, the steps in Mitigation Measure BIO-2(i) shall be followed. i. All work that could result in direct injury, disturbance, or harassment of the individual animal shall immediately cease; ii. The foreman and qualified biologist shall be immediately notified; and	Ensure that all pipes, culverts, or similar construction materials are capped. All construction materials left on the ground for more than 24 hours shall be carefully inspected by the qualified biologist prior to moving. Ensure that all steep walled holes or trenches are tightly covered or have an escape ramp placed inside of them to prevent trapping wildlife. Planting of western mosquitofish for mosquito control is prohibited onsite. Pesticide use in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake, and shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations. Rodenticide and herbicide use is prohibited. Construction work shall not occur within 24 hours following a rain event of 0.25 inch or more within a 24-hour period, and a 24-hour dry-out period shall be implemented following such a significant rain event. Ensure a qualified biologist conducts a preconstruction survey for California red-legged frog before project activities restart following a dry-out period. Adhere to all required SMCWPPP BMPs A wildlife corridor will be constructed as part of the project to allow for safe wildlife movement between the impoundment and Pilarcitos Creek. The wildlife corridor construction will take place during dry weather conditions.		

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	iii. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO-2i for San Francisco garter snake. h. The qualified biologist shall determine if the animal is a California red-legged frog or San Francisco garter snake and, if so, shall follow Mitigation Measure BIO-2h for California red-legged frog and Mitigation Measure BIO-2i for San Francisco garter snake. i. If any California red-legged frogs are found during implementation of Mitigation Measures BIO-2(a), BIO-2(b), BIO-2(c), BIO-2(d), BIO-2(e), BIO-2(f), or BIO-2(g) the qualified biologist shall contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination, the USFWS shall consider if an appropriate relocation site exists. If the USFWS approves moving animals, the City shall ensure that a permitted biologist holding a 10(a)(1)(A) permit for California red-legged frog (or as required by the project permits) is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only qualified and permitted biologists shall capture, handle, and move the California red-legged frog. The permitted biologist shall monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers. j. The qualified biologist shall monitor any individual San Francisco garter snake encountered within the impact area, but allow it to leave the impact area on its own. If the qualified biologist determines that the snake cannot leave on its own then the USFWS and CDFW shall be consulted to determine if the snake can be captured and relocated to appropriate habitat on the outside of the impact area. No San Francisco garter snakes shall be handled without explicit agency approval. k. Planting of western mosquitofish (*Gambusia affinis*) within the impoundment shall be prohibited. Treatment of the impoundment for mosquito larvae by the Mosquito Abatement District will be conducted utilizing alternative treatments approved by the District (e.g., insect growth regulators). l. The use of any pesticides in the impact area shall be utilized in such a manner to prevent primary or secondary poisoning of the California red-legged frog and/or San Francisco garter snake potentially present in the project area, and the depletion of food items on which they depend. All uses of such compounds shall observe label and other restrictions mandated by the USEPA, California Department of Food and Agriculture, and other appropriate state and federal regulations, as well as additional project-related restrictions deemed necessary by the USFWS and CDFW. Furthermore, pesticide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake.			

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	m. The use of herbicides shall not be permitted unless approved by CDP amendment. Future approval of herbicide use will be subject to documentation of compliance with the USEPA's Stipulated Injunction concerning the type used and buffer for application away from waterbodies and shall be rated for aquatic use by the California Department of Pesticide Regulation and have less-than-significant effects on California red-legged frog and San Francisco garter snake. n. The use of rodenticides (i.e., anticoagulants) for controlling rodents, such as rats (*Rattus* spp.), house mice (*Mus musculus*), and California ground squirrels (*Spermophilus beecheyi*), shall be prohibited. If rodent control is required by the City, localized trapping efforts shall be conducted. o. Construction activities (e.g., grubbing, grading) shall occur during dry weather conditions only, and to the extent feasible, during the dry season (June 1 to October 15) to facilitate avoidance of California red-legged frog and San Francisco garter snake. p. Regardless of the season, construction shall adhere to SMCWPPP BMPs, and no construction shall occur during and within 24 hours following a significant rain event (defined as greater than 0.25 inch in a 24-hour period). Following a significant rain event and the 24-hour drying-out period, a qualified biologist shall conduct a preconstruction survey for California red-legged frog and other sensitive species prior to the restart of any project activities. q. A wildlife corridor shall be constructed as part of the Project and would funnel any potentially dispersing California red-legged frog or San Francisco garter snake into a culvert tunnel beneath the access road and limit the potential for traffic accessing the Corporation Yard to impact California red-legged frog or San Francisco garter snake. The wildlife corridor would also include a fence line along the riparian buffer of Pilarcitos Creek, which would further ensure that individual California red-legged frog and San Francisco garter snake would utilize the wildlife corridor to safely travel between the agricultural pond and the creek. The riparian buffer fencing would prevent California red-legged frog or San Francisco garter snake from entering the upland, trafficked portions of the property, where they could be injured or killed or trapped in upland habitat where they could be easily predated. The wildlife corridor design considered the life history aspects of both California red-legged frog and San Francisco garter snake to provide a safe and suitable movement corridor without any further management actions required. r. The wildlife corridor fencing shall be maintained as a boundary to allow for safe wildlife movement between the impoundment and Pilarcitos Creek by funneling any dispersing wildlife through tunnels beneath the access road and providing a boundary along the riparian corridor of Pilarcitos Creek. The wildlife fencing, tunnel, and corridor shall be maintained over the lifetime of its use, and any portion that is observed to be broken or not functioning property shall be repaired immediately by the City.			

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	s. A temporary material may be used for the wildlife fencing, such as ERTEC or similar material, during construction of the project and for up to 1 year after construction is complete. If a temporary material is used for the fencing, it shall be inspected weekly by the City staff for any needed repairs. After 1 year the temporary fencing should be either replaced with a permanent wildlife fencing (e.g., chain-link fencing with vinyl slats) or re-assessed for efficacy by a qualified biologist. t. Installation of the wildlife corridor and associated fencing should take place during dry weather conditions to ensure that no dispersing California red-legged frogs or San Francisco garter snakes are trapped in upland areas. u. The wildlife corridor shall be maintained and repaired annually or more frequently as needed. The tunnels beneath the access road shall be inspected to ensure that it is not blocked by vegetation or sediment. Vegetation fuels management within the wildlife corridor shall use low impact methods (such as goat grazing or using hand tools) on an annual basis. Any mechanical maintenance activities (including using hand tools for vegetation maintenance) within the wildlife corridor shall be closely monitored by an approved biologist.			
BIO-3	**Minimize impacts to Pilarcitos Creek and riparian habitat:** a. The project shall comply with the SMCWPPP, Municipal Regional Stormwater National Pollution Discharge Elimination System (NPDES) Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters, which shall prevent stream downcutting, riparian bank erosion, or other downstream impacts. b. All spoils, such as dirt, excavated material, debris, and construction-related materials, generated during project activities shall be placed where they cannot enter any drainage ditch, culvert inlet, or nearby vernal marshes. Spoils shall be covered or secured to prevent sediment from escaping. Once the spoil pile is no longer active, it shall be removed from the work area and disposed of lawfully at an appropriate facility. c. All exposed soils in the work area resulting from project activities shall be stabilized immediately following the completion of work to prevent erosion. Erosion and sediment control BMPs, such as silt fences, straw hay bales, gravel or rock-lined drainages, water check bars, and broadcast straw, can be used. BMPs shall be made of certified weed-free materials. Straw wattles, if used, shall be made of biodegradable fabric (e.g., burlap) and free of monofilament netting. At no time shall silt-laden runoff be allowed to enter any drainages or other sensitive areas. d. All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 100 feet from any drainages and other water features, including Pilarcitos	Pilarcitos Creek shall be protected from project-generated spoils. Ensure that all exposed soils associated with the project are stabilized immediately following construction completion. Appropriate BMPs shall be deployed prior to and during construction to prevent erosion and/or runoff into potentially jurisdictional drainages. Ensure fueling and maintenance of vehicles and other equipment and staging areas do not occur within 100 feet of drainages, and that such drainages are not contaminated during refueling, maintenance, or staging of materials. Prior to beginning project work, the Contractor shall develop a Spill Response Plan to ensure prompt and effective response to accidental spills. The plan must be submitted to the City of Half Moon Bay before construction commences, and must be kept onsite at all times during construction. Adequate spill clean-up supplies must be kept on site and at-the-ready during construction. The plan will be included in the environmental awareness training.	Construction Contractor / City of Half Moon Bay	Prior to / during construction

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	Creek. Crew members shall ensure that contamination of habitat does not occur during such operations. Prior to the onset of work, the construction contractor shall prepare a plan to be approved by the City before construction begins to allow a prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. e. All exposed surfaces shall be wetted periodically to prevent significant dust. f. All stockpiled soil shall be covered during periods of rain. g. The following BMPs shall be implemented to limit the spread of invasive species into sensitive habitats: i. All ground-disturbing equipment used adjacent to the riparian habitat shall be washed (including weeks, tracks, and undercarriages) at a legally operating equipment yard both before and after being used at the site; ii. All applicable construction materials used on-site, such as straw wattles, mulch, and fill material, shall be certified weed free; iii. The project shall follow the SMCWPPP and a SWPPP as per the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ) if applicable; iv. All disturbed soils shall be stabilized and planted with a native seed mix from a local source following construction; v. If excavating, soil and vegetation removed from densely weed-infested areas (for example, dense poison hemlock infestations or cape ivy infestations) shall not be used in general soil stockpiles and shall not be redistributed as topsoil cover for the newly filled areas. All weed-infested soil shall be disposed of off-site at a landfill.	Reduce potential for dust by wetting exposed surfaces periodically. Reduce potential for sediment loss by covering stockpiled soils during periods of rain. Once the project is complete, ensure that all exposed and/or disturbed surfaces are protected from soil erosion with reseeding and landscaping.		
BIO-4	**Minimize impacts to nesting birds, as required by the Federal Migratory Bird Treaty Act:** a. If project activities, including, but not limited to, grubbing and grading, are conducted during nesting bird season (generally February 15 to September 15), preconstruction nest surveys shall be conducted in and near the project (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the project shall be modified (i.e., a no-work exclusion buffer of appropriate size [to be determined by the qualified project biologist] shall be erected around active nests) and/or delayed as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.	Project activities, including grubbing and grading, should be conducted outside of nesting bird season (February 15 through September 15). If work outside of nesting bird season is not feasible, then ensure a qualified biologist conducts preconstruction nesting bird surveys prior to commencing work. If nesting birds or raptors are observed on site, ensure an appropriately-sized no-work buffer is established around the nest and/or the project is modified and/or delayed as necessary in coordination with the project biologist.	Construction Contractor / City of Half Moon Bay	Prior to / during construction

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	b. If construction activities shall not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the project shall be removed prior to the start of the nesting season (e.g., prior to February 15), to the extent feasible. This shall preclude the initiation of nests in this vegetation and prevent the potential delay of the project due to the presence of active nests in these substrates.	If a construction will not start until after start of the nesting season, remove all potential nesting substrates before February 15.		
BIO-5	**Minimize impacts to heritage trees:** a. During detailed design of the project, removal of trees protected by the City heritage tree ordinance shall be avoided and minimized to the extent feasible. If tree removal is necessary, it is recommended that a certified arborist conduct a tree survey to determine the number and health of heritage trees within the developed habitat of the project area. Where removal of trees cannot be avoided, the City shall comply with the standards of the City heritage tree ordinance, including the planting of replacement trees where feasible and approval from the City Manager.	During detailed design of project, avoid removing protected trees to the extent feasible. Prior to construction, ensure a tree survey is conducted by a certified arborist. For tree removal, comply with the City's heritage tree ordinance, including planting replacement trees.	Construction Contractor / City of Half Moon Bay	Prior to / during construction
BIO-6	**Minimize impacts to roosting bats:** a. Pre-Construction Bat Survey. Prior to tree removal, a qualified bat biologist shall conduct a visual survey of the project area to identify if bats are roosting within trees within the project area. Roost sites shall be avoided during tree removal. If no roosting sites or bats are observed during the survey no further mitigation is necessary. b. If roosting bats or indications of bat roosts are observed within project trees to be removed, tree removal shall be conducted under the supervision of a qualified bat biologist. During tree removal and where potential bat roosts were identified, a qualified bat biologist shall be present and tree removal shall begin with portions of the tree that do not provide suitable roost habitat (e.g., low limbs lacking forage). Trees shall be disassembled at a speed in coordination with the on-site qualified bat biologist that allows any roosting bats to vacate the tree.	Ensure a qualified biologist conducts preconstruction roosting bay survey prior to commencing work. If roosting bats are observed on site, ensure tree removal is conducted with a qualified biologist present. If roosting bats are present, begin removal with low limbs lacking in forage and coordinate removal with qualified biologist to allow roosting bats to vacate the tree.	Construction Contractor / City of Half Moon Bay	Prior to / during construction
BIO-7	**Minimize impacts to dusky-footed woodrat:** a. Focused surveys for San Francisco dusky-footed woodrat nests within the riparian habitat associated with Pilarcitos Creek and the marsh habitat shall be conducted within 7 days of the start of construction. If no nests are found, then no further mitigation shall be warranted. If nests are found, then Mitigation Measures b and c shall be implemented.	Conduct a survey for woodrat nests within 7 days of start of construction. Identify a 10-foot buffer area around woodrat nests. Use high-visibility fencing around woodrat nests to keep worker and equipment out of area.	Construction Contractor / City of Half Moon Bay	Prior to / during construction

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	b. Dusky-footed woodrats are year-round residents. Therefore, avoidance mitigation is limited to designing the project to avoid direct impacts on woodrat nests to the extent feasible. Ideally, a minimum 10-foot buffer should be maintained between project construction activities and each nest to avoid disturbance. In some situations, a smaller buffer may be allowed if in the opinion of the qualified biologist removing the nest would be a greater impact than that anticipated due to project activities. If nests are observed within riparian habitat and this habitat shall be avoided by the project, high-visibility fencing shall be installed around these woodrat nests to keep workers, construction equipment, and construction materials out of the area where the nests are located. c. If avoidance of occupied nests is not feasible, the woodrats shall be evicted from their nests prior to the removal of the nests and onset of ground-disturbing activities to avoid injury or mortality of the woodrats. A qualified biologist shall disturb the woodrat nest to the degree that all woodrats leave the nest and seek refuge outside of the project activity area. Subsequently, the nest sticks shall be relocated; these materials shall be piled at the base of a nearby tree or shrub outside of the impact area. The spacing between relocated nests shall not be less than 20 feet, unless a qualified biologist has determined that the habitat can support higher densities of nests.	If avoidance is not feasible, a qualified biologist will relocate the nest.		
Cultural Resources				
CUL-1	**Implement an environmental awareness training program** Prior to the start of the project, all construction crew members will attend an environmental awareness training. This environmental awareness training will be conducted by a qualified archaeologist and will address cultural situations that may be encountered. An archaeologist will prepare an archaeological brochure to be distributed to the construction crew at the on-site environmental awareness training. The brochure will identify the types of cultural resources that may be encountered and the procedures to be followed in the event of accidental discovery.	Prior to commencing work, ensure that construction personnel are trained and informed of how to identify and avoid historical and archaeological resources in the event that they are exposed during construction. Such training may be included in the environmental awareness training prepared for the project per BIO-1. If archaeological or historical resources are discovered during construction, the Contractor shall ensure that work is immediately stopped in the vicinity of the find, and the City of Half Moon Bay is immediately notified. Discovered resources must be left in place as they were found: do not touch, collect, or otherwise disturb found resources. Work shall not resume in the vicinity of any discovered resources until the resources are fully evaluated by the archaeologist, and the City of Half Moon Bay approves the continuation of work in the vicinity of the find. Ensure any additional cultural work such as testing or data recovery is implemented as required.	Construction Contractor / City of Half Moon Bay	Prior to construction

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CUL-2	**Implement a cultural resources monitoring plan:** The project will develop and implement a cultural resources monitoring plan (CRMP) for all ground-disturbing activities. The CRMP shall include provisions for stop-work by the archaeologist, ownership and proper handling of archaeological resources upon and following discovery, reporting format and frequency, and a project specific communications plan will need to be completed prior to start of work.	Contract with a cultural resources monitor to be present during ground disturbing activities. If archaeological or historical resources are discovered during construction, the Monitor and/or Contractor shall ensure that work is immediately stopped in the vicinity of the find, and the City of Half Moon Bay is immediately notified. Discovered resources must be left in place as they were found: do not touch, collect, or otherwise disturb found resources. Work shall not resume in the vicinity of any discovered resources until the resources are fully evaluated by the archaeologist, and the City of Half Moon Bay approves the continuation of work in the vicinity of the find. Ensure any additional cultural work such as testing or data recovery is implemented as required.	Construction Contractor / City of Half Moon Bay	During construction
Geology and Soils				
GEO-1	**Avoid and/or reduce impacts to unknown paleontological resources:** In the unlikely event that a paleontological resource is discovered, the project applicants shall comply with PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244, which prohibit the removal, without permission, of any paleontological site or feature from lands under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. To be consistent with these PRC Sections, in the event that paleontological resources are exposed during construction, work in the immediate vicinity of the find must stop until a qualified paleontologist can evaluate the significance of the find. Construction activities may continue in other areas. If the discovery proves significant under the provisions of CEQA, the paleontologist shall prescribe, and the project Applicants shall implement, additional measures such as testing or data recovery to avoid impacts to the resources.	Ensure compliance with Public Resources Code (PRC). Stop work in the immediate vicinity of any discovered paleontological resources until a qualified paleontologist evaluates the significance of the discovery. Ensure any additional paleontological work such as testing or data recovery is implemented as required.	Construction Contractor / City of Half Moon Bay	During construction