

DRAFT ENVIRONMENTAL IMPACT REPORT

VOLUME II: Appendices

1 Hamilton Drive Affordable Housing Development

City of Mill Valley, California

SCH#2022120597



MILL VALLEY

wra
Environmental
Consultants

PREPARED BY WRA, INC.

NOVEMBER 1, 2023

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APPENDIX A

INITIAL STUDY/INFILL CHECKLIST

Initial Study/Infill Environmental Checklist

1 Hamilton Drive Affordable Housing Development

Mill Valley, Marin County, California

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List of Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Government
ADMP	Asbestos Dust Mitigation Plan
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AST	aboveground storage tank
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practices
Calfire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CALGreen	Title 24 California Green Building Standards
CAP	Clean Air Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
City	City of Mill Valley
CO_2	carbon dioxide
CO_2e	CO_2 equivalent

County	County of Marin
CY	cubic yards
C&D	construction and demolition
dB	decibel
dBA	A-weighted sound level
DBH	diameter at breast height
DDT	dichlorodiphenyltrichloroethane
DU	dwelling units
EAH	EAH Housing
ECP	Erosion Control Plan
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
EV	electric vehicle
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
GGBHTD	Golden Gate Bridge Highway and Transportation District
GHG	greenhouse gas
HCD	California State Department of Housing and Community Development
HEU SEIR	Housing Element Update Subsequent Environmental Impact Report
Krazan	Krazan & Associates, Inc.
LID	low impact development
LRA	locally responsible area
MS4	Municipal Separate Storm Sewer Systems
MV2040	Mill Valley 2040 General Plan
NAHC	Native American Heritage Commission
NOA	naturally occurring asbestos
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
PG&E	Pacific Gas & Electric
PIERS	PIERS Environmental Services
Plant	SASM Mill Valley Sewage Treatment Plant
PSB	Public Safety Building
RHNA	Regional Housing Needs Assessment
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SASM	Sewerage Agency of Southern Marin
SCP	Stormwater Control Plan
Sf	square feet
SFBAAB	San Francisco Bay Area Air Basin
SRA	State responsibility area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCP	Traffic Control Plan
UST	underground storage tank

UWMP	Urban Water Management Plan
VMP	Vegetation Management Plan
VMT	vehicle miles traveled
WMP	Waste Management Plan
WRA	WRA, Inc.
WSCP	Water Shortage Contingency Plan
WUI	Wildland Urban Interface
WWTP	Wastewater Treatment Master Plan

1.0 INTRODUCTION AND PURPOSE

This Initial Study of environmental impacts is being prepared to conform to the requirements of the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations 15000 et. seq.), and the regulations and policies of the City of Mill Valley. This Initial Study evaluates the potential environmental impacts which might reasonably be anticipated to result from implementation of the 1 Hamilton Affordable Housing Development (proposed Project or Project).

The City of Mill Valley (City) is the Lead Agency under CEQA and has prepared this Initial Study to address the impacts of implementing the proposed Project. The purpose of the Project is to construct up to 50 affordable housing units on a portion of a City-owned parcel adjacent to Hauke Park that currently contains public parking, public restrooms, and the City's Public Safety Building (PSB). The City will be preparing an environmental impact report (EIR) for the proposed Project; thus, preparation of an Initial Study is not required under CEQA. However, the City has elected to prepare an Initial Study in order to more precisely determine the scope of the EIR for the Project.

This Initial Study also serves two additional purposes: (1) to identify environmental issue categories in Appendix G of the CEQA Guidelines that were adequately evaluated in two previously certified environmental impact reports (EIRs) and which therefore do not require additional study in the EIR being prepared for the proposed Project, and (2) to assess the Project's potential environmental effects pursuant to the infill project EIR streamlining requirements in CEQA Guidelines Section 15183.3.

2.0 PROJECT INFORMATION

2.1 Project Title

1 Hamilton Drive Affordable Housing Development

2.2 Lead Agency Name and Address

City of Mill Valley
Planning & Building Department
26 Corte Madera Avenue
Mill Valley, CA 94941

2.3 Contact Person and Phone Number

Patrick Kelly, AICP
Director of Planning and Building
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2.4 Project Location

1 Hamilton Drive
Mill Valley, CA 94941
Assessor's Parcel Number (APN): 030-250-01

3.0 PROJECT DESCRIPTION

This chapter describes the proposed 1 Hamilton Affordable Housing Development Project (the Project). The following includes a description of the Project background, Project site and surroundings, existing site conditions, and the proposed development of the site, and required approvals.

3.1 Project Background

The Mill Valley 2040 General Plan (MV2040) was adopted in 2013. MV2040 contains two overall goals to (1) protect and enhance the natural beauty and small-town character of Mill Valley; and (2) encourage continued diversity of housing, income levels and lifestyles in the community (City of Mill Valley 2013). On May 15, 2023, the City of Mill Valley adopted an update to its Housing Element which aims to achieve these General Plan goals by allowing for the creation of an adequate supply of safe, affordable housing for all economic segments of the community, including individuals with special housing needs (City of Mill Valley 2023). The Housing Element update serves as the City's housing plan for the next eight years (2023-2031). On October 16, 2023, the City adopted additional modifications to the 2023-2031 Housing Element and Land Use Element to address comments received from the State Department of Housing and Community Development (HCD). The City is currently awaiting HCD's review and certification of the Housing Element.

The past three housing element updates have included a Housing Element program that identifies the City's interest and intent to explore publicly owned and tax-exempt properties that could accommodate new affordable housing. In 2020, City staff worked with the Housing Advisory Committee to identify potential publicly owned sites and strategies that would result in the development of new affordable housing in Mill Valley. On June 21, 2021, the City Council reviewed and accepted the Housing Advisory Committee's recommendations to select the northern portion of the City-owned 1 Hamilton Drive property and issue a Request for Qualifications to solicit interest and partner with a non-profit home builder. In 2021, City Council deemed the Housing Site "exempt surplus land" for the sole purpose of building affordable homes on the property and entered into an exclusive negotiating agreement with EAH Housing to conduct predevelopment activities to further assess the feasibility of building approximately 40-50 low-income affordable rental housing units on the site. As part of this work, the City and the EAH Team have hosted focus group meetings, community workshops, and a series of Planning Commission and City Council meetings to discuss relocating facilities, site planning, building concepts and preliminary design.

On November 30, 2022, City Staff and the EAH Housing Team presented preliminary site planning and building concepts at a joint City Council/Planning Commission meeting, with a recommended building concept based on a 45-unit Project and site plan for the relocation of existing facilities to the adjacent parking lot as a condition of building and managing affordable housing on the site. Planning Commission and City Council supported the Project team's

preliminary work and Council directed staff to assemble a planning application based on the materials presented.

The proposed Project is included in the 2023-2031 Housing Element Update as part of Housing Program 10, under Goal 2.0 "provide opportunities for a range of housing types suited to residents of varying lifestyle needs and income levels" and is included in the sites inventory based on work to date (e.g., establishment of the exclusive negotiating agreement, surplus land designation, and Council direction to assemble a planning application). CEQA analysis was conducted for the 2023-2031 Housing Element Update through the issuance and certification of a Subsequent Environmental Impact Report (HEU SEIR) by the City Council on May 15, 2023 (Resolution No. 230515; State Clearinghouse No. 2013052005) (City of Mill Valley 2023b).

3.2 Project Location and Surrounding Land Use

The Project site is located on the eastern portion of the parcel at 1 Hamilton Drive (Assessor Parcel Number [APN]: 030-250-01). The 1 Hamilton parcel is owned by the City and is approximately 13 acres in size. The western portion of the parcel is considered bayland and includes Hauke Park and Bayfront Park. The eastern portion of the parcel on the east side of Hamilton Drive (which bisects the parcel) includes the City's Public Safety Building (PSB) and parking lot, a ground mounted solar array, public parking lot and public restrooms for park users, and a community garden to the south of the PSB. Single-family residential neighborhoods are located along the hillsides to the east and north of the Project site. Hamilton Drive, which runs adjacent to the western edge of the Project site, provides the access route to and from the Project site, connecting (via Roque Moraes Drive) to East Blithedale Avenue to the north and U.S. 101 to the south. Hamilton Drive has a one-way travel restriction (northbound only) south of the Project site. Hauke Park, located across Hamilton Drive from the Project site, contains extensive grass fields and sports facilities for soccer, baseball, and softball.

3.3 Project Site

The Project site consists of the proposed Housing Site and the PSB Site and totals approximately 3.67 acres. The Housing Site is an approximately 1.75-acre triangle shaped area bounded by Hamilton Drive to the west and northwest, Roque Moraes Drive to the east and northeast, and the PSB Site to the south. The PSB Site is bounded by the proposed Housing Site to the north, residential properties to the east and south, and Hamilton Drive to the west. The Project would alter approximately 1.92-acres on the PSB Site to provide driveway access and relocate public parking to the PSB Site, with the remainder of parcel being maintained under existing conditions. This area, coupled with the 1.75-acre Housing Site, comprises the entire 3.67-acre Project site.

The portion of Hauke Park that is across Hamilton Drive from the Project site includes a baseball diamond and soccer fields. A solar panel installation and community garden are located on the east and south sides of the PSB, respectively. Surrounding General Plan land use designations include Open Space and Single-Family and Multi-Family Residential to the north, Community Facilities to the west and south, and Single-Family and Multi-Family Residential to the south and east (City of Mill Valley 2013).

The proposed Housing Site has approximately 630 feet of frontage along Hamilton Drive at the west side of the triangle, and approximately 600 feet along Roque Moraes Drive at the east side of the triangle. Topographically, the front of the site along Hamilton Drive is relatively flat. Behind the existing parking lot, the site rises in a moderately steep hillside. Natural elevations on

the Project site range from approximately 18 feet to 80 feet above sea level at the top of the hill slope adjacent to Roque Moraes Drive. The Housing Site is primarily undeveloped except for the southwestern portion, which contains a public parking lot and restroom facilities intended for Hauke and Bayfront Park visitors. One EV charging station with two charging ports is also present in the parking lot. Elevations on the Housing Site range from approximately 18 to 45 feet above sea level. The PSB Site is developed with the City's PSB, which includes Southern Marin Fire Station 7 and the Mill Valley Police Department along with supporting offices and facilities. The remainder of the PSB Site contains a wrap-around parking lot that serves the PSB, a ground-mounted solar array, and a community garden.

The northeastern portion of the Housing Site is comprised of non-native annual grassland on a steep, south- and west-facing slope situated above the public parking lot and restroom for park users. The rest of the Housing Site and the portions of the PSB Site that are part of the Project site are otherwise developed. A total of 82 trees are located on the Project site, including 44 native trees, 38 ornamental trees, and two invasive species.

3.4 General Plan and Zoning Designations

3.4.1 General Plan Designation

The land use designation for the Housing Site was changed from "CF" (Community Facility) to "MFR-2" (Multi-Family Residential-2) with the adoption of the Housing Element Update on May 15, 2023. The MFR-2 designation permits multi-family and attached single-family residential land uses, with an allowable density range from 17-29 dwelling units (DU) per acre. The City intends to execute a long-term ground lease agreement with EAH Housing for the Housing Site as part of the proposed Project. The general plan designation for the PSB Site is "CF" (Community Facilities).

3.4.2 Zoning Designation

City zoning for both the Housing Site and PSB Site is "O-A" (Open Area) Zoning District. The Open Area Zoning District allows development of public parks, playgrounds and recreation areas, crop farming, truck gardening and grazing, golf courses, country clubs, forest preserves, wildlife reserves, equestrian and hiking areas. The Project proposes to rezone the Housing Site to Multi-Family Residential Bayfront (RM-B), which would allow the development of multi-family housing on the site consistent with the MFR-2 land use designation which permits densities of up to 29 dwelling units/acre. This rezone would be adopted as a zoning ordinance amendment concurrent with approval of a ground lease or similar document with EAH Housing to permit the use, operation and maintenance of the affordable Housing Site.

3.5 Project Objectives

The objectives of the Project consist of the following:

- To implement MV2040 General Plan Goal No. 2, to "encourage the continued diversity of housing, income levels and lifestyles within the community", and Mill Valley Housing Element 2023-2031 Program No. 10, which includes consideration of building a multi-family affordable rental housing Project at the 1 Hamilton Drive site.

- To provide new affordable housing units to meet the current and future housing needs of the community with very low, low, and affordable workforce incomes, including households with special needs.
- To provide affordable housing because of its positive impacts on diversity, equity and inclusion.
- To provide affordable housing because of its positive impact on families with more diverse economic backgrounds, joining Mill Valley schools and contributing to the community.
- To provide affordable housing near services, parks and schools.
- To affirm the City's commitment to satisfying its Regional Housing Needs Assessment (RHNA) goals. The Project site is part of the City's sites inventory for the 2023-2031 Housing Element update.
- To consider a 100% affordable housing Project with at least 40 units, and up to 50 multi-family rental units at the 1 Hamilton site that is financially feasible by partnering with a non-profit affordable housing developer for the construction and on-going management of the housing facility.
- To maintain availability of and access to at least 38 public parking spaces and a public restroom facility adjacent to Hauke Park.

3.6 Proposed Project

The Project includes the development of up to 50 affordable housing units, approximately 63 residential parking spaces, and private outdoor spaces on the Housing Site. The Project also includes the replacement of the existing public parking lot and restroom facilities currently located on the Housing Site. The relocation of these facilities would be accomplished by reconfiguration of the PSB parking lot which would include additional public parking spaces, public restrooms, and electric vehicle (EV) charging. The new public parking spaces would be configured into a "Lot A" and "Lot B" located on each side of the PSB, with fire station/police department parking located behind the PSB. The new public restrooms would be located in parking "Lot A", adjacent to the northern side of the PSB.

The Notice of Preparation (NOP) that was circulated for the draft EIR indicated that the Project would include up to 50 affordable housing units. Although the Project design plans shown on the figures in this section indicate 45 housing units, the analyses in this Initial Study examine a development of 50 units in order to present a conservative evaluation of potential impacts.

3.6.1 Housing Design

The total anticipated gross building area would be approximately 66,000 square feet (sf) and would include up to 49 affordable family rental units and 1 managers unit for a total of approximately 50 units. The building area includes approximately 40,000 sf of residential space, approximately 2,200 sf of common space, and approximately 1,600 sf of office space. Residential units are located on the second, third, and fourth floors of the building and are comprised of a variety of 1-, 2-, and 3-bedroom units based on funding requirements which require a certain portion of units based on bedroom size.

Current plans (see Section 4, Project Description, of the Draft EIR) call for 45 units, which include 44 low-income rental units and one manager's unit, of which 17 are 1-bedroom units, 16 are 2-bedroom units, and 12 are 3-bedroom units.

3.6.2 Parking

The Project would include approximately 154 total parking spaces on the housing and PSB Sites. Approximately 63 residential parking spaces would be developed on the Housing Site. Building affordable housing allows for reduced parking standards through the State Density Bonus Law. The Project proposes to develop 45 units, so the proposed parking ratio is approximately 1.4 parking spaces per unit. Visitor parking is not required based on state requirements, and no guest spaces would be included in the residential parking garage. Visitor parking would be available as part of the reconfigured public parking lots established on the PSB Site as part of the project.

The Project proposes to provide a total of 90 parking spaces on the PSB Site, including up to 50 public parking spaces to replace the existing 38 public parking spaces currently located on the Housing Site. This would include relocation of the electric vehicle charging station to the PSB Site. Development of up to 50 public parking spaces is proposed by reconfiguring the PSB parking lot to include two public parking lots on the south and north sides of the PSB, Lot A and Lot B respectively. Each of these lots would contain approximately 25 public parking spaces. The Project would also include the development of 40 secured parking spaces for the exclusive use of the police and fire departments on the eastern backside of the PSB.

3.6.3 Architectural Design

The proposed housing would be constructed in a podium style building, with the ground floor being a residential parking lot and floors two, three, and four consisting of a variety of 1-, 2-, and 3-bedroom residential units. The building would be constructed in a "T" shaped floor plan configuration. The podium (ground floor) would include 63 residential parking spaces, utility rooms, a management and services office, a bike room, and a lobby. On the second floor, a large outdoor courtyard would be situated on the western side of the housing building with seating, tables, and children's play area. Lighting for the courtyard would include string lights and other pole and building lighting. The height of the building at its tallest point would be approximately 57 feet. The proposed building FAR is approximately 0.85 and the maximum lot coverage would be approximately 36 percent. The exterior of the building would be constructed with board-formed concrete for the podium base and a combination of horizontal and vertical wood siding painted earth tones on the residential levels.

The Project would also include the relocation of the public restrooms that are presently situated on the Housing Site. The new public restrooms would be located adjacent to the northern side of the PSB building. Two new storage sheds would also be constructed adjacent to the northeastern side of the PSB building and a new carport would be constructed behind the Police headquarters.

3.6.4 Grading

The Housing Site rises from an elevation of 15 feet along Hamilton Drive to approximately 45 feet partway up the hillslope. Site grading would be necessary to enable development of the Housing Site and accommodate the proposed Project. Since the proposed housing building would

be set into the hillside, Project construction will require grading along the base of the existing hillslope. This grading would result in cuts of up to approximately 26 feet to accommodate the structure. No cut and fill grading is planned for the PSB Site.

Grading for the Project would include approximately 9,451 cubic yards (CY) of cut and 267 CY of fill, totaling approximately 9,184 CY of net off-haul material. The total area of surface disturbance on both the housing and PSB Sites would be approximately 1.80 acres.

3.6.5 Landscape/Vegetation Management

The Project (including both the Housing Site and PSB Site) would include various types of landscaping, including ornamental trees, potted plants, raised planting areas, synthetic turf, and native plant communities. Raised planters and large planters would be installed around the housing podium on the Housing Site to provide for stormwater management. The existing vegetation on the Project site is primarily composed of oaks, acacias, and pines, as well as grasses. Approximately 82 trees exist on the Project site. Of these, 44 are proposed for removal to develop the Project, including 20 native coast live oaks and 21 ornamental trees. A Vegetation Management Plan (VMP) has been prepared for the Project to properly maintain the remaining mature trees on-site following Project construction with selective pruning and removal of all dead material per firewise standards.

3.6.6 Construction Sequence

Construction of the Project is currently anticipated to occur during 2025 and 2026, with Project completion and occupancy occurring in 2027. The construction phasing and management plan is conceptual at this point and will be refined prior to the commencement of actual construction. The final construction phasing and management plan will become part of the construction documents.

Project construction is estimated to last for approximately 21 months and would occur in three primary phases:

- Phase 1: Construct police and fire department rear parking and associated security gates (2 months).
- Phase 2: Construct new public parking at PSB Site, new public restrooms, and relocate EV charging stations (2 months). Note that replacement restrooms will be provided for park users prior to demolition of the existing restrooms on the Housing Site.
- Phase 3: Demolition of existing parking lot and public restrooms, grading, utilities, and construction of housing building and all other site development (16-18 months).

During Phase 3, Public Parking Lot B would be used for construction staging and would house a construction office trailer and storage containers. Portable restrooms will be provided in Lot B or as otherwise designated by the City through the construction management plan.

Construction activities would occur Monday through Friday from 7 am to 6 pm. In accordance with City policy, construction activities would adhere to the following schedule:

- Monday through Friday (7 am to 8 am): Light noise associated with preparing the job site is permitted. No heavy equipment power tools are permitted.
- Monday through Friday (8 am to 5 pm): Heavy equipment/power tool noise associated with construction is permitted.

- Monday through Friday (5 pm to 6 pm): Light noise associated with disassembling the job site is permitted. No heavy equipment or power tools permitted.
- Saturdays, Sundays, and City Holidays: No construction is permitted. This does not include non-construction landscaping (landscape maintenance) which must abide by the standard (non-construction) noise ordinance requirements.

3.7 List of Project Approvals Required

The Project would require the following discretionary actions or approvals:

3.7.1 City of Mill Valley

- Request to rezone the Housing Site from O-A (Open Area) to RM-B (Multi-family Residential-Bayfront) to permit multi-family residential development.
- Long-term Ground Lease or similar document allowing EAH Housing to construct and manage housing on the Housing Site.
- Design Review approval for the proposed development at the Housing Site and related improvements on the PSB Site.
- Tree Removal Permit.
- Subsequent administrative encroachment permits for work within and close to the public right-of-way.
- Subsequent administrative grading, stormwater control, and building permits (including all applicable fees).

3.7.2 Bay Area Air Quality Management District

- Asbestos Dust Mitigation Plan approval

3.7.3 State Water Resources Control Board

- Notice of Intent for coverage under the statewide Construction General Permit, including preparation of a SWPPP.

3.7.4 Marin Municipal Water District

- Approval of water service, water meter, landscaping, and irrigation plans.

4.0 INITIAL STUDY CHECKLIST

This section describes the existing environmental conditions in and near the Project area and evaluates environmental impacts associated with the proposed Project. The environmental checklist, as recommended in the CEQA Guidelines (Appendix G), was used to identify environmental impacts that could occur if the proposed Project is implemented. The right-hand column in the checklist lists the source(s) for the answer to each question. The cited sources are identified at the end of this section.

Impacts associated with the Project that were evaluated and addressed in the HEU SEIR are identified and noted as such in this Initial Study. Some of these impacts may require additional review and analysis in the Draft EIR for the Project, while others may not. The Draft EIR will include a discussion of these impacts.

Each of the environmental categories was fully evaluated, and one of the following four determinations was made for each checklist question:

"No Impact" means that no impact to the resource would occur as a result of implementing the Project.

"Less than Significant Impact" means that implementation of the Project would not result in a substantial and/or adverse change to the resource, and no mitigation measures are required.

"Less than Significant with Mitigation Incorporated" means that the incorporation of one or more mitigation measures is necessary to reduce the impact from potentially significant to less than significant.

"Potentially Significant Impact" means that there is either substantial evidence that a Project-related effect may be significant, or due to a lack of existing information, could have the potential to be significant.

4.1 Aesthetics

Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 point). 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?	☐	☐	☒	☐

4.1.1 Environmental Setting

The northern portion of the Project site is undeveloped. The proposed Housing Site portion of the Project site is developed with a public parking lot and a small restroom facility. The parking lot is used by visitors of the nearby Hauke Park, which is located west of the Project site immediately across Hamilton Drive. To the south of the Housing Site portion, the PSB Site portion of the Project site contains the City's PSB and associated parking. The Project site is characterized by hillside slopes that range in elevation from 15 feet in the northern areas of the site to 45 feet near the center, to 80 feet at its eastern edge along Roque Moraes Drive. There are 82 trees scattered around the Project site.

The Project site is bordered by Hamilton Drive to the west and northwest, Roque Moraes Drive to the east and northeast, and a solar panel installation and community garden area to the east and south. Areas to the north and east of the Project site are in residential use. Except for Pickleweed Inlet and the marsh area of Bayfront Park, none of the surrounding areas are protected lands or on topography that is considered a scenic resource within Mill Valley.

Views of Hauke Park and Bayfront Park can be observed from Roque Moraes Drive, a public street that runs along the northeastern Project site border. Construction of the Project will alter existing views from Roque Moraes Drive.

4.1.2 Discussion of Impacts

a) Have a substantial adverse effect on a scenic vista?

Potentially Significant Impact

A scenic vista is known as a publicly accessible viewpoint that provides an expansive view of a valued landscape. The Project is located at the base of a hillside to the southwest of Roque Moraes Drive. As Roque Moraes Drive runs along the side of a hill above the site, the proposed housing development may impact views from this street that overlook Hauke Park and Bayfront Park. This impact will be further analyzed in the EIR.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

There are no officially designated or eligible state scenic highways within the Project area. There are no officially designated state scenic highways in Marin County. The nearest eligible state scenic highway is U.S. Highway 101, which is located approximately one mile southeast of the Project site (Caltrans 2018). Therefore, no impact would occur and this issue does not require additional analysis in the EIR.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact

The Project is located in an urbanized area that the Mill Valley General Plan designates as Multi-Family Residential (MFR-2) and Community Facility (C-F) (City of Mill Valley 2013). The City recently updated its General Plan Housing Element, which amended the General Plan land use designation of the Housing Site to Multi-Family Residential (MRF-2) (City of Mill Valley 2023b). However, the rezoning of the Housing Site from Open Area (O-A) to Multi-Family Residential Bayfront (RM-B) is being proposed as part of the Project to bring the zoning into consistency with the General Plan. Thus, because the Project does not conform to the site's existing zoning, a potentially significant impact may occur with respect to aesthetics. Thus, this issue will be analyzed in the EIR.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact

The Project is located on a partially developed portion of the City-owned parcel at 1 Hamilton Drive. The Project site is bordered to the south by the City's PSB, which is an existing source of light during day and night. The Project site is bordered to the west by Hauke Park, which is not a source of substantial light or glare at any time. Across Roque Moraes Drive to the northeast, the Project site is surrounded by residential neighborhoods, which contain relatively low levels of ambient lighting. Streetlights are an additional source of lighting in the area.

According to the planned construction schedule, work will occur between the hours of 7 am to 6 pm on weekdays, and thus no substantial source of nighttime light (other than security lighting) will be present during Project construction. Project operation would constitute an expansion of

existing illumination in the neighborhood but would not introduce substantial sources of light or glare to the area.

The HEU SEIR concluded that development and redevelopment of the housing sites, including the 1 Hamilton site, could introduce new sources of light and glare, including night lighting for buildings and security lighting. However, the proposed housing sites would be located in Mill Valley's existing residential neighborhoods and downtown core with similar sources of light in the existing condition. Development and redevelopment of the housing sites would also be subject to general plan policies LU-1 and Policy LU-4, as well as proposed Housing Element Update policy 4.1 and programs 18 and 22a, which collectively ensure implementation of the City's residential development standards related to lighting, "Good Neighbor Policy," and all future projects at the housing sites will be subject to lighting standards established in either the City's 2016 Multi-Family and Mixed-Use Development Standards (see Chapter 4.A. Lighting) or the City's 2019 Single-Family Residential Design Guidelines (see guidelines applicable to lighting including Guideline 11 – Windows, Roofs, and Skylights and Roof Mounted Equipment; Guideline 14 – Exterior Lighting; and Guideline 16 – Landscaping to Maximize Privacy and Views) as well as the City's Design Review process as outlined in City Municipal Code Section 20.66. All of the City's lighting standards collectively serve to minimize light pollution and trespass in order to respect privacy and ensure safe nighttime conditions. With implementation of the combined policies, programs, and design guidelines referenced above, future development associated with the proposed Project would have a less-than-significant impact associated with light and glare. No further analysis in the EIR is necessary.

4.2 Agricultural and Forestry Resources

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

4.2.1 Environmental Setting

The Project site has been mapped as Other Land in the Farmland Mapping and Monitoring Program by the California Department of Conservation (CDC 2022). The Project site is surrounded by Urban and Built-Up Land (CDC 2022). There are no farmland areas located within or surrounding the Project site.

4.2.2 Discussion of Impacts

a)-e) 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? Conflict with existing zoning for agricultural use, or a Williamson Act contract? 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))? Result in a loss of forest land or conversion of forest land to non-forest use? 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?

No Impact

There is no farmland, forest land, or timberland located in the Project area. The Project site is mapped as Other Land by the California Department of Conservation and is surrounded by Urban and Built-Up Land. The Project would not convert prime farmland, unique farmland, or farmland of statewide importance (Farmland) to non-agricultural use; would not conflict with existing zoning for agricultural uses or a Williamson Act contract; would not conflict with existing zoning for, or cause rezoning of, forest land or timberland; would not result in loss of forest land or conversion of forest land to non-forest use; and would not involve other changes in the existing environment that could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur, and no further analysis in the EIR is necessary.

4.3 Air Quality

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

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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 in 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) affecting a substantial number of people?	☐	☐	☒	☐

4.3.1 Environmental Setting

The project site is located in the San Francisco Bay Area Air Basin (SFBAAB) which is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD regulates stationary sources of air pollution in the nine counties that surround the San Francisco Bay: Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin, and Napa Counties, and the southern portions of Solano and Sonoma Counties. The BAAQMD prepares and updates air quality plans to achieve state and national ambient air quality standards and comply with state and national air quality planning requirements. The air quality within the BAAQDM regional air basin is influenced by a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry.

4.3.2 Discussion of Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact

The BAAQMD adopted the *2017 Clean Air Plan: Spare the Air, Cool the Climate*, in April 2017 (BAAQMD 2017). The plan is consistent with the greenhouse gas (GHG) reduction targets adopted by the state of California and lays the groundwork for long-term efforts to reduce GHG emission in the Bay Area to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The plan does not set forth specific policies, but rather establishes goals and strategies to decrease emissions from air pollutants and GHGs.

The BAAQMD's Air Quality CEQA Guidelines (2017) ("air district CEQA guidelines") Section 9.1 provides guidance on determining if a development project is consistent with the Clean Air Plan. For consistency a project should meet three criteria: 1) support the primary goals of the Clean Air Plan; 2) include applicable Clean Air Plan control measures; and 3) not disrupt or hinder implementation of any Clean Air Plan control measures.

There are 81 control measures in the 2017 Clean Air Plan, many of which are applicable only for industrial or regional implementation. The Draft HEU SEIR evaluated HEU consistency with applicable control measures in Table 6-7, Potentially Applicable Control Measures (2017 Clean Air Plan) and provided a brief consistency analysis of how the HEU either does or does not implement the measure.

Implementation of the HEU, which includes development of the proposed Project, would be subject to and would implement general plan policies and programs, implement HEU SEIR Mitigation Measure 12-1 and HEU SEIR Mitigation Measure 6-3b applicable to air quality and reductions in toxic air contaminant (TAC) emissions, consistent with the control measures of the 2017 Clean Air plan. As such, the HEU and proposed Project support the 2017 Clean Air Plan. Additionally, the proposed Project would be subject to all applicable City guidelines, standards, and specifications related to improving air quality and reducing exposures to TAC emissions. Because implementation of the Project would be subject to all applicable City guidelines, standards, and specifications, the Project would not conflict with adopted policies, plans, or programs for improving air quality and reducing exposures to TAC emissions. Therefore, the proposed Project would not conflict with or jeopardize successful implementation of the 2017 Clean Air Plan.

No additional mitigation is required and no further analysis in the EIR is necessary.

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?

Less than Significant Impact

The San Francisco Bay Area is currently designated as a nonattainment area for state and national ozone standards and national particulate matter ambient air quality standards (BAAQMD 2017). The *BAAQMD California Environmental Quality Act Air Quality Guidelines* sets forth screening criteria for lead agencies and project applicants to determine whether their project requires a detailed air quality assessment to estimate air pollutant emissions (BAAQMD 2017). In developing thresholds of significance and screening criteria for air pollutant emissions, the BAAQMD considered the emission levels for a project's individual emissions that would be cumulatively considerable and thus result in significant adverse impacts to the region's existing air quality conditions. Projects that meet the screening criteria outlined by the BAAQMD are not considered to have a significant cumulative contribution to air quality emissions and therefore do not require further detailed air pollutant emissions analysis. For construction-related impacts, the screening criteria for low-rise apartments is 240 DU for reactive organic gases (ROG). For operational-related impacts, the screening criteria is 451 du for ROG and 78 du for GHG. The Project involves construction of up to 50 apartment units; therefore, the Project meets the screening criteria requirements for ROG during the construction phase and ROG and GHG during the operational phase. No detailed air quality analysis is required per the BAAQMD's screening criteria for ROG and operational-related GHG.

Project construction activities would generate criteria air pollutant emissions that could potentially impact regional air quality. During construction, the primary pollutants of concern would be NOx, PM10, and PM2.5 from the exhaust of construction equipment and other vehicles related to construction including worker vehicles, vendor trucks, and haul trucks. Additionally, ground disturbing activities would generate fugitive dust emission of PM10 and PM2.5. The BAAQMD has not generated screening criteria for NOx, PM10, or PM2.5, therefore the Project would need to assess potential impacts related to these criteria air pollutants.

The generation of fugitive dust PM10 and PM2.5 emissions from ground-disturbing activities could result in a cumulatively considerable net increase in regional pollutant concentrations. The BAAQMD considers implementation of best management practices (BMPs) to control dust during construction sufficient to reduce potential dust impacts to a less-than-significant level.

The Project will prepare an air emissions assessment to estimate potential emissions that will result from Project activities. This assessment will recommend BMPs and mitigation measures, if necessary, to reduce emissions to a less than significant level. Impacts described in this assessment will be further analyzed in the EIR.

c) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact

Children, the elderly, and people with illnesses or others who are especially sensitive to the effects of air pollutants may be considered sensitive receptors. Examples of uses and facilities that house or attract sensitive receptors are schools, hospitals, playgrounds, and residential areas. There are various facilities that may attract sensitive receptors within 0.25 to 0.5 miles of the Project site, including parks, residential neighborhoods, schools, and retirement communities.

A portion of the Project site is underlain by a rock unit known as “serpentinite”. Serpentinite is an ultramafic rock that is made up of a group of minerals known as “serpentine” minerals that contain naturally occurring asbestos (NOA) particles. The most common NOA particle in ultramafic rocks is chrysotile. Asbestos has been classified as a carcinogen by state, federal, and international agencies, and thus NOA particles are a known hazard to human health. If dust containing asbestos fibers is inhaled, these fibers can cause cancer and other diseases in the lungs, lining of the lungs, or abdominal cavity. Any exposure to asbestos fibers involves some risk of disease, depending on how and to what degree a person is exposed to the fibers. Scientists have suggested that children have a higher risk of exposure to asbestos fibers than adults in similar environments due to their faster breathing rates, time spent outdoors, and longer time period for disease to develop (University of California Division of Agriculture and Forestry Resources 2009).

Soil disturbing activities in areas underlain by rocks containing NOA particles can increase human exposure to asbestos. Human activities and natural processes that can release dust containing NOA particles include disturbing dry soils, exposing asbestos fibers to the soil surface by erosion from wind and water, storm water runoff which can concentrate fibers that become airborne when dried, and forms of mechanical exposure or disturbance of NOA-containing bedrock (serpentinite). County of Marin maps show that the Project site is situated in an area underlain by serpentinite of the Coast Range Ophiolite formation from the Late to Middle Jurassic Age (County of Marin 2022). In addition, the BAAQMD facilitated the collection of bedrock samples from the project site to be tested for NOA particles in January 2023. The results of the sampling from SGS Forensic Laboratories confirmed a sample from the site to be Chrysotile Type asbestos with a percentage asbestos of 0.50.

The California Air Resources Board (CARB) regulates all construction activities that produce dust that could potentially contain NOA particles. CARB is responsible for regulating the Airborne Toxic Control Measures (ATCM) contained in the C.C.R. The Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations (17 CCR § 93105) and Asbestos ATCM for Surfacing Applications (17 CCR § 93106) are applicable to the project. To reduce public exposure to asbestos dust, the project would be required to prepare an Asbestos Dust Mitigation Plan (ADMP) and submit the document to the BAAQMD for review and approval. The ADMP is required to address track-out of materials onto any paved public roads, active storage piles, inactive areas and storage piles, traffic on on-site unpaved roads, parking lots, and staging areas, earthmoving activities, off-site transport, and post construction stabilization of disturbed areas. The Project would be required to prepare and finalize an ADMP approved by the BAAQMD prior to any soil disturbing activities occurring on the Project site. Potential impacts from exposure to NOA particles resulting from Project activities will be further analyzed in the EIR.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact

During construction, diesel equipment operating at the Project site may generate some nuisance odors impacting those in close proximity to the site. However, the Project site is not located in an area of high-density urban development. There are residences to the northeast of the Project site across Roque Moraes Drive and a park across Hamilton Drive to the west, but it is unlikely that odors from diesel equipment at the site would generate complaints from these areas. The City's PSB is located adjacent to the Project site to the south, but employees would generally be inside for most of the day, and odors from diesel fuel would be faint. During operation, the Project site would be in residential use, which is not typically associated with nuisance odors that would impact a substantial number of people. Therefore, Project impacts during construction and operation would be less than significant. No further discussion of this issue in the EIR is necessary.

4.4 Biological Resources

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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, or 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?	☐	☐	☐	☒

4.4.1 Environmental Setting

On February 4, 2022, WRA, Inc. (WRA) biologists completed an initial field review of the Project site to document: (1) land cover types (e.g., vegetation communities, aquatic resources), (2)

existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic land cover types (e.g., wetlands) are present, and (4) if special-status species are present[3]. Following the initial site visit, WRA conducted two formal wetland delineations within the Project site on March 8, 2022, and June 14, 2023, as well as a focused protocol-level rare plant survey on July 14, 2023, to further support the determinations made in this assessment. The methods and results of these surveys are discussed in the Biological Resources Technical Report that was prepared by WRA for the Project (WRA 2023b).

The Project site is mostly comprised of non-native annual grasslands and dispersed native and non-native trees on a steep, south-facing slope above a parking lot in the southwestern portion of the Housing Site. Within the Project Site, there are two small potential seasonal wetlands, totaling 0.015 acre. The northernmost seasonal wetland (0.011 acres) is a shallow depression located in the northern portion of the Project site between the base of the hillslope to the east and Hamilton Drive to the west. In addition to direct precipitation and runoff, its hydrology is also supported by water seeping out of the adjacent hillslope. Dominant vegetation within this seasonal wetland included Italian ryegrass and fiddle dock (*Rumex pulcher*). The southernmost seasonal wetland (0.004 acres) is a linear, shallow depression located just north of the parking lot and adjacent to Hamilton Drive. It captures direct precipitation and surface runoff, and when enough water is present, drains into a culvert under Hamilton Drive. The dominant vegetation within this seasonal wetland consisted of bristly ox-tongue (*Helminthotheca echioides*). This feature did not satisfy the hydric soil criteria described in the Arid West Manual, and therefore does not meet the definition of a wetland (WRA 2023b).

WRA prepared an Arborist Report for the Project (WRA 2023a). Eighty-two (82) trees were identified within the site, including 44 native trees, 38 ornamental trees, and two species that are listed as invasive species by the California Invasive Plant Council (Cal-IPC 2022). Tree species present on-site are coast live oak (*Quercus agrifolia*), cork oak (*Quercus suber*), Canary Island pine (*Pinus canariensis*), black locust (*Robinia pseudoacacia*), blackwood acacia (*Acacia meloxylon*), ash (Fraxinus sp.), cherry plum (*Prunus cerasifera*), Modesto ash (*Fraxinus velutina*) and California buckeye (*Aesculus californica*). Blackwood acacia and black locust are considered invasive species (Cal-IPC 2022). Trees range in size from 4.2 inches to 42.9 inches in DBH. The largest tree is a multi-trunk coast live oak that is on the slope above the parking lot on the east side of the Housing Site. There are 74 trees less than 20 inches in DBH and six (6) that are 20 inches and greater.

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act or California Endangered Species Act. These acts afford protection to both listed and proposed species. The potential for the Project to affect special-status species is discussed under the individual impact assessments below.

4.4.2 Discussion of Impacts

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?*

Potentially Significant Impact

The Project Site has potential to support the following nine (9) special-status plant species (WRA 2023b):

- bent-flowered fiddleneck
- Brewer's milk-vetch
- Oakland star-tulip
- Tiburon buckwheat
- congested-headed hayfield tarplant
- Marin western flax
- bristly leptosiphon
- woolly-headed lessingia
- two-fork clover

Four (4) of those species were not observed during the July 13, 2023 protocol-level plant survey and are assumed to be absent from the Project site (WRA 2023b):

- Tiburon buckwheat
- congested-headed hayfield tarplant
- Marin western flax
- woolly-headed lessingia

If present, the remaining five special-status plant species may be directly impacted by Project activities, which would be considered a potentially significant impact.

All special-status wildlife species documented in the region either have no potential or are unlikely to occur within the Project site or immediate vicinity, primarily due to the absence of suitable habitat. Therefore, no impacts to special-status wildlife species are anticipated as a result of the Project.

No special-status bird species have potential to nest within the Project Site or in the immediate vicinity (WRA 2023b). However, non-special-status native birds (e.g., passerines) may nest on the ground, in trees, and in vegetation within and immediately surrounding the Project site. The active nests of such birds are protected under the federal Migratory Bird Treaty Act, as well as by California Fish and Game Code (CFGC). If construction begins during the avian nesting season (generally February 1 to August 31), nesting birds may be impacted directly through the removal of nest structures, or indirectly through localized disturbance sufficient to cause nest abandonment. Impacts to common native nesting birds would be considered a potentially significant impact.

Because the Project may have a potentially significant impact with respect to special-status plant species and nesting birds, this issue will be analyzed in the EIR.

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 CDFW or USFWS?

Less than Significant Impact

Two small potentially jurisdictional seasonal wetlands occur within the Project Site, comprising a total acreage of 0.015 acres. The northernmost seasonal wetland, the larger of the two (0.011 acres), will be fully avoided by the Project. The smaller, wetland feature to the south (0.004 acres) is an artificial wetland that does not meet the hydric soil criterion and would not be considered a water of the U.S. or State. Therefore, Project impacts on sensitive natural

communities would be less than significant. However, this issue will be further discussed in the EIR.

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?*

No Impact

As noted under checklist question b), the northernmost seasonal wetland on the Project Site will be avoided by the Project and the southernmost seasonal wetland does not meet the hydric soil criterion and is therefore not considered jurisdictional. As such, the Project will not result in any impacts to jurisdictional waters of the U.S. or State. No other aquatic resources are present within the Project Site. However, this issue will be further discussed in the EIR.

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?*

No Impact

The Project site is not located within a designated wildlife corridor and no portions of the Project site provide connectivity between areas of suitable habitat. For terrestrial species, all portions of the Project site are within a greater context of urban development, and no aquatic habitat is present within or immediately adjacent to the Project site. No impacts to migratory corridors will occur as a result of the Project. However, this issue will be further discussed in the EIR.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Potentially Significant Impact

Local polices and ordinances protecting biological resources include the MV 2040 General Plan, the Mill Valley Tree Ordinance, and Chapter 6.16 of the Mill Valley Municipal Code. These policies are intended to protect special-status species, wildlife movement corridors, native and heritage trees, and other wild birds and animals. As discussed under checklist question a) above, the Project may have a potentially significant impact on special-status plant species and nesting birds. Additionally, the Project's development will impact native and heritage trees located on the Project site. Thus, this issue will be analyzed in the EIR.

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?*

No Impact

The Project site is not covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the Project will have no impact with respect to any such plan. No further analysis of this issue in the EIR is necessary.

4.5 Cultural Resources

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☒	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☒	☐	☐	☐
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

4.5.1 Environmental Setting

The Project site is located on a partially developed portion of a City-owned parcel in a suburban area in Mill Valley. Surrounding areas are developed and in residential and recreational use. Far Western conducted an archaeological study for the proposed Project. The report was prepared to comply with CEQA and its implementing guidelines and regulations in the California Code of Regulations, Title 14, Chapter 3, Sections 15000 et seq and Section 106 of the National Historic Preservation Act.

No archaeological resources were identified during the field survey of the Project site. Based on a review of the records search, only six percent of the area of project effect (APE) has been subject to a previous survey effort. The records search identified two recorded cultural resources within the one-quarter-mile buffer, neither of which intersects the APE. The archival review indicates a low sensitivity for encountering subsurface historic-era archeological resources at the Project site.

The buried precontact site sensitivity assessment suggests that a small portion in the westernmost APE carries high potential for buried precontact Native American archaeological resources, and the remaining 95 percent of the APE has low potential for buried sites. While the western extent appears to have been previously disturbed by the construction of Hamilton Drive and the present parking lot and restrooms, high sensitivity remains for deeply buried precontact deposits in this location. Thus, this issue will be evaluated in the EIR.

Additionally, consultation with Graton Rancheria is underway, and a field visit occurred on July 26, 2023, between the City and the tribe. Based on the outcome of the meeting and review of the technical report, additional studies or measures may also be requested by the tribe to address compliance with Section 106 and CEQA and the identification of tribal cultural resources.

4.5.2 Discussion of Impacts

a) Cause a substantial adverse change in the significance of a historical resource pursuant to

CEQA Guidelines Section 15064.5?

Less than Significant Impact

Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or the lead agency. Generally, a resource is considered "historically significant" if it meets one of the following criteria:

i. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
ii. Is associated with the lives of persons important in our past;
iii. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
iv. Has yielded, or may be likely to yield, information important in prehistory or history.

Based upon a review of the Project site's history, it is unlikely that there are undiscovered historically significant resources present on the Project site. However, a cultural resources assessment that includes a literature review and records search has been prepared for the Project by Far Western. This study will assess the potential for historically significant resources to be identified at the Project site. Further discussion of this potential impact will be provided in the EIR.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

Potentially Significant Impact

Although portions of the Project site are currently developed with surface parking lots and other public facilities, the majority is undeveloped. The City and Graton Rancheria are involved in consultation regarding the potential effect of the Project on unknown cultural archaeological resources. In the event that archaeological resources are discovered during Project construction activities, the Project would adhere to standard protocols relating to the discovery of unknown cultural resources to ensure that any discovery is managed properly. The cultural resources study being prepared by Far Western will address the potential for archaeological resources to be encountered on-site during Project construction, with a literature review and records search related to potential site-specific archaeological resources. This issue will be further analyzed in the EIR.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact

California Health and Safety Code Section 7050.5, CEQA Section 15064.5, and Public Resources Code Section 5097.98 mandate the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery. Specifically, California Health and Safety Code Section 7050.5 requires that if human remains are discovered within the project site, disturbance of the site shall remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of death, and made recommendations concerning the treatment and disposition of the human remains to the person responsible for the excavation, or to their authorized representative, in the manner provided in

Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to the authority of the person responsible for the excavation and if the coroner has reason to believe the human remains to be those of a Native American, the coroner shall contact, by telephone within 24 hours, the Native American Heritage Commission. Subsequently, the Native American Heritage Commission shall identify the most likely descendant. The most likely descendant shall make recommendations and engage in consultations concerning the treatment of the remains, as provided in Public Resources Code Section 5097.98.

Project activities during construction, such as soil excavation, could potentially result in the discovery of human remains. If human remains are found, the Project would comply with existing law to ensure that impacts to human remains would be reduced to a less than significant level. Project operation would not disturb any human remains, including those interred outside of dedicated cemeteries. Therefore, Project impacts would be less than significant. However, this issue will be further discussed in the EIR.

4.6 Energy

	☐	☐	☒	☐
	☐	☐	☐	

4.6.1 Environmental Setting

Power is available in Mill Valley through MCE Clean Energy or Pacific Gas & Electric (PG&E). The City of Mill Valley Climate Action Plan is contained in the City's General Plan and outlines goals, policies, and programs to address climate change. It also establishes emission reduction targets for the community and city's government operations. The CAP 2030 is currently being updated by the City; the Revised Public Review Draft became available in November 2022.

The City of Mill Valley has adopted the 2022 Edition of the California Green Building Standards Code, Title 24, Part 11 of the California Code of Regulations (CALGreen) with local amendments additions, and deletions. All new buildings shall be constructed to comply with the applicable requirements of Section 14.48.040 of the Mill Valley Municipal Code (MVMC) and shall include green building measures specified as mandatory in the application checklists contained in Section 14.48.040: Green building requirements by project type. The MVMC defines compliance thresholds for different projects based on the project type and size. Multifamily new construction of three (3) stories or less is subject to the CALGreen Tier 1 requirements, including Section A4.2 (Energy Efficiency). This type of project must be "all-electric"- meeting the requirements outlined in the 2022 Building Energy Standards, "limited mixed-fuel," or "mixed-fuel." Specific requirements are outlined in chapter 14.48.040 of the MVMC.

4.6.2 Discussion of Impacts

a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact

As a multi-family residential development project, the Project is required by the City to comply with CALGreen Tier 1 requirements, including Residential Voluntary Measures division A4.2–Energy Efficiency at 10% (City of Mill Valley 2017). Project construction and operation would comply with these mandatory requirements, and thus would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Furthermore, the HEU SEIR evaluated the potential energy impacts of the proposed

development of additional housing, including the proposed Project, and concluded that impacts would be less than significant. No further analysis in the EIR is necessary.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact

The Mill Valley Climate Action Plan for 2030 is currently being updated. The Revised Public Review Draft became available in November 2022 and contains emissions forecasts and reduction targets to support the City in achieving carbon neutrality by 2045 (City of Mill Valley 2022). The Climate Action Plan also describes strategies for increasing renewable energy use, supporting decarbonization, and promoting energy efficiency and sustainable materials. Strategies include:

- Installing residential and commercial solar and energy storage systems,
- Encouraging residents and businesses to switch to 100 percent renewable energy,
- Phasing out natural gas,
- Conducting microgrid studies,
- Promoting energy efficiency programs,
- Performing energy audits,
- Continuing to adopt green building requirements, and
- Developing a plan and Design Guidelines to encourage the use of sustainable building materials.

The Project would adhere to the mandatory CALGreen requirements for multi-family residential projects set forth in the Mill Valley Municipal Code during construction and operation. The Project would not conflict with other strategies outlined in the proposed Climate Action Plan or any other state or local plan for renewable energy or energy efficiency. Specifically, as an infill development, the Project would locate housing close to existing city services, thus reducing the amount of energy consumed by placing housing in peripheral areas. The current version of the California Building Standards Code includes requirements that mandate integrating renewable energy into new residential development of the type proposed in the Project. The Project would be consistent with these requirements. The City does not have its own renewable energy plan. The Project would have no impact and no further discussion of this issue in the EIR is necessary.

4.7 Geology and Soils

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
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, creating substantial direct or indirect risks to life or property?	☐	☒	☐	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

A Geotechnical Engineering Investigation (Geotechnical Study) for the Project site was prepared by Krazan & Associates, Inc. (Krazan) (Krazan 2023). A series of recommendations included in the Geotechnical Study are being incorporated into Project design.

4.7.1 Environmental Setting

The Project site is located in the San Francisco Bay Region of the Coast Range Geologic Province. The Coast Range Geologic Province borders the coast of California and generally consists of northwesterly/southeasterly trending ridges of granitic, metavolcanic, and metasedimentary rocks. Numerous northwest to southeast trending faults parallel the trend of the Coast Ranges.

In the vicinity of the Project site, sedimentary deposits consist of unconsolidated sediments comprised of gravel, sand, silt, and clay that underlie broad valleys and flatlands. Three major faults are located near the Project site, including the Hayward Fault Zone, the San Andreas Fault Zone, and the Calaveras Fault Zone. A southern extension of the Hayward Fault Zone is located south of the Project site. The Hayward Fault Zone is considered capable of producing an upper bound earthquake event of Richter magnitude 7.5. The last recorded movement of the Hayward Fault was in 1868. The San Andreas Fault was the source of the 1906 San Francisco Earthquake. The Calaveras Fault is located east of the Project site and is also considered capable of producing large earthquakes. There are no active fault traces in the Project vicinity.

4.7.2 Discussion of Impacts

a-i) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: 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?

Less than Significant Impact

The Project site is located within the San Francisco Bay Region, a seismically active area traversed by a wide arry of faults with their attendant effects. As indicated in the Geotechnical Study, there are no active fault traces in the Project vicinity. A search on the Alquist-Priolo EarthQuality Fault Zoning map also indicated that no active or potentially active earthquake faults are located within or in the vicinity of the Project site (CDC 2022). The closest fault trace to the Project site is the San Andreas Fault located approxiamtely 8.3 miles to the west (CDC 2022). A pre-Quaternary (no movement within the last 1.6 million years) fault has been mapped crossing a portion of the Project site. However, such faults are effectively considered to be “inactive” under the Alquist-Priolo Act and no further investigation is required. Because the Project is not located within an Alquist-Priolo Earthquake Fault Zone and no major faults have been mapped within or adjacent to the Project site, the likelihood of ground rupture from faulting across the Project site is low. The impact would be less than significant. However, this issue will be evaluated in the EIR.

a-ii) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking?

Less than Significant Impact

Although there are no mapped active or potentially active faults underlying the Project site, the Project area could experience very strong intensity ground shaking during a large earthquake. Ground shaking associated with earthquakes could affect the proposed structures by causing

structure breakage or destabilizing building foundation. Krazan recommended that seismic design of the structures should be based on the seismic provisions of the 2022 California Bulding Code (CBC) for Site Class D. Compliance with the 2022 CBC would ensure that the seismic ground shaking impact would be be less than significant. However, this issue will be analyzed in the EIR.

a-iii) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction?

Less than Significant with Mitigation Incorporated

Seismic shaking can trigger ground failures caused by liquefaction, potentially resulting in foundation damage, disruption of utility service, and roadway damage. The soils most susceptible to liquefation are clean, loose, uniformly graded, saturated, sands, and occur close to the ground surface, usually at depths of less than 50 feet. Geotechnical borings conducted in March 2022 indicate that the subsurface conditions include the following (Krazan 2023):

- Upper soils consist of approximately 6 to 12 inches of very loose clayey sand or sandy clay;
- Below the loose suface soils, there are approximatly 2 to 3 feet of loose clayey sand or firm to very stiff sandy clay;
- Below approxiately 3 to 4 feet, layers of predominately medium dense to very dense clayey sand or stiff to hard sandy clay and sandy clay with gravel were encountered, and
- Below approximately 34 feet, weathered rock was encountered.

Soils at the site were determined to have low strength characteristics and are highly compressible when saturated. Therefore, there is potential for Project activities to directly or indirectly cause potential substantial adverse effects involving seismic-related ground failure, including liquefaction. The Project would implement measures identified in the Geotechnical Study to mitigate this impact to a less-than-significant level. Specific measures include the placement of non-expansive or lime-treated engineered fill to the upper 24 inches of soil within slab-on-grade and exterior flatwork areas. This issue will be analyzed and the necessary mitigation identified in the EIR.

a-iv) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides?

Less than Significant with Mitigation Incorporated

The Project is not located within any designated landslide zone, however, there are moderate slopes present at the Project site. The Project contractor would incorporate recommendations presented in the Geotechnical Study to reduce risk of hazards associated with unstable slopes. This issue will be analyzed and the necessary mitigation identified in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant with Mitigation Incorporated

Construction-related ground disturbance consisting of grading and excavation could increase the potential for soil erosion in the area of ground disturbance. The Project would obtain a Grading Permit from the City, which would include the approval of an Erosion Control Plan (ECP) and a Stormwater Control Plan (SCP). The ECP and SCP would contain measures to minimize soil erosion and loss of topsoil during Project construction. The Project would also implement the

recommendations of the Geotechnical Study. This issue will be analyzed and the necessary mitigation identified in the EIR.

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?*

Less than Significant with Mitigation Incorporated

The Geotechnical Study analysis indicates that soils above a depth of 5 feet at the Project site are non-liquefiable due to the absence of groundwater. The soils below a depth of 5 feet are considered to be slightly liquefiable. The analysis indicates that the total and differential seismic induced settlement is not anticipated to exceed ¼ inch and ⅛ inch, respectively. Accordingly, the liquefaction potential at the site is considered low and measures to mitigate the liquefaction potential should consider the anticipated settlements in the Project design.

Loose surface soils are present at the Project site and could be considered unstable soils that could potentially cause on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. This issue will be analyzed and mitigation identified in the EIR.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property?*

Less than Significant with Mitigation Incorporated

Expansive soils (clays) are those that contain minerals such as smectite clays that are capable of absorbing water. These soils are prone to expansion and shrinkage due to variation in water volume. The Geotechnical Study identified the presence of clayey soils with moderate swell potential on the Project site and has recommended measures to reduce hazards associated with soil expansion. This issue will be analyzed and mitigation identified in the EIR.

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

No Impact

The Project would not include septic tanks or alternative wastewater disposal systems. No impact would occur and no further analysis of this issue in the EIR is necessary.

f) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less Than Significant Impact with Mitigation Incorporated

Although no unique paleontological resources or unique geologic features are known to exist on or in the vicinity of the Project site, this issue will be evaluated in the EIR and mitigation identified in the event of an unanticipated discovery.

4.8 Greenhouse Gas Emissions

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

4.8.1 Environmental Setting

Climate change refers to change in the Earth's weather patterns, including the rise in temperature due to an increase in heat-trapping greenhouse gases (GHGs) in the atmosphere. According to the BAAQMD, some of the potential effects of increased GHG emissions and associated climate change may include loss of snowpack (affecting water supply), more frequent extreme weather events, more large forest fires, more drought years, and sea level rise. In addition, climate change may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health (BAAQMD 2017).

The primary GHG emissions of concern are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Each GHG has a different global warming potential. For instance, CH_4 traps about 28 times more heat per molecule than CO_2 (IPCC, 2014). As a result, emissions of GHGs are reported in metric tons of carbon dioxide equivalents (CO_2e), wherein each GHG is weighted by its global warming potential relative to CO_2.

The U.S. Environmental Protection Agency (EPA) is responsible for enforcing the federal Clean Air Act and the 1990 amendments to it. On April 2, 2007, the U.S. Supreme Court ruled that CO_2 is an air pollutant as defined under the Clean Air Act, and that the EPA has the authority to regulate emissions of GHGs.[1] The EPA has established national GHG emission and fuel economy regulations for vehicles that would achieve substantial GHG emissions reductions along with reductions in other criteria pollutants.

The State of California has established the following long-term climate action goals:

- **Assembly Bill (AB) 32:** Reduce GHG emissions to 1990 levels by 2020.
- **Senate Bill (SB) 32:** Reduce GHG emissions to 40 percent below 1990 levels by 2030.
- **AB 1279**: Achieve carbon neutrality as soon as possible, but no later than 2045 and maintain net negative GHG emissions thereafter; and reduce GHG emissions to 85 percent below 1990 levels by 2045.

[1] U.S. Supreme Court, 2007. Massachusetts, et al. v. U.S. EPA, et al. (2007) 549 U.S. 497.

- **Executive Order S-3-05**: Reduce GHG emissions to 80 percent below 1990 levels by 2050. It should be noted that Executive Order S-3-05 has been superseded by AB 1279.

In December 2008, CARB adopted the Climate Change Scoping Plan to identify how the state can achieve its 2020 climate action goal under AB 32. In 2017, CARB updated the Scoping Plan to identify how the state can achieve its 2030 climate action goal under SB 32, and substantially advance toward its 2050 climate action goal under Executive Order S-3-05. The 2017 Scoping Plan includes regulatory programs such as the Advanced Clean Cars Program, Low-Carbon Fuel Standard, Renewable Portfolio Standard Program, energy efficiency standards, Short-Lived Climate Pollutant Reduction Strategy, and Cap-and-Trade Program (CARB 2017).

In December 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan), which outlines a roadmap to achieve the AB 1279 targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045 (CARB 2022). Building on the 2017 Scoping Plan, the 2022 Scoping Plan evaluates the progress made toward meeting the 2030 GHG reduction target established in SB 32 and identifies a technologically feasible, cost-effective, and equity-focused path to achieve carbon neutrality by 2045. The 2022 Scoping Plan presents an approach for an aggressive reduction of fossil fuels and a rapid transition to renewable energy resources and zero-emission vehicles. The 2022 Scoping Plan identifies actions and outcomes such as rapidly moving to zero-emission transportation; electrifying cars, buses, trains, and trucks; phasing out the use of fossil gas used for heating homes and buildings; clamping down on chemicals and refrigerants; providing communities with sustainable options for walking, biking, and public transit; building out clean, renewable energy resources (such as solar arrays and wind turbine capacity) to displace fossil-fuel fired electrical generation; and scaling up new options such as renewable hydrogen and biomethane. Appendix D of the 2022 Scoping Plan includes recommendations for local governments to take actions that align with the state's climate goals, with a focus on local climate action plans and local authority over new residential and mixed-use development. Appendix D of the 2022 Scoping Plan recommends for local jurisdictions to focus on three priority areas when preparing a climate action plan: transportation electrification, vehicle-miles travelled (VMT) reduction, and building decarbonization.

The City of Mill Valley adopted the Mill Valley 2040 General Plan in October 2013, which contains a Climate Action Plan (City of Mill Valley 2013). The Climate Action Plan set a GHG emissions reduction target of 15 percent below 2005 levels for community emissions and 20 percent below 2005 levels for municipal operations by the year 2020. The City is in the process of updating the Climate Action Plan to meet California's goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030, and to serve as a roadmap for achieving the State's 2045 carbon neutrality goal.

The Project is included in the City of Mill Valley 2023-2031 Housing Element Update. The City of Mill Valley adopted the 2023-2031 HEU and the associated HEU SEIR on May 15, 2023 (City of Mill Valley 2023b). The GHG mitigation measure identified in the HEU SEIR is applicable to this Project, as follows:

> **Mitigation Measure 9-1 Generate Greenhouse Gas Emissions**: Applicants for all new individual development projects proposed to implement the 6th Cycle Housing Element and for which applications are deemed complete by the City prior to the City adopting an updated, qualified climate action plan, incorporate the project design performance standards identified in items "a" and "b":

a) No permanent natural gas infrastructure shall be permitted as part of the improvement plans for individual development projects. Individual projects shall be all electric; and
b) Electric vehicle infrastructure (e.g., electric vehicle parking spaces, charging station infrastructure, chargers, etc.) consistent with CALGreen Tier 2 mandatory standards in effect at the time individual building permits are issued shall be installed in all individual development projects.

However, because the VMT impacts of the HEU were determined in the HEU SEIR to be potentially significant and unavoidable, even with implementation of Mitigation Measure 9-1 above, GHG emissions impacts resulting from implementation of the HEU were also concluded to be potentially significant and unavoidable. HEU SEIR Mitigation Measure 9-1 will not apply once the City adopts an updated, qualified Climate Action Plan with which individual projects that implement the HEU are found to be consistent.

A project would normally result in a significant impact on GHG emissions if it results in a substantial increase in GHG emissions or conflicts with a plan, policy or regulation intended to reduce GHG emissions.

4.8.2 Discussion of Impacts

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact

Climate change is not caused by any individual emissions source but by a large number of sources around the world emitting GHGs that collectively create a significant cumulative impact. CEQA requires agencies in California to analyze such impacts by evaluating whether a proposed project would make a "cumulatively considerable" contribution to the significant cumulative impact on climate change. The BAAQMD's recommended thresholds of significance for GHG emissions (BAAQMD 2023) are intended to assist public agencies in determining whether proposed projects would make a cumulatively considerable contribution to global climate change, as required by CEQA. The thresholds identify design elements that an individual project needs to incorporate to do its "fair share" in achieving the state's goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045. The BAAQMD's GHG thresholds for land use projects include two options, as follows:

Option 1. Projects must include, at a minimum, the following project design elements:

Buildings

a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

Transportation

a. Achieve compliance with EV requirements in the most recently adopted version of CALGreen Tier 2.

b. Achieve a reduction in project-generated VMT below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
    i. Residential projects: 15 percent below the existing VMT per capita
    ii. Office projects: 15 percent below the existing VMT per employee
    iii. Retail projects: no net increase in existing VMT

Option 2. Be consistent with local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

A proposed project that meets at least one of these threshold options would support the state's ability to achieve its climate goals and thus would have a less-than-significant impact on GHG emissions. In this analysis, the Project's impact was evaluated against Option 1 listed above. Option 2 is not used because the City of Mill Valley has not adopted a Climate Action Plan that meets the criteria under State CEQA Guideline Section 15183.5(b).

Project construction activities would generate GHG emissions from several sources, such as the operation of on-site heavy construction equipment and off-site construction vehicle trips, vendor vehicle trips, and worker commute trips. The BAAQMD does not recommend a threshold of significance for GHG emissions during construction because there is not sufficient evidence to determine a level at which temporary construction emissions are significant. A construction contractor would also have no incentive to waste fuel during construction and, therefore, it is generally assumed that GHG emissions during construction would be minimized to the maximum extent feasible. Therefore, GHG emissions from construction of the Project would have a less-than-significant impact on the environment.

The Project's consistency with the BAAQMD's recommended design elements (Option 1 threshold) is evaluated in Table 1 below. As presented in Table 1, the Project is designed to incorporate all four design elements. Therefore, the Project would contribute its "fair share" to achieve the state's climate goals and would consequently have a less-than-significant GHG emissions impact. No further analysis of this issue in the EIR is necessary.

Table 1. Project Consistency with Design Elements Identified in BAAQMD's GHG Emission Threshold

DESIGN ELEMENT		PROPOSED PROJECT CONSISTENCY
Building	No Natural Gas	**Consistent**. In accordance with HEU SEIR Mitigation Measure 9-1, the Project would not include natural gas uses. Once the City's final Climate Action Plan is adopted, the Project would be consistent with any additional requirements pertaining to natural gas usage it may contain. No natural gas usage is proposed within the Project.

DESIGN ELEMENT		PROPOSED PROJECT CONSISTENCY
	No Wasteful, Inefficient, or Unnecessary Energy Usage	**Consistent**. As discussed in Initial Study Section 4.6, Energy, the Project will be required to comply with state and locally mandated energy efficiency/conservation measures. Based on information provided by EAH Housing, the Project would include energy efficient mechanical systems, LED lighting throughout, and would be designed to exceed Title 24 requirement. In addition, the Project would include the installation of EV infrastructure. Therefore, energy consumption during Project operation would not be inefficient, wasteful, or unnecessary.
Transportation	California Green Building Standards (CALGreen) Tier 2 Electric Vehicle Requirement	**Consistent.** The Project would include approximately 154 total parking spaces, including 63 residential parking spaces on the Housing Site and 90 parking spaces on the PSB site (50 public parking spaces to replace existing public parking lot on the Housing Site, and 40 police/fire department parking spaces). For the residential parking spaces, the Project would implement SEIR Mitigation Measure 9-1, which requires the Project to include EV infrastructure consistent with CALGreen Tier 2 standards in effect at the time. In accordance with CALGreen 2022 Section A4.106.8.2 Tier 2, 23 residential spaces would be EV capable spaces and 7 out of the 23 spaces would be provided with Electric Vehicle Supply Equipment (EVSE).
	Project-Generated VMT Reduction	**Consistent**. As discussed in the Project Transportation Impact Assessment prepared by Parametrix (Parisi 2023a), (see Section 4.17, Transportation of this Initial Study), the Project meets the affordable housing VMT screening criteria. Therefore, implementation of the Project would result in a less-than-significant impact on VMT.

Source: BAAQMD, 2023.

b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact

At the time of preparation of this Initial Study, the City has not adopted an updated Climate Action Plan that meets the criteria under State CEQA Guideline Section 15183.5 (b). The thresholds of significance for GHG emissions recommended in the BAAQMD CEQA guidelines are designed to ensure that an individual project would do its "fair share" in achieving the state's goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045, which is consistent with the goals of the 2022 Scoping Plan. As discussed above, the Project is designed in accordance with HEU SEIR Mitigation Measure 9-1 and would incorporate all four design elements identified in the BAAQMD GHG thresholds of significance. Therefore, the

Project would not conflict with the 2022 Scoping Plan, and this impact would be less than significant. No further analysis of this issue in the EIR is necessary.

4.9 Hazards and Hazardous Materials

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☒	☐	☐	☐
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 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?	☐	☐	☒	☐

4.9.1 Environmental Setting

PIERS Environmental Services (PIERS) completed a Phase I Environmental Site Assessment (ESA) for the Project site (PIERS 2022). The ESA was conducted in accordance with the guidelines as stated in ASTM Standard Designation E1527-13: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The ESA report contains a description of the Project site, findings from the site reconnaissance, a review of environmental records, historical site use information, interviews of past and present owners and occupants and government officials, and a summary of the findings and opinions. Discussion in this section relies on information from the ESA and a summary of the report is provided below.

PIERS conducted a visual reconnaissance of the Project site on February 1, 2022, and did not observe any underground storage tanks (USTs), aboveground storage tanks (ASTs), or significant features or staining. The Project site was not listed in any regulatory agency databases reviewed by PIERS. There are no open significant cases of environmental concern in proximity of the Project site, however the Mill Valley Fire Department, located adjacent south on the same parcel as the Project site, is identified in the HAZMAT and HAZNET databases for the presence of regulated hazardous materials and hazardous wastes. A review of historical research conducted using city directories, aerial photographs, and local agency records revealed that the Project site was undeveloped until the early 1980s when the parking lot and adjacent police and fire stations were built. The report findings conclude that there is no indication of any spills, releases, or other environmental concerns on the Project site, adjacent parcels, or any other parcels in the area which could pose a significant environmental concern to the Project site. The ESA did not include any sampling of materials such as soil, air, groundwater, or building materials.

The Project site is located within a Local Responsibility Area (LRA), not a State Responsibility Area (SRA) as mapped by California Department of Forestry and Fire Protection (CalFire) (Calfire 2022). The Project site is not located within or near an area that is designated as Moderate, High, or Very High Fire Hazard Severity Zone (FHSZ) by CalFire (Calfire 2022).

4.9.2 Discussion of Impacts

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact

Project construction would involve the use and transport of typical construction-related hazardous materials such as fuels, lubricants, adhesives, and solvents. Heavy equipment would be staged and refueled within the Project staging areas. Hazardous fluids may be released into the environment if handled by personnel who have not received proper training on the use, handling, and storage of hazardous materials.

Construction activities are required to comply with numerous hazardous materials and stormwater regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker and public safety, to reduce the potential for a release of construction-related fuels or other hazardous materials to affect stormwater and downstream receiving water bodies, and to respond to accidental spills, if any. Workers handling hazardous materials are required to adhere to federal and California Occupational Safety and Health Administration (OSHA) health and safety requirements. Hazardous materials must be transported to and from the Project area in accordance with the

Resource Conservation and Recovery Act and U.S. Department of Transportation regulations and disposed of in accordance with RCRA at a facility that is permitted to accept that water.

Although a spill or leak of hazardous materials is unlikely, a spill or leak that is not handled properly would have the potential to contaminate the environment. As discussed in Section 4.10 Hydrology and Water Quality, of this Initial Study, construction contractors would be required to prepare a stormwater pollution prevention plan (SWPPP) for construction activities according to the General Construction Permit requirements adopted by the State Water Resources Control Board. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction and describe spill response and control measures, equipment inspections, equipment storage, and protocols for responding immediately to spills.

Following the completion of Project construction, normal Project operation would not involve the routine transport, use, or disposal of hazardous materials. Through compliance with existing regulations, including implementation of the SWPPP, this impact would be less than significant. No further analysis of this issue in the EIR is necessary.

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?*

Potentially Significant Impact

The Project site is situated in an area underlain by serpentine bedrock, which has been confirmed to contain NOA particles. Soil disturbing activities during Project construction have the potential to cause the release of asbestos particles into the air, which may impact people in proximity to the site (see also Section 4.3, Air Quality, of this Initial Study). In accordance with the BAAQMD's Naturally Occurring Asbestos Program, the Project would be required to prepare and submit for approval an ADMP prior to the start of soil disturbing activities at the Project site. The purpose of the ADMP is to outline measures that will be taken to prevent and control the spread of NOA particles during and after Project construction. Impacts regarding NOA particles during Project construction and operation will be analyzed in further detail in the Air Quality section of the EIR.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact

There are no existing or proposed schools located within 0.25 mile of the Project site. The nearest schools to the Project site are Mill Valley Middle School and Tamalpais Preschool which are located approximately 0.29 mile and 0.36 mile to the east, respectively. No impact would occur and no further discussion of this issue in the EIR is necessary.

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?*

No Impact

There are no known hazardous, toxic, or radioactive waste sites or activities within 0.25 mile of the Project site. Per the findings of the environmental databases records search contained in the ESA, the Project would not be located on a site that is included on a list of hazardous materials

sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No impact would occur and no further discussion of this issue in the EIR is necessary.

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?*

No Impact

The Project site is not located within an airport land use plan or within 2 miles of a public airport or public use airport. The nearest airport to the Project site is the Marin County Airport located approximately 16.5 miles to the north. No impact would occur and no further discussion of this issue in the EIR is necessary.

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

Less Than Significant Impact

Hamilton Drive, which borders the Project site to the west, is designated as a primary evacuation route by the City of Mill Valley. Roque Moraes Drive, which borders the site to the northeast and east, is designated as a secondary evacuation route. Hamilton Drive is frequently used by emergency police and fire vehicles dispatched from the PSB, which is located adjacent to the Project site to the south.

Project activities during construction may temporarily impact portions of Hamilton Drive and Roque Moraes Drive, and thus could temporarily impact evacuation and emergency response times. The Project would avoid obstruction of these two routes whenever feasible to avoid impacts to evacuation and emergency response. Prior to the start of Project construction, a final construction traffic control plan will be prepared for the Project and provided to the relevant fire and police personnel for review. Any activities that would require road or lane closures, delaying of traffic, or reservation of parking spots must be addressed in this plan, along with procedures for ensuring sufficient levels of emergency services vehicle access at all times. Additional analysis of this issue will be included in the Transportation section of the EIR.

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

Less than Significant Impact

The Project is located within an LRA, but not within or near an area that is designated as Moderate, High, or Very High FHSZ by CalFire. As such, the Project would not directly expose people or structures to a significant risk of loss, injury or death involving wildland fires. However, the Project site is located within the Wildland Urban Interface (WUI) zone as designated by the Marin Fire Department. The WUI designation does indicate that the Project site may indirectly expose Project residents and structures to a significant risk of wildland fire hazards.

A VMP has been prepared for the Project in order to properly maintain the remaining mature trees on-site following Project construction with selective pruning and removal of all dead material per firewise standards. Future planting would include fire resistant, irrigated shrubs and trees per the specific recommendations for each of the Home Ignition Zones identified in the

VMP. Long term vegetation maintenance would include various management activities as stipulated in the Project VMP.

With adherence to the VMP and other applicable regulations regarding fuel management within the WUI, Project impacts would be less than significant and no further discussion of this issue in the EIR is necessary.

4.10 Hydrology and Water Quality

Would the project:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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 that would exceed the capacity of existing or planned storm water 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?	☐	☐	☒	☐

4.10.1 Environmental Setting

Water quality in the State of California is regulated by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards. The Project site is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The RWQCB is responsible for implementing the Water Quality Control Plan (Basin Plan). The Basin Plan establishes beneficial water uses for waterways, water bodies, and groundwater within the region and is a master policy document for managing water quality in the region.

Stormwater runoff from the Project site drains to Richardson Bay, which is located about 400 feet southwest of the Project site. Richardson Bay is listed as providing the beneficial uses of industrial service supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact and noncontact recreation, and navigation. The Project site is not located within a designated groundwater basin according to the Basin Plan (San Francisco Bay RWQCB 2017).

Pursuant to Section 303(d) of the Clean Water Act, the SWRCB has listed Richardson Bay as an impaired water body (SWRCB 2022). Impaired water bodies refer to those that do not meet one or more of the water quality standards established by the state. Richardson Bay is listed due to releases of furan compounds, polychlorinated biphenyls (PCBs), dioxin-like PCBs, invasive species, dieldrin, dioxin compounds (including 2,3,7,8-TCDD), indicator bacteria, dichlorodiphenyltrichloroethane (DDT), mercury, and chlordane. The quality of water discharged from the Project site into the stormwater drainage system that discharges to Richardson Bay is subject to regulation under the National Pollutant Discharge Elimination System (NPDES) program with local oversight from the RWQCB.

The Project is included in the City of Mill Valley 2023-2031 Housing Element Update. The City adopted the HEU and the associated HEU SEIR on May 15, 2023 (City of Mill Valley 2023b). According to the HEU SEIR, the environmental effects related to hydrology and water quality were adequately addressed in the 2013 Final – Certified Environmental Impact Report Mill Valley 2040 General Plan (General Plan EIR) for purposes of the 6th Cycle Housing Element. The General Plan EIR (Section 3.7 Hydrology and Water Quality) identified less-than-significant impacts associated with hydrology and water quality and no mitigation measures were deemed necessary.

4.10.2 Discussion of Impacts

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact

The potential for chemical releases is present at most construction sites due to the use of paints, fuels, lubricants, and other hazardous materials associated with construction activities. Once released, these hazardous materials could be transported to nearby surface waterways in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. During construction activities, soil would be disturbed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. The release of sediments and other pollutants during construction could adversely affect water quality in receiving waters. During operation of the proposed Project, urban pollutants such as landscaping chemicals and spilled or leaked maintenance chemicals could also be entrained in stormwater runoff.

Construction activities (e.g., grading) in California that result in the disturbance of one or more acres of land are required to comply with the SWRCB's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit).[2] Because construction of the proposed Project would disturb more than one acre of land, the Project would be subject to the requirements of the Construction General Permit. The Construction General Permit uses a risk-based permitting approach and mandates certain requirements based on the established risk level of the project. The project risk level is based on the risk of sediment discharge and the receiving water risk. The sediment discharge risk depends on the project location and timing (i.e., wet season versus dry season activities). The receiving water risk depends on whether the project would discharge to a sediment-sensitive receiving water. The discharger would determine the project risk level when filing the Notice of Intent to the RWQCB.

Under the Construction General Permit, the proposed Project must have a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer. The purpose of the SWPPP is to (1) identify the sources of sediment and other pollutants that could affect the quality of stormwater discharges; and (2) describe and ensure the implementation of Best Management Practices (BMPs) to reduce or eliminate discharges of sediment and other pollutants in stormwater as well as non-stormwater discharges resulting from construction activity. Common BMPs on construction sites include the placement of vegetation (e.g., hydroseeding), straw, fiber, stabilizing emulsion, protective blankets, or other materials on areas of disturbed soils to reduce erosion. A Qualified SWPPP Practitioner must oversee the operation of BMPs that meet the requirements outlined in the permit.

Any projects in the City that create or replace more than 2,500 square feet of impervious surface are subject to the requirements of the SWRCB's NPDES General Permit for the Discharge of Storm Water from Small Municipal Separate Storm Sewer Systems, Order No. 2013-0001-DWQ (Small MS4 General Permit). Because the proposed Project would replace more than 5,000 square-feet of impervious surface, it must prepare a Stormwater Control Plan and comply with the post-construction stormwater management measures described in the Small MS4 General Permit, such as Low Impact Development (LID) design standards. LID employs principles such as preserving and recreating natural landscape features and minimizing impervious surfaces to create functional and appealing site drainage that treats stormwater as a resource, rather than as a waste product. Common practices used to adhere to the LID principles may include, but are not limited to, the use of permeable pavement and bioretention swales.

A preliminary Stormwater Control Plan has been prepared for the Project in accordance with the criteria established or recommended by the City and pursuant to the Bay Area Stormwater Management Agencies Post Construction Manual. The purpose of the preliminary Stormwater Control Plan is to remove sediment and other pollutants from post-construction site runoff, and to provide appropriate controls of the flow rate and/or volume of stormwater runoff from the additional impervious surfaces created by the Project. The Project proposes to include the installation of swales along the east, north, and west sides of the Project site, as well as bioretention areas along the east and south sides of the Project site.

[2] The current Construction General Permit was issued under Order No. 2009-0009-DWQ, amended by 2010-0014-DWQ & 2012-0006-DWQ. A new Construction General Permit (Order No. WQ 2022-0057-DWQ) was adopted on September 8, 2022, and will become effective on September 1, 2023. The current and new Construction General Permits include the same requirements discussed in this section.

Because compliance with the NPDES permits is mandatory under existing laws and regulations, stormwater discharges during Project construction and operation of the Project would have a less-than-significant impact on water quality. No further discussion of this issue in the EIR is necessary.

b) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less than Significant Impact

As discussed above, the Project site is not located within a designated groundwater basin. The water supply for operation of the Project would be provided by the Marin Municipal Water District and there would be no on-site groundwater extraction. Some dewatering could be required during construction of the Project depending on the depths of excavations and depth to groundwater at the time. This dewatering would be temporary and limited to the areas of the excavation and would focus on the uppermost shallow groundwater zone.

The bioretention areas and swales proposed on the Project site would allow infiltration of precipitation and recharge of groundwater, reducing potential recharge impacts from the increase in impervious surface area. Therefore, the proposed Project is not expected to substantially interfere with groundwater recharge. As a result, the proposed Project would have a less-than-significant impact related to decreasing groundwater supplies, interfering with groundwater recharge, or impeding sustainable groundwater management of the basin. No further discussion of this issue in the EIR is necessary.

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 that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or (iv) impede or redirect flood flows?*

Less than Significant Impact

The proposed Project would not alter the course of a stream or river, but it would alter the existing drainage pattern of the site. As discussed above, compliance with the NPDES General Permit would ensure that the Project would not result in substantial erosion or siltation during construction. Because the Project would create more than one acre of impervious surface, the Project must develop and implement hydromodification[3] management procedures in accordance with the Small MS4 General Permit to ensure that the volume and rate of stormwater runoff would not exceed the existing condition. As discussed above, the Project proposes to install swales and bioretention areas to control the flow rate and/or volume of stormwater runoff from the additional impervious surfaces created by the Project. Therefore, the proposed Project would have a less-than-significant impact related to substantial erosion or siltation on- or off-site associated with changing the drainage pattern of the Project site.

[3] Hydromodification causes streambank erosion, channelization, increased flood flows, and other physical modifications that can adversely impact aquatic ecosystems due to increased sedimentation and reduced water quality (e.g., higher water temperatures, lower dissolved oxygen concentrations).

The proposed Project would not alter the course of a stream or river, but it would alter the existing drainage pattern of the site. As discussed above, the proposed Project must comply with hydromodification management requirements of the Small MS4 General Permit, which would ensure that the volume and rate of stormwater runoff would not exceed the existing condition. Compliance with the requirements of the Small MS4 General Permit would ensure that potential flooding impacts associated with changes in drainage patterns would be less than significant.

Other provisions of the Small MS4 General Permit and Construction General Permit would mitigate potential sources of runoff pollutants. Project construction contractors would be required to prepare a SWPPP for construction activities according to the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction and describe spill response and control measures, equipment inspections, equipment storage, and protocols for responding immediately to spills. This would reduce potential impacts to stormwater drainage systems from increased runoff volumes and polluted runoff to a less-than-significant level.

According to the Federal Emergency Management Agency (FEMA), the Project is not located within a 100-year flood hazard zone. The nearest 100-year flood hazard zone is located along the edges of Richardson Bay about 250 feet downgradient and southwest of the Project (FEMA 2016). Compliance with the Small MS4 General Permit would ensure that the volume and rate of stormwater runoff from the Project site would not exceed the existing condition or increase flood flows into Richardson Bay. Therefore, the Project would not impede or redirect flood flows, and this impact would be less than significant.

No further discussion of this issue in the EIR is necessary.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less Than Significant Impact

As discussed above, the Project is not located within a 100-year flood hazard zone. According to the California Geological Survey, the Project site is not located in a tsunami hazard zone. The nearest tsunami hazard zone is located adjacent to and southwest of the Project site (CGS and California Governor's Office of Emergency Services 2022). No enclosed surface water bodies, which might be subject to potential impacts from seiches, are located near the Project site. Therefore, the Project would have a less-than-significant impact related to potential releases of pollutants due to inundation from flooding, tsunamis, or seiches. No further discussion of this issue in the EIR is necessary.

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

Less than Significant Impact

The applicable water quality control plan for the Project site is the Basin Plan. The SWRCB and RWQCB enforce compliance with the water quality objectives of the Basin Plan through the issuance of NPDES permits. The Project would comply with NPDES permit requirements and would not conflict with the beneficial uses of surface waters identified in the Basin Plan. Therefore, compliance with NPDES permit requirements would ensure that the Project would result in less-than-significant impacts related to conflicting with or obstructing implementation of the Basin Plan.

As discussed above, the Project site is not located within a designated groundwater basin. No significant groundwater resources are located at the Project site, and there is no groundwater management plan in the Project vicinity. Therefore, the Project would have no impacts related to conflicting with or obstructing implementation of sustainable groundwater management plan. No further discussion of this issue in the EIR is necessary.

4.11 Land Use and Planning

Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

4.11.1 Environmental Setting

The Mill Valley General Plan 2040 (MV 2040) designates the land use for the PSB Site as "C-F" (Community Facility). The land use designation for the Housing Site was changed from C-F to MFR-2 (Multi-Family Residential-2) with the adoption of the Housing Element Update on May 15, 2023. The MFR-2 designation permits multi-family and attached single-family residential land uses, with an allowable density range from 17-29 dwelling units (DU) per acre. The City intends to execute a long-term ground lease agreement with EAH Housing for the Housing Site as part of the proposed Project.

City zoning for both the Housing Site and PSB Site is "O-A" (Open Area) Zoning District. The Open Area Zoning District allows development of public parks, playgrounds and recreation areas, crop farming, truck gardening and grazing, golf courses, country clubs, forest preserves, wildlife reserves, equestrian and hiking areas. The Project proposes to rezone the Housing Site to Multi-Family Residential Bayfront (RM-B), which would allow the development of multi-family housing on the site consistent with the MFR-2 land use designation which permits densities of up to 29 dwelling units/acre.

4.11.2 Discussion of Impacts

a) Physically divide an established community?

No Impact

The Project would not physically divide an established community. The Project is located on an portion of a City-owned parcel adjacent to the PSB. A portion of the Housing Site is currently developed with a surface parking lot and a public restroom facility; the remainder is undeveloped. Residential neighborhoods near the project site would not be physically divided because of Project construction or operation. No impact would occur and no further discussion of this issue in the EIR is necessary.

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?

Less than Significant Impact

The Project site is zoned by the Mill Valley General Plan for Open Area (O-A). As noted above, the Project would rezone the Housing Site to RM-B, which would allow the development of multi-family housing on the site consistent with the MFR-2 land use designation which permits densities of up to 29 dwelling units/acre. The HEU has already amended the land use designation of the Project site to Multi-Family Residential (MRF-2) to accommodate the proposed Project. The Project would not change the zoning or General Plan designation of the PSB Site. The Project's proposed alterations to the PSB Site would be consistent with the existing zoning and land use designation. The Project has been designed to be compliant with City land use policies and regulations. The consistency of the Project with relevant City land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect is discussed throughout the other sections of this Initial Study. Because the Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, impacts would be less than significant and no further discussion of this issue in the EIR is necessary.

4.12 Mineral Resources

Would the project:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

4.12.1 Environmental Setting

The Project site is not located within or near a mineral resource site. The nearest mineral resource preservation site is Ring Mountain Preserve in Tiburon, approximately 1.75 miles northeast of the Project site (Marin County 2022).

4.12.2 Discussion of Impacts

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?

No Impact

The Project site is not located within or near a mineral resource site. The nearest mineral preservation site, Ring Mountain Preserve, is located approximately 1.75 miles to the northeast in Tiburon. No impact would occur and no further discussion of this issue in the EIR is necessary.

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?

No Impact

The Mill Valley General Plan (MV 2040) was adopted in October 2013 and does not identify the Project area as a locally important mineral resource site (City of Mill Valley 2013). No Impact would occur and no further discussion of this issue in the EIR is necessary.

4.13 Noise

Would the project result in:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b)	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?	☐	☐	☐	☒

4.13.1 Environmental Setting

The Project site is located in an urbanized area near other residential developments, parks, and the City's PSB. Noise levels at the site generally consist of cars along Roque Moraes Drive and Hamilton Drive, people at Hauke Park, and noise from other residences to the northeast. The Project site also experiences noise from emergency vehicles (sirens, alarms) frequently due to the close proximity of the PSB which includes the Mill Valley Police Department and Fire Station 7. Emergency vehicles are frequently dispatched along Hamilton Drive, which borders the Project site to the west.

Noise-sensitive receptors are locations where people are more susceptible to the adverse effects of noise pollution, including, but not limited to, residences, schools, places of worship, hospitals, elderly-care facilities, hotels, libraries, and parks. Noise-sensitive receptors in the Project vicinity include single-family residences to east and north of the Project site across Roque Moraes Drive, Hauke Park to the west of the Project site across Hamilton Drive, the Mill Valley Middle School located about 1,280 feet to the west of the Project site boundary, and the Mt. Tamalpais United Methodist Church located about 1,870 feet to the west of the Project site boundary. Additional residences off of Eucalyptus Knoll are located to the south of the Project site at a similar distance from the site as the United Methodist Church. The nearest noise-sensitive receptors to the Project site are the single-family residences located to the east of the Project site and Hauke Park to the west of the Project site.

Vibration-sensitive receptors are locations where people are more susceptible to the adverse effects of vibration. These may include residences and other buildings where people normally sleep such as hotels and hospitals, as well as buildings that have the potential for activity interference such as schools, places of worship, doctors' offices, concert halls, recording studios,

and theatres (FHWA, 2018). Vibration-sensitive receptors in the Project vicinity include single-family residences to the east of the Project site across the Roque Moraes Drive, the Mill Valley Middle School, and the Mt. Tamalpais United Methodist Church. The nearest residential vibration-sensitive receptors to the Project site are the single-family residences located about 55 feet to the east of the Project site boundary; the nearest institutional vibration sensitive receptor is the Mill Valley Middle School about 1,280 feet to the west of the Project site boundary. In certain situations, vibration can also cause structural damage. Historic buildings tend to be more susceptible to vibration (due to age and less modern construction techniques) depending on the condition of the buildings. There are no designated historic buildings, or buildings eligible for historic designation, in the Project site vicinity.

The Project is included in the City of Mill Valley 2023-2031 Housing Element Update (HEU). The City of Mill Valley adopted the HEU and the HEU SEIR (EMC, 2023) on May 15, 2023. The noise mitigation measures identified in the HEU SEIR are as follows:

HEU SEIR Mitigation Measure 10-2

The City of Mill Valley shall impose the following standard condition of approval for all sites identified in the Housing Element Update: a Construction Noise Management Plan shall be prepared by the construction contractor and implemented prior to the start of and throughout construction to reduce noise impacts on the nearby existing land uses. The plan will rely on project-level calculations of construction noise and achievable noise level reduction. The plan will establish the procedures the contractor will take to reasonably minimize construction noise at the nearby existing land uses. Additionally, consistent with City of Mill Valley Municipal Code Section 7.16.090(D), the plan would include, but not be limited to, the following measures to reduce construction noise levels as low as practical:

- Limit construction to the hours of 7:00 AM to 6:00 PM on weekdays. No noise generating construction activities shall occur on weekends or holidays.
- Limit noise from construction workers' radios to the point where they are not audible at existing residences that border the project site.
- Locate stationary noise-generating equipment and staging areas as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Prohibit unnecessary idling of internal combustion engines.
- Consider temporary noise barriers during construction phases involving earth moving equipment (e.g., grading operations) where they would be effective in reducing the construction noise impact, when directly adjoining sensitive receptors. An eight-foot plywood noise barrier could reduce noise levels by at least 5 dBA.
- Notify residents adjacent to the project site of the construction schedule in writing.
- Post the project's approved construction management plan on the site, which shall include the address, project information, allowable truck route, carpooling requirements, allowable construction hours, site supervisor, and emergency contact.

HEU SEIR Mitigation Measure 10-3

The City of Mill Valley shall impose the following standard condition of approval for all sites identified as part of the Housing Element Update that conduct work with heavy construction activities involving significant site grading, underground, or foundation work will occur within 25 feet of properties listed in the Mill Valley Historic Resources Inventory Survey Report: a groundborne vibration study shall be prepared by qualified

professionals in accordance with industry-accepted methodologies and shall include the recommended vibration assessment procedure and thresholds provided by public agencies such as the California Department of Transportation (Caltrans) or the Federal Highway Administration. The study shall identify necessary construction vibration controls to reduce both human annoyance and the possibility of cosmetic damage. Controls shall include, but not be limited to, the following measures:

- A list of all heavy construction equipment to be used for this project known to produce high vibration levels (tracked vehicles, vibratory compaction, jackhammers, hoe rams, etc.) shall be submitted to the City by the contractor. This list shall be used to identify equipment and activities that would potentially generate substantial vibration and to define the level of effort for reducing vibration levels below the thresholds.
- Place operating equipment on the construction site as far as possible from vibration-sensitive receptors.
- Use smaller equipment to minimize vibration levels below the limits.
- Avoid using vibratory rollers and tampers near sensitive areas.
- Select demolition methods not involving impact tools.
- Modify/design or identify alternative construction methods to reduce vibration levels below the limits.
- Avoid dropping heavy objects or materials.

4.13.2 Discussion of Impacts

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact

The Project would temporarily generate substantial increases in ambient noise levels during construction due to the use of heavy machinery and equipment. A Project-specific noise assessment will be prepared to determine potential impacts to ambient noise levels that may result from Project activities. This assessment will recommend BMPs and mitigation measures, if necessary, to reduce impacts to ambient noise levels to the maximum extent feasible. Impacts described in this assessment will be further analyzed in the EIR.

Project operation would constitute a permanent increase in ambient noise levels. The Project proposes to develop up to 50 affordable housing units in an area surrounded by public facilities, parks and open space, and other residential development. Residential uses are typically not associated with substantial increases in noise. Therefore, impacts related to temporary or permanent increases in ambient noise levels associated with Project operation would be less than significant. This issue will be further analyzed in the EIR.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact

A Project-specific noise assessment will be prepared to examine the potential for groundborne vibration or noise to occur. If potential impacts would occur, the noise assessment would recommend BMPs and mitigation measures to reduce groundborne noise and vibration to the

maximum extent feasible. The impacts and recommended measures, if any, will be further analyzed in the EIR.

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?*

No Impact

The Project is not located within two miles of a public airport or public use airport. No impact would occur and no further discussion of this issue in the EIR is necessary.

4.14 Population and Housing

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☒

4.14.1 Environmental Setting

The Association of Bay Area Governments (ABAG), working with the Housing Methodology Committee, distributes a share of the region's housing need to each city, town and county in the region. Each local government must then HEU for 2023-2031 as Housing Program 10. The Project would provide housing to very low- and low-income households in the City to help meet the RHNA housing goal assigned to the City.

4.14.2 Discussion of Impacts

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)?

Less than Significant Impact

The Project would construct 50 affordable housing units on the Housing Site; therefore, it would induce population growth in the area. The portion of the Project on the PSB Site would not produce any population growth. However, the Project was included in the sites inventory of the City's HEU for the 2023-2031 period and was considered in the growth analyzed in the HEU SEIR. The Project would not produce population growth that has not already been considered in the City's General Plan and Housing Element. This Project would help the City meet its RHNA housing goal as assigned by ABAG. As such, the induced population growth that would occur because of the Project would not constitute unplanned growth, and this impact would be less than significant. No further discussion of this issue in the EIR is necessary.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact

The Project site does not contain residents or housing units. The Project would construct up to 50 affordable housing units on the Housing Site and would not displace any existing people or

housing on either the Housing Site or the PSB Site. The Project would not necessitate the construction of replacement housing elsewhere. No Impact would occur and no further discussion of this issue in the EIR is necessary.

4.15 Public Services

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a)	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:				
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

4.15.1 Environmental Setting

The Mill Valley PSB is located on the southern portion of the parcel which contains the Project site. The PSB serves as the administrative offices of the Mill Valley Police Department and is the location of Southern Marin Fire Station No. 7, which is one of the two Marin County Fire Station located in Mill Valley. There are various schools located within 0.5 to 0.75 miles of the Project site, primarily to the north and west. Schools to the north include Terra Marin School, Edna Maguire Elementary School, Ross Academy Montessori School, and Mill Valley Nursery School. Schools to the west include Mill Valley Middle School, Tamalpais Preschool, and Tamalpais High School. Nearby parks include Hauke Park, Bayfront Meadow, and Bayfront Park. The City's library is located at 375 Throckmorton Avenue, approximately 2.2 miles from the Project site.

The southwestern portion of the Housing Site is developed with an existing public parking lot and small restroom facility. These facilities are primarily used by visitors to Hauke Park and become quite full during weekends in the soccer season, as children's leagues hold games at the park. The public parking spaces and restrooms will be relocated to the adjacent PSB parking lot, which would be reconfigured as part of the Project.

The HEU SEIR evaluated the potential of the housing projects included in the HEU, which includes the proposed Project, to result in public services impacts.

4.15.2 Discussion of Impacts

a) *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:*

- Fire Protection?
- Police Protection?
- Schools?
- Parks?
- Other Public Facilities?

No Impact

The Project would be served by existing public facilities including the Mill Valley Police Department, Southern Marin Fire Station No. 7, and the numerous schools and parks that are within one mile of the Project site. The HEU SEIR evaluated the potential for all of the housing development proposed in the HEU to require new or physically altered public services in order to provide adequate levels of service. The proposed Project is included among the housing projects considered in the HEU SEIR analysis. These housing projects are accounted for in City-wide planned population growth. The HEU SEIR concluded that no new fire protection, police protection, school facilities, or other public facilities would be required in order to maintain existing levels of service to City residents and meet the additional demand on services generated by these housing projects. Potential impacts to parks and recreation facilities are addressed in Section 4.16, Recreation, of this Initial Study. Impacts to other public facilities, such as libraries, were not analyzed in the HEU SEIR. The addition of approximately 50 residential units on the Housing Site would not increase patronage of the Mill Valley Public Library such that new or expanded public library facilities would be required. Therefore, no impact would occur; however, additional discussion of this issue will be provided in the EIR.

The Project would include the relocation of the public parking spaces and public restrooms that are currently located in the southwestern portion of the Housing Site. These facilities would be relocated to the PSB Site which is adjacent to the Housing Site and on the same parcel. The relocation of these facilities would not constitute a significant environmental impact because the facilities would be incorporated into areas that are already developed as part of the PSB parking lot. Potential physical impacts associated with construction activities necessary to relocate these facilities are addressed in the other sections (e.g., Air Quality, Noise, Transportation) of this Initial Study. Therefore, no impact would occur from new, relocated, or expanded facilities because of Project activities; however, additional discussion of this issue will be provided in the EIR.

4.16 Recreation

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a)	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)	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.16.1 Environmental Setting

Mill Valley offers 110 acres of parks, open space, and recreational facilities which includes improved parkland, natural areas, and municipal golf course (City of Mill Valley 2013). A summary of Mill Valley parks and their amenities is provided below (City of Mill Valley "Parks").

Table 2: Mill Valley Parks

PARK	AMENITIES
Bayfront Park	Benches, hiking/running trails, soccer field, picnic tables, large open grassy area
Blithedale Park	Hiking trail, creek access
Ernest Bloch Memorial Park	Benches, bathrooms, Item of Historical Interest
Boyle Park	Large open grassy area, tennis courts, picnic tables, benches, bathrooms, playground, creek access, baseball diamond, BBQs
Cascade Park	Benches, creek access, hiking trail
Community Garden	35 garden plots, bathrooms
Friends Field	Benches, bathrooms, soccer field, baseball diamond, large open grassy area
Dog Park	Benches, picnic tables, large open grassy area
Freeman Park	Bench or benches, picnic tables, playground, basketball court, large open grassy area, BBQ
Mill Valley Golf Course	9-hole golf course, benches, bathrooms
Hauke Park	Benches, picnic tables, bathrooms, playground, baseball diamond, large open grassy area
Miller Grove Park	Benches, creek access

Old Mill Park	Benches, picnic tables, bathrooms, creek access, playground, BBQ, two group picnic areas, stage/amphitheater
Park Terrace	Creek access
Downtown Plaza	Benches, bathrooms, café, picnic tables
Scott Highlands Park	Benches, picnic tables, playground
Mill Valley Skate Park	Skate ramps
Sycamore Park	Benches, picnic tables, playground, large open grassy areas

Ten of the parks described above are located within one mile of the Project site. Hauke Park is located adjacent west of the Project site, immediately across Hamilton Drive. Hauke Park includes a small playground surrounded by lawn areas and sports fields. Adjacent to Hauke Park to the south is Bayfront Meadow, and across Pickleweed Inlet to the west is Bayfront Park. Bayfront Meadow includes walking paths and supports a variety of native vegetation throughout the year. Bayfront Park is accessible from Hauke Park via a pedestrian bridge and includes expansive lawn areas, a fenced dog park, picnic tables, and sports field. Bayfront Park is part of the Bay Area Water Trail and thus also includes water access facilities. There are also various smaller parks located within one mile of the Project site, including Freeman Park, Sycamore Park, and Boyle Park.

Mill Valley is surrounded by state and federal parklands on three sides, including Golden Gate National Recreation Area, Muir Woods National Monument, and Mount Tamalpais State Park.

The HEU SEIR evaluated the potential of the housing projects included in the HEU, which included up to 50 units of housing on the Project site, which was included on a conceptual level in the sites inventory, to result in parks and recreation impacts.

4.16.2 Discussion of Impacts

a) 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?

Less than Significant Impact

There are numerous parks within one mile of the Project site, including Hauke Park and Bayfront Park, which are located immediately west of the site. The Project would include the development of up to 50 affordable housing units, which would increase the population in the area and thus increase the use of parks and recreation facilities. The City does not have a desired ratio for parkland acreage and instead references the recommended ratio by the National Recreation and Parks Association, which is 10.0 acres per 1,000 residents (City of Mill Valley 2014). The HEU SEIR evaluated the potential for the full development of all housing projects (including the proposed Project) to require additional parkland facilities across the City. The HEU SEIR concluded that development of all of the anticipated housing projects in the City would result in a population increase of 2,659 people, requiring approximately 27 acres of parkland to meet the National Recreation and Parks Association's recommended ratio.

Housing projects developed pursuant to the HEU, including the proposed Project, would not include the dedication of parklands to the City but would result in an increase in the demand for public parks. However, the additional demand represented by the addition of up to 50 dwelling units at the Project site would not be sufficient to cause the substantial physical deterioration of

any park or recreation facility within the City. Additionally, the Environmental Impact Report for the Mill Valley 2040 General Plan determined that future population growth, development, and land use activities contemplated in the 2040 General Plan would not create a need for new or expanded parks, recreation, or other public facilities. Therefore, Project impacts would be less than significant; however, additional discussion of this issue will be provided in the EIR.

b) *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

No Impact

As described in *a)* the Project does not include any public recreational facilities and would not require the expansion of recreational facilities which might have an adverse impact on the environment. The Project would contain some on-site recreational/activity facilities for the use of residents. No impact would occur; however, additional discussion of this issue will be provided in the EIR.

4.17 Transportation

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐

4.17.1 Environmental Setting

The Project is located south of the intersection of Hamilton Drive and Roque Moraes Drive in Mill Valley. Hamilton Drive is a two-lane road that is a designated primary evacuation route by the City of Mill Valley (City of Mill Valley 2008). Hamilton Drive is frequently used by emergency police and fire vehicles dispatched from the PSB located immediately south of the Project site on the same parcel. The street is approximately 35 feet wide (City of Mill Valley 2019), does not include a bicycle lane, and includes a sidewalk along the eastern side. Roque Moraes Drive is a two-lane road that primarily passes through residential neighborhoods to the northwest and southeast of the Project site. The segment of Roque Moraes Drive on the eastern Project site border is a secondary evacuation route.

Public transportation in Mill Valley is provided by Golden Gate Bridge Highway and Transportation District (GGBHTD) and Marin Transit. GGBHTD routes near the Project site include the 114, which runs through the City of Mill Valley along East Blithedale Avenue and Miller Avenue, and the 130, 132, and 150, which run along Highway 101 approximately 1/3 miles east of the Project site (GGBHTD 2022). Marin Transit routes near the Project site include the 17 Downtown San Rafael to Sausalito, the 71 Novato-Marin City, 22 Downtown San Rafael-Marin City, 36 Canal-Marin City, and 219 Tiburon-Strawberry. The nearest bus stop for route 17 is located at East Blithedale Avenue and Lomita Drive, approximately 0.30 miles northwest of the Project site. Stops for routes 71, 22, 36, and 219 are located in various spots along Highway 101 (Marin Transit “Service Map”).

4.17.2 Discussion of Impacts

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact

The Mill Valley 2040 General Plan addresses the circulation system and includes planning for transit, roadway, bicycle, and pedestrian facilities. The plan does not include specific strategies or improvements for Hamilton Drive or Roque Moraes Drive near the Project site. The Project would not conflict with any goals, strategies, or policies set forth in this plan during construction or operation. The Project would obtain a Road Impact Permit for any construction activities involving road or lane closure, delaying of traffic, or parking spot reservation, which would necessitate the approval of a Traffic Control Plan submitted for the Project. Although Project impacts are anticipated to be less than significant, this issue will be analyzed in the EIR.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant Impact

CEQA Guidelines Section 15064.3 requires lead agencies to utilize the VMT methodology to analyze transportation impacts. Vehicle miles traveled refers to the amount and distance of automobile travel attributable to a Project. Section 15064.3 subdivision (b) states that for land use projects, VMT exceeding an applicable threshold of significance may indicate a significant impact.

The Project is an infill development that would place up to 50 affordable housing units on the Project site. This housing would be available to categories of future residents including people who work in Mill Valley but currently commute long distances. Thus, the Project may have a beneficial impact in terms of reducing overall VMT as compared to existing conditions. Although the Project's impact is expected to be less than significant, a transportation impact analysis will be prepared to estimate VMT resulting from Project activities. This assessment will recommend BMPs and mitigation measures, if necessary, to reduce VMT impacts to a less-than-significant level. The findings of the impact analysis will be incorporated into the EIR.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact

The Project does not contain any design features that would substantially increase hazards. The Project would utilize staging areas that are set back from the road to reduce hazards that may arise from construction activities. The Project would be required to submit a Traffic Control Plan (TCP) for any road obstructions or closures, which would contain safety measures to reduce the risk of hazards along Hamilton Drive and/or Roque Moraes Drive. Project operation would not induce any hazards due to geometric design features. Although the Project's impact is expected to be less than significant, a transportation impact analysis will be prepared to address potential Project impacts concerning safety hazards. This assessment will recommend BMPs and mitigation measures, if necessary, to reduce impacts to a less-than-significant level. The findings of the impact analysis will be incorporated into the EIR.

d) Result in inadequate emergency access?

Less than Significant Impact

Hamilton Drive, which borders the Project site to the west, is a primary evacuation route designated by the City. Hamilton Drive is frequently used by emergency police and fire vehicles that are dispatched from the PSB which is located immediately south of the Housing Site on the same City-owned parcel. Roque Moraes Drive along the eastern site border is a secondary evacuation route and would primarily be used for residents to evacuate in case of an emergency.

Impacts to these routes, such as lane closures or delaying of traffic, may occur during Project construction. Construction of the Project components on the PSB Site would not affect public or emergency access to or from the PSB.

A Project TCP would be submitted for approval by the City. The Project will prepare a transportation impact analysis which will recommend BMPs and other measures to include in the TCP to reduce hazards associated with road obstructions and closures due to Project activities. The TCP would also contain measures to allow for unimpaired emergency vehicle movement along Hamilton Drive. Measures recommended by the traffic assessment would reduce temporary Project construction impacts to a less-than-significant level. Project operation would not cause any impacts to emergency vehicle access. This issue will be analyzed in the EIR.

4.18 Tribal Cultural Resources

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a)	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

4.18.1 Environmental Setting

As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1, and 21080.3.2 require public agencies to consult with California Native American tribes recognized by the Native American Heritage Commission for the purpose of mitigating impacts to tribal cultural resources. This law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions.

In accordance with Public Resources Code Section 21080.1(d), a lead agency is required to provide formal notification of intended development projects to Native American tribes that have requested to be on the lead agency's list for receiving such notification. The formal notification is required to include a brief description of the proposed project and its location, lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation for tribal cultural resources.,

In addition to consultation with Native American tribes that have provided notification to the City, a cultural resources assessment will be prepared with a literature review and records search related to potential site-specific tribal cultural resources. Additionally, a Sacred Lands search request will be obtained from the Native American Heritage Commission (NAHC) as part of the tribal consultation process.

The HEU includes 265 proposed housing sites spread throughout the City of Mill Valley, including the proposed Project. The proposed housing sites are located in an area with a moderate to high

potential of identifying buried Native American archaeological resources and a low potential of identifying historic-period archaeological resources. The HEU SEIR adopted a series of mitigation measures to ensure that development of the proposed housing sites would not result in significant impacts to tribal cultural resources. The HEU SEIR mitigation measures that are relevant to the proposed Project consist of the following:

HEU SEIR Mitigation Measure 13-1

Consultation with the Federated Indians of Graton Rancheria is required for each proposed housing project in the 6th Cycle Housing Element. Consultation may result in mitigation measures beyond those identified herein. The Planning Department will ensure that all acceptable mitigation measures are implemented prior to issuance of a grading permit.

HEU SEIR Mitigation Measure 13-2

The City of Mill Valley shall impose the following standard condition of approval for all sites identified in the Housing Element Update that are: 1) not completely developed and 2) original surface soils are visible: an archaeological inspection and archaeological records search shall be required prior to approval of the project. The archaeological inspection and records search may result in mitigation measures beyond those identified herein. The Planning Department will ensure that acceptable mitigation measures are implemented prior to issuance of a grading permit.

HEU SEIR Mitigation Measure 13-5

The City of Mill Valley shall impose the following standard condition of approval for all sites identified in the Housing Element Update: work shall be halted within 50 feet of potential archaeological resources when uncovered or discovered. Construction workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. Prehistoric materials might include obsidian and/or chert flaked-stone tools such as projectile points, knives, or scraping implements, the debris from making, sharpening, and using them (“debitage”); culturally darkened soil containing shell, dietary bone, heat-altered rock, and carbonized plant material (“midden”); or stone milling equipment such as mortars, pestles, handstones, or milling slabs. A qualified professional archaeologist shall evaluate the find and provide appropriate recommendations. If the archaeologist determines that the find potentially qualifies as a historic resource or unique archaeological resource for purposes of CEQA (per CEQA Guidelines Section 15064.5), all work must remain stopped in the immediate vicinity to allow the archaeologist to evaluate any materials and recommend appropriate treatment. A Native American monitor shall be present for the investigation, if the local Native American tribe request. Avoidance of impacts to the resource are preferable. In considering any suggested measures proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the City shall determine whether avoidance is feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures are recommended by the archaeologist (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project while mitigation for the historic resources or unique archaeological resources is being carried out.

HEU SEIR Mitigation Measure 13-6

The City of Mill Valley shall impose the following standard condition of approval for all sites identified in the Housing Element Update: If human remains, associated grave goods, or items of cultural patrimony are encountered during construction, the City shall halt work in the vicinity of the find and notify the County Coroner immediately. The City shall follow the procedures in Public Resources Code § 5097.9 and Health and Safety Code § 7050.5. If the human remains are determined to be of Native American origin, the Coroner shall notify the Native American Heritage Commission within 24 hours of the determination. The Native American Heritage Commission shall then notify the Most Likely Descendant, who has 48 hours to make recommendations to the landowners for the disposition of the remains. A qualified archaeologist, the City and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects. The agreement would take into consideration the appropriate excavation, removal recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects.

HEU SEIR Mitigation Measure 13-7

Identified cultural resources shall be recorded on DPR 523 historic resource recordation forms, prior to issuance of a building permit.

4.18.2 Discussion of Impacts

a) *Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of 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) *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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Less than Significant Impact with Mitigation Incorporated

The Project could potentially impact a tribal cultural resource during soil-disturbing construction activities. Per HEU SEIR Mitigation Measures 13-1 and 13-2, consultation with the Federated Indians of Graton Rancheria will be conducted for the Project and a Project-specific cultural resources assessment will be prepared that includes a literature review and records search to assess the potential for tribal cultural significant resources to be identified at the Project site. The findings of the assessment will be incorporated into the EIR, and standard protocols and/or mitigation measures, including but not necessarily limited to HEU SEIR Mitigation Measures 13-5, 13-6, and 13-7 will be recommended. Additionally, the Project has followed procedures outlined in AB 52 to initiate consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Project. Consultation with

the Federated Indians of Graton Rancheria has occurred and recommendations arising from this consultation will be further discussed in the EIR.

4.19 Utilities and Service Systems

Would the project:		*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐

4.19.1 Environmental Setting

Water for the City of Mill Valley is provided by the Marin Municipal Water District (MMWD). Approximately 75 percent of the MMWD's water supply comes from rainfall on the Mt. Tamalpais watershed and the hills of west Marin, which flow into the MMWD's seven reservoirs. The MMWD also supplements its water supply with water from the Sonoma County Water Agency, which comes from the Russian River system in Sonoma County (Marin Water 2022).

According to MarinMap Viewer, a Geographic Information System for Marin County, a MMWD water line easement runs horizontally across the parcel that the Project site is located on (County of Marin 2022). The MMWD easement runs between the southern border of the Housing Site and the PSB Lot. There are storm water pipes near the southeastern corner of the Housing Site that come from across Roque Moraes Drive to the east down onto the PSB Lot and stop short of the solar panels. There are three (3) catch basins along these pipes.

Energy at the Project site is available through MCE Clean Energy or PG&E. Waste, recycle, and compost collection services are provided by Mill Valley Refuse Service. Wastewater services are provided by the Sewerage Agency of Southern Marin (SASM). The SASM Mill Valley Sewage Treatment Plant is located approximately 0.25 miles west of the Project site.

The HEU included the Project site in the sites inventory, and up to 50 housing units were included in the HEU SEIR analysis of the potential for housing projects developed under the HEU to result in significant impacts on utilities and service systems. Through this analysis, the HEU SEIR adopted a series of mitigation measures to ensure that development of the proposed housing sites would not result in significant impacts to utilities and service systems. The HEU SEIR mitigation measure that is relevant to the proposed Project consists of the following:

> **HEU SEIR Mitigation Measure 14-1**
>
> The City of Mill Valley shall impose the following standard condition of approval for all sites identified in the Housing Element Update that are proposed prior to approval of an updated Marin Municipal Water District Urban Water Management Plan, shall be required to obtain verification from Marin Municipal Water District prior to approval of planning applications that adequate water supplies exist to support the Project.

4.19.2 Discussion of Impacts

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?

Less than Significant Impact

The Project site is located in an urbanized area and would utilize existing water, wastewater and stormwater drainage, and power facilities to the extent feasible. If new or expanded facilities are required, they would be installed in accordance with standard specifications of the serving utilities. All necessary permits would be obtained and all required fees would be paid associated with the expansion of utilities for the Project. Therefore, Project impacts related to environmental effects resulting from new or relocated water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities would be less than significant. However, this issue will be analyzed in the EIR.

b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact with Mitigation Incorporated

Water at the Project site is supplied by the MMWD. MMWD obtains their water supply from their reservoir system which catches rainfall from the Mt. Tamalpais watershed and the hills of west Marin County, and from the Sonoma County Water Agency, which obtains water from the Russian River system in Sonoma County (Marin Water 2022). MMWD has developed an Urban Water Management Plan (UWMP) to assess Projected water demand and supply reliability and inform water shortage contingency planning and demand management programs (MMWD 2021). The UWMP describes and quantifies current and Projected demands through the year 2045 and includes a Water Shortage Contingency Plan (WSCP) in one of the chapters. The WSCP ensures that the MMWD has in place the necessary resources and management responses to address water supply shortages and interruptions, should they occur. The Project would be required to

comply with HEU SEIR Mitigation Measure 14-1 and secure verification from MMWD that sufficient water supplies exist to serve the Project. The Project would also be consistent with applicable City water conservation requirements for landscaping and infrastructure. Although Project impacts are anticipated to be less than significant, this issue will be analyzed in the EIR.

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?*

Less than Significant Impact

The HEU SEIR evaluated the potential for housing development anticipated under the HEU to generate wastewater in excess of the capacity of local infrastructure. The Project site is served by the SASM Mill Valley Sewage Treatment Plant (Plant) located at 450 Sycamore Ave. At the Plant, wastewater flows through several treatment units which reduce and remove pollutants and organic materials. The water is then disinfected and pumped six miles to Racoon Straits in Tiburon for deep water discharge into the San Francisco Bay. The SASM is currently developing a Wastewater Treatment Master Plan (WWTP) to rehabilitate and replace existing infrastructure, plan for expected new legal requirements, establish flood protection for 100-year flood events and sea level rise, prepare for future demand, incorporate sustainability initiatives, and reduce impacts of Plant odor on nearby residents (SASM "Master Plan"). The WWTP includes strategies to meet future needs, which include:

- Maintaining reliability with rehabilitation and replacement Projects,
- Increasing flow capacity for effluent conveyance pipeline and outfall,
- Plan for future nutrient limits,
- Reduce primary/secondary effluent blending in the future,
- Protect the WWTP from flooding, and
- Provide sustainable elements in proposed Projects.

The WWTP also includes recommended improvements to infrastructure and sustainability programs. The HEU SEIR evaluated the potential for all of the housing projects contemplated under the HEU, including the proposed Project, to generate the need for expanded wastewater treatment facilities. The Project would generate a new demand for wastewater treatment; however, the demand would not exceed demand estimates accounted for by the SASM in their WWTP.

The Plant has undergone numerous recent upgrades and rehabilitation of existing infrastructure to ensure reliable treatment of wastewater and compliance with state and regional water quality requirements. Further, SASM has stated that the wastewater treatment plant can handle the additional flow of wastewater generated by the housing development being accommodated under the HEU, which includes the proposed Project. Therefore, the Project would not require capacity improvements and its impact would be less than significant. However, further discussion of this issue will be provided in the EIR.

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?*

Less than Significant Impact

The HEU SEIR evaluated the potential for housing development anticipated under the HEU to generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure. The Project would generate solid waste, including construction & demolition (C&D) waste, during the construction period. Typical construction waste includes concrete, asphalt concrete, wood, brick and clay tiles, gypsum drywall, asphalt singles, and metal. The Project would follow proper protocols for disposing of solid waste generated by construction activities. C&D waste would be taken to an appropriate facility that accepts C&D waste.

Project operation would result in an increase in solid waste generation from the 50 new residential units. These units would not generate solid waste in excess of state or local standards, or in excess capacity of local infrastructure. The Project would be served by Mill Valley Refuse Service, which has indicated that the growth in solid waste associated with all housing development anticipated under the HEU, including the proposed Project, can be accommodated. Project impacts would be less than significant. However, further discussion of this issue will be provided in the EIR.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact

The Project would submit a construction and demolition Waste Management Plan (WMP) to the Mill Valley Building Department prior to final inspection of the Project. In accordance with the MVMC Sections 14.42.020-14.42.050, the Project would be required to divert 90 percent of waste resulting from construction activities. The Project would comply with any other federal and state reduction statutes and regulations relating to solid waste during construction and operation. Project impacts would be less than significant. However, further discussion of this issue will be provided in the EIR.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐

4.20.1 Environmental Setting

Hamilton Drive, which borders the Project site to the east, is a designated primary evacuation route by the City. The nearest assembly areas in case of emergency are the Mill Valley Middle School and Community Center, which are located approximately 0.2 miles west of the Project site, adjacent to the western border of Hauke Park.

The Project site is within a Local Responsibility Area and is not located in or near a designated Fire Hazard Severity Zone (Calfire 2022). However, the Project site is located within the Wildland Urban Interface (WUI) zone as designated by the Marin Fire Department. Fire Station 7 is located on the same parcel as the Project site at the PSB.

4.20.2 Discussion of Impacts

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact

The Project is located along Hamilton Drive, which is a designated primary evacuation route by the City. Additionally, Hamilton Drive is used frequently by emergency police and fire vehicles dispatched from the PSB. The Project would be required to obtain a Road Impact Permit from the City if lane or road closures are required, traffic will be delayed, or parking spots need to be reserved. In order to obtain a Road Impact Permit, a Traffic Control Plan for the Project must be approved by the City. These measures would ensure that impacts to Hamilton Drive would be

accounted for and managed to allow for evacuation and emergency vehicle access, including public access to and from the PSB, during Project construction. Project operation would not impair an adopted emergency response plan or emergency evacuation plan. Although impacts would be less than significant, additional discussion of this issue will be provided in the Transportation section of the EIR.

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?

Less than Significant Impact

The Project is not located in a designated Fire Hazard Severity Zone but is located in within the WUI. Project construction could temporarily increase fire risk due to the presence of fuels needed for construction equipment on site and sparks that could be generated from equipment. The WUI designation does indicate that the Project site may indirectly expose Project residents and structures to a significant risk of wildland fire hazards.

The HEU SEIR notes that new construction associated with the proposed housing sites within the WUI or within or adjacent to "Very High" or "High" fire hazards severity zones, would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition-resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves, and vents to prevent intrusion by flame or embers. Fire sprinklers would be required in residential developments pursuant to Title 15 (Chapter 15.04) the Mill Valley City Code. Construction would also be required to meet CBC requirements, including CCR Title 24, Part 2, which includes specific requirements related to exterior wildfire exposure. In addition, the Board of Forestry, via CCR Title 14, sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards.

A Vegetation Management Plan (VMP) will be prepared for the Project in order to properly maintain the remaining mature trees on-site following Project construction with selective pruning and removal of all dead material per firewise standards. Future planting would include fire resistant, irrigated shrubs and trees per the specific recommendations for each of the Home Ignition Zones identified in the VMP. Long term vegetation maintenance would include various management activities as stipulated in the Project VMP. In addition, any fire ignition at the Project site would be extinguished immediately due to the close proximity of Fire Station 7, which is located on the same parcel as the Project site.

With adherence to the VMP and other applicable regulations regarding fuel management within the WUI, Project impacts would be less than significant and no further discussion of this issue in the EIR is necessary.

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?

Less than Significant Impact

The Project is located in an urbanized area and would be able to utilize, for the most part, existing infrastructure and utility facilities. If new or expanded utilities are required to serve the Project site, they would be installed in accordance with proper standards for the type of facility

to be constructed. No significant utility infrastructure improvements are anticipated to be necessary in order to construct the Project. Existing overhead lines from the public right-of-way to the site will be required to be placed underground to serve the Project. Therefore, there will be no new overhead utility lines.

The Project would not 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, and therefore, Project impacts would be less than significant. No further discussion of this issue in the EIR is necessary.

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?

Less than Significant Impact

The Project is not located in a designated FHSZ and is surrounded by developed areas. The Project site is located around 0.87 miles east of the nearest Very High FHSZ (Calfire 2022). However, the Project site is located within the WUI and, therefore, development of the Project could result in exposure of people or structures to risk as a result of post-fire slope instability or drainage changes. However, the Project would be required to comply with applicable regulations and policies related to flooding, drainage patterns, and landslides which would reduce risks to the extent feasible. Therefore, the Project could expose people or structures to some risk as a result of runoff, post-fire slope instability, or drainage changes; however, these impacts would be less than significant. No further discussion of this issue in the EIR is necessary.

4.21 Mandatory Findings of Significance

		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 that will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

4.21.1 Discussion of Impacts

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?

Potentially Significant Impact

Impacts will be further analyzed in the EIR.

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)?

Potentially Significant Impact

Impacts will be further analyzed in the EIR.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact

Impacts will be further analyzed in the EIR.

5.0 INFILL ENVIRONMENTAL CHECKLIST

5.1 CEQA Guidelines Background

CEQA Guidelines Section 15183.3 provides for an additional method of streamlining and focusing project EIRs. This section applies only to projects that qualify as "infill", defined as follows:

a. Projects located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least seventy-five percent of the site's perimeter. For the purpose of this subdivision "adjoin" means the infill project is immediately adjacent to qualified urban uses, or is only separated from such uses by an improved public right-of-way;
b. Satisfy the performance standards provided in Appendix M; and
c. Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy.

Per CEQA Guidelines Section 15183.3(c), "CEQA does not apply to the effects of an eligible infill project under two circumstances. First, if an effect was addressed as a significant effect in a prior EIR for a planning level decision, then, with some exceptions, that effect need not be analyzed again for an individual infill project even when that effect was not reduced to a less than significant level in the prior EIR. Second, an effect need not be analyzed, even if it was not analyzed in a prior EIR or is more significant than previously analyzed, if the lead agency makes a finding that uniformly applicable development policies or standards, adopted by the lead agency or a city or county, apply to the infill project and would substantially mitigate that effect. Depending on the effects addressed in the prior EIR and the availability of uniformly applicable development policies or standards that apply to the eligible infill project, streamlining under this section will range from a complete exemption to an obligation to prepare a narrowed, project-specific environmental document."

As stated in CEQA Guidelines Section 15183.3(d), the lead agency must examine an eligible infill project in light of the prior EIR to determine whether the infill project will cause any effects that require additional review under CEQA. Determinations pursuant to this section are questions of fact to be resolved by the lead agency. Such determinations must be supported with enough relevant information and reasonable inferences from this information to support a conclusion, even though other conclusions might also be reached. A lead agency should prepare a written checklist or similar device to document the infill project's eligibility for streamlining and to assist in making the determinations required by this section. A written checklist prepared pursuant to this section should do all of the following:

a. Document whether the infill project satisfies the applicable performance standards in Appendix M of the CEQA Guidelines.
b. Explain whether the effects of the infill project were analyzed in a prior EIR. The written checklist should cite the specific portions of the prior EIR, including page and section references, containing the analysis of the infill project's significant effects. The written checklist should also indicate whether the infill project incorporates all applicable mitigation measures from the prior EIR.
c. Explain whether the infill project will cause new specific effects. For the purposes of this section, a new specific effect is an effect that was not addressed in the prior EIR and that is specific to the infill project or the infill project site. A new specific effect may

result if, for example, the prior EIR stated that sufficient site-specific information was not available to analyze the significance of that effect. Substantial changes in circumstances following certification of a prior EIR may also result in a new specific effect.

d. Explain whether substantial new information shows that the adverse environmental effects of the infill project are more significant than described in the prior EIR. For the purpose of this section, "more significant" means an effect will be substantially more severe than described in the prior EIR. More significant effects include those that result from changes in circumstances or changes in the development assumptions underlying the prior EIR's analysis. An effect is also more significant if substantial new information shows that: (1) mitigation measures that were previously rejected as infeasible are in fact feasible, and such measures are not included in the project; (2) feasible mitigation measures considerably different than those previously analyzed could substantially reduce a significant effect described in the prior EIR, but such measures are not included in the project; or (3) an applicable mitigation measure was adopted in connection with a planning level decision, but the lead agency determines that it is not feasible for the infill project to implement that measure.

e. If the infill project will cause new specific effects or more significant effects, the written checklist should indicate whether uniformly applicable development policies or standards will substantially mitigate those effects. For the purpose of this section, "substantially mitigate" means that the policy or standard will substantially lessen the effect, but not necessarily below the level of significance. The written checklist should specifically identify the uniformly applicable development policy or standard and explain how it will substantially mitigate the effects of the infill project.

CEQA Guidelines Section 15183.3(d)(2) states that, after examining the effects of the infill project in light of the analysis in any prior EIR and uniformly applicable development policies or standards, the lead agency must determine what type of environmental document shall be prepared for the infill project. If the infill project would result in new specific effects or more significant effects, and uniformly applicable development policies or standards would not substantially mitigate such effects, those effects are subject to CEQA. With respect to those effects that are subject to CEQA, the lead agency shall prepare an infill EIR if the written checklist shows that the effects of the infill project would be potentially significant. In this circumstance, the lead agency shall prepare an infill EIR.

5.2 Applicability to the Proposed Project

The proposed Project qualifies as an "infill project" pursuant to CEQA because it is located within an urban area and is immediately adjacent to existing "qualified urban uses" on at least seventy-five percent of the site's perimeter. "Qualified urban uses" are defined in Public Resources Code Section 21072 as "any residential, commercial, public institutional, transit or transportation passenger facility, or retail use, or any combination of those uses". The Project site is surrounded by residential uses of single-family homes to the north and east and public institutional uses of public safety facilities and Hauke Park to the south and west, respectively, and thus meets the stipulated definition. Additionally, the proposed Project satisfies the infill project performance standards in Appendix M of the CEQA Guidelines as follows:

- The Project site is not included on any list compiled pursuant to Section 65962.5 of the Government Code.
- The Project does not include residential uses located within 500 feet of a high-volume roadway or other significant sources of air pollution.

- The Project is a residential development consisting of up to 50 units, all of which (excluding one manager's unit) would be affordable to low-income households for a period of at least 30 years.

Lastly, the proposed Project is consistent with the General Plan land use designation, density, and other applicable policies specified for the project area in Plan Bay Area 2040, the sustainable communities strategy document covering the City.

As an infill project, the proposed Project constitutes a later activity that would have effects that were not fully examined in the HEU SEIR (though the Project was anticipated and evaluated at a programmatic level). Pursuant to the requirements of CEQA Guidelines Section 15183.3(d)(2), the City has prepared an infill environmental checklist for the Project. The checklist is the same as the Initial Study checklist presented in Section 4 of this Initial Study. Citations to the portions of the HEU SEIR containing the analysis of the environmental effects associated with the development of 50 housing units on the Project site are contained in the Initial Study checklist. The City has determined that the proposed Project constitutes a later activity that would have effects that were not fully examined in the HEU SEIR. The Initial Study/infill checklist concluded that the proposed Project's potentially significant effects should be evaluated in a project-level "infill" EIR.

5.3 Infill EIR Contents

Per CEQA Guidelines Section 15183.3(e), "an infill EIR shall analyze only those significant effects that uniformly applicable development policies or standards do not substantially mitigate, and that are either new specific effects or are more significant than a prior EIR analyzed. All other effects of the infill project should be described in the written checklist as provided in subdivision (d)(1) and that written checklist should be circulated for public review along with the infill EIR. The written checklist should clearly set forth those effects that are new specific effects, and are subject to CEQA, and those effects which have been previously analyzed and are not subject to further environmental review. The analysis of alternatives in an infill EIR need not address alternative locations, densities, or building intensities. An infill EIR need not identify growth inducing impacts."

Consistent with the above section of the CEQA Guidelines, the EIR prepared for the Project will serve as an infill EIR.

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APPENDIX B

NOTICE OF PREPARATION AND COMMENTS RECEIVED IN RESPONSE

NOTICE OF PREPARATION AND NOTICE OF SCOPING MEETING

To: Interested Parties

Date: December 21, 2022

Subject: Notice of Preparation of Draft Environmental Impact Report, City of Mill Valley, 1 Hamilton Drive Affordable Housing Development

Lead Agency: City of Mill Valley

Project Website: www.cityofmillvalley.org/hamilton

NOTICE IS HEREBY GIVEN THAT the City of Mill Valley will be the Lead Agency under the California Environmental Quality Act (CEQA) and will prepare a Draft Environmental Impact Report (DEIR) for the proposed project. This NOP includes a project description and an overview of the potential impacts that will be addressed in the DEIR.

Project Title: 1 Hamilton Drive Affordable Housing Development

Project Applicant: City of Mill Valley

Project Location: City of Mill Valley

The project description, location map, project site diagram, and the potential environmental effects are contained in the attached document.

The purpose of this notice is: (1) to serve as the Notice of Preparation to potential Responsible Agencies, agencies involved in funding or approving the project, and Trustee Agencies responsible for natural resources affected by the project, pursuant to Section 15082 of the CEQA Guidelines; and (2) to advise and solicit comments and suggestions regarding the preparation of the DEIR, environmental issues to be addressed in the DEIR, and any related issues, from interested parties in addition to those noted above, including interested or affected members of the public. The City of Mill Valley requests that any potential Responsible or Trustee Agency responding to this notice do so in a manner consistent with CEQA Guidelines Section 15082(b).

All parties that have submitted their names and mailing addresses will be notified as part of the project's CEQA review process. If you wish to be placed on the mailing list or have any questions or need

additional information, please contact the person identified below. A copy of the NOP and attachment document is on the City's website (https://cityofmillvalley.org/) and is on file at the City Hall offices, located at the address provided below.

Scoping Meeting:

Date: Thursday, January 12, 2023

Time: 6:30 pm

Location: Mill Valley City Hall, 26 Corte Madera Avenue

30-Day NOP Review Period: In accordance with CEQA, should your agency have any comments, it is requested to provide a written response to this NOP within the mandated (minimum of) 30-day NOP review period that will begin December 22, 2022 and end January 27, 2023. Written comments must be received at the address below no later than 5:00 p.m. on January 27, 2023.

Please indicate a contact person in your response and send it to the following contact:

Patrick Kelly, Director of Building & Planning
pkelly@cityofmillvalley.org
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, CA 94941

December 21, 2022

Date

Patrick Kelly, Director of Building & Planning

BACKGROUND: The City of Mill Valley (City) is currently updating its General Plan Housing Element, which aims to achieve goals addressed by the Mill Valley 2040 General Plan (GP) that specifically addresses the challenge of housing supply and affordability by seeking to diversify housing stock to accommodate a range of income levels and lifestyles within the community. The existing (2014-2022) and draft (2023-2031) Housing Element contain policy guidance to explore and identify public-owned parcels to build affordable housing. In 2020, City staff worked with the City's Housing Advisory Committee to identify potential publicly owned and tax-exempt sites for redevelopment. On September 20, 2021, the City Council took action to: 1) declare a portion of the property located at 1 Hamilton Drive as "exempt surplus land" as required under the California Surplus Land Act (Government Code 54220 et seq.) pursuant to Government Code Section 54221(f)(1)(A) and 2) authorize the City Manager to negotiate and draft an Exclusive Negotiating Agreement (ENA) with EAH Housing for the purpose of negotiating the terms and conditions for the potential ground lease or sale of property and development of affordable rental housing on the northern portion of 1 Hamilton Drive. Figure 1 indicates the location of the project site within the City of Mill Valley and the surrounding region.

On February 6, 2022, the City Council authorized the approval of the ENA and outreach plan to further evaluate relocating existing facilities on the northern portion of 1 Hamilton, including public restrooms, 38 public parking spaces and one electric (EV) charger with two ports or "stations" and further explore building affordable housing on the proposed site.

In March 2022, City staff began working with the EAH Team to advance work as part of the ENA, including supporting EAH as it conducted a series of large public workshops and smaller scale neighborhood meetings. This input led to the formulation of a range of project design options and on- and off-site needed improvements and other suggestions that could benefit the surrounding community.

On September 19, 2022, the City Council directed staff to further consider and evaluate relocating existing facilities (38 parking spaces, restroom facilities and one electric vehicle charging station) to the adjacent Public Safety Building (PSB) parking lot.

On November 30, 2022, City Staff and the EAH Team presented the preliminary site planning and design work to City Council and Planning Commission, with a recommended building concept and site plan for the relocation of existing facilities to the adjacent parking lot as a condition of building and managing affordable housing on the site. Planning Commission and City Council supported the recommendation and Council directed staff to assemble a development review package, which includes the environmental review of the proposed project.

INTRODUCTION: The purpose of an EIR is to inform decision makers and the general public of the environmental effects of a proposed project. The EIR process is intended to provide environmental information sufficient to evaluate a proposed project and its potential for significant impacts on the environment; examine methods of reducing adverse environmental impacts; and consider alternatives to the project.

The 1 Hamilton Drive Affordable Housing Development Project Draft EIR will be prepared and processed in accordance with CEQA and the CEQA Guidelines. In accordance with CEQA, the Draft EIR will include the following:

- Summary of the proposed project and its potential environmental effects;
- Description of the proposed project;
- Description of the existing environmental setting, potentially significant environmental impacts, and mitigation measures;
- Alternatives to the proposed project;
- Cumulative impacts; and
- CEQA conclusions, including: 1) the growth-inducing impacts of the proposed project; 2) any significant environmental effects which cannot be avoided if the project is implemented; 3) any significant irreversible and irretrievable commitments of resources; and 4) effects found not to be significant.

PROJECT LOCATION: The project site is located on the northern portion of the parcel at 1 Hamilton Drive in the City of Mill Valley, situated in Marin County, California. The project site is a triangle shape bounded by Hamilton Drive to the west and northwest and Roque Moraes Drive to the east and northeast. The entire parcel is zoned as Open Area (OA) with the General Plan Land Use designation of Community Facilities (CF). The City's Public Safety Building (PSB) is located adjacent to the project site to the south. Surrounding General Plan Land Use designations include Single Family Residential to the north; Single Family and Multi Family Residential to the south and east; and Community Facilities, including the PSB, community garden, Hauke Park and playing fields to the south and west.

The 1 Hamilton Drive parcel (Accessor Parcel Number: 030-250-01) is owned by the City and is approximately 11 acres in size. The western portion of the parcel is considered Bayland and includes Hauke Park and Bayfront Park. The southeastern portion of the parcel includes the City's PSB and an associated parking lot that serves the administrative offices of the City's Police Department and Fire Station 7, a ground mounted solar array, and a community garden to the south. The project area comprises the northern portion of the parcel and is approximately 1.6 to 1.8 acres in size. The actual size of the project site will be determined based on community input and physical design of the proposed housing. The northern portion of the parcel currently includes vacant land, a public parking lot with 38 parking spaces, one electric vehicle charging station with two ports, and public restrooms.

The project site contains 66 trees including 42 native trees. Tree species on-site include coast live oak, cork oak, Canary Island pine, black locust, blackwood acacia, ash, and California buckeye. Vegetation on the remainder of the site consists of non-native annual grassland. No trees on-site qualify as heritage trees under the City tree ordinance (Chapter 12.04, MVMC). Two seasonal wetlands potentially subject to jurisdiction by the U.S. Army Corps of Engineers and Regional Water Quality Control Board totaling 0.01 acre are located on the project site adjacent to Hamilton Drive.

PROPOSED PROJECT/PROJECT DESCRIPTION: The project includes the development of up to 50 affordable housing units, 65 on-site residential parking spaces, and private outdoor spaces. The project also includes the replacement of the existing public parking lot and restroom facilities currently located in the southwestern corner of the project site. The relocation of these facilities will be accomplished by reconfiguring the PSB parking lot, which will include up to 50 public parking spaces, public restrooms, and electric vehicle charging. The new public restrooms will be located adjacent to the northern side of the PSB. The project site, proposed development footprint, and surrounding land uses are depicted on Figure 2. Proposed project characteristics are described in more detail below.

Replacement of Existing Facilities

The proposed project would reconfigure the Public Safety Building (PSB) parking lot to accommodate up to 50 public parking spaces, public restrooms, and electric vehicle charging as a required condition of approval to develop housing on the project site. The public parking spaces would be configured into a "Lot A" and "Lot B" located on each side of the PSB, as shown on Figure 2.

Approximate Unit Count and Size

Based on site considerations, construction costs and the current financing environment, EAH estimates the number of units required to build on the property is approximately 45 units. This is consistent with the Exclusive Negotiating Agreement (ENA) established with EAH to evaluate the feasibility of building 40-50 affordable rental units on the site. The Draft EIR will analyze 50 units as a conservative measure to evaluate the maximum potential number of anticipated units. The affordable bedroom mix is anticipated to be as follows: 39% 1-bedroom units (approximately 575 square feet); 36% 2-bedrooms (approximately 836 square feet); 25% 3-bedrooms (approximately 1,025 square feet). There is also one dedicated 3-bedroom unit to house the property manager on site.

Residential Parking

The proposed project would provide at least 65 residential parking spaces in a podium style parking garage underneath the proposed housing units. Building affordable housing allows for reduced parking standards through the State Density Bonus Law. Recent changes to the law allow for further reductions; however, the proposed project design provides at least 1 residential parking space per unit. Based on the maximum unit count of 50 units, the proposed parking ratio is approximately 1.3 parking spaces per unit. Visitor parking is not required based on state requirements but is proposed as part of the reconfigured PSB parking lot in association with general public parking.

Entry to Residential Parking Garage

The proposed entry to the residential parking garage connects to the proposed public parking Lot B to reduce curb cuts along Hamilton Drive.

Visitor Parking and Parking Management

The City is recommending creating time-limited parking restrictions (e.g., 4-hour limit) for the public parking spaces in Parking Lots A and B depicted in Figure 2 that are adjacent to the proposed housing

site on Hamilton Drive. This will allow for the turnover of parking regardless of use and will address concerns about extended residential and/or visitor parking in the public parking area.

Building Footprint, Massing and Location

The proposed building footprint for the housing development is located on flat and level areas of the site in order to minimize the amount of necessary grading. The maximum anticipated gross building area is approximately 66,000 square feet.

Conceptual design refinements are currently underway and are expected to be completed by the time the DEIR is circulated for public review. At this time, preliminary building designs include a ground floor parking garage (up to 22,000 square feet), with a 3-story podium building (up to 29,000 square feet) that includes residential area (up to 40,000 square feet); common area (up to 2,500 square feet); office space (up to 1,300 square feet); and circulation area (up to 16,500 square feet). The total residential Floor Area anticipated as part of the project is .80 and the maximum height of the structure would be 58 feet at its highest peak, depending on final roof design and podium height. Private outdoor spaces for residents include a front courtyard area, approximately 6,000 square feet in size.

Tree Removal and Replacement

Based upon current site plans, approximately 40 of the trees on-site would be removed in order to construct the proposed project. Approximately 20 of these trees are coast live oaks, having an average size of 13.6 inches diameter at breast height and an average height of 19 feet. The project will be required to obtain a permit to remove trees from the site and comply with all applicable tree replacement or in-lieu fee mitigation requirements.

Project Approvals

The final project application to the City will include:

- Proposed site plans and building designs for Design Review.
- A proposed tentative parcel map to create a separate parcel for the northern portion of 1 Hamilton.
- A request to rezone the newly created parcel from O-A (Open Area) to RM-B (Multi-family Residential-Bayfront) to permit multi-family residential on the property.
- Tree removal permit.
- A long-term ground lease or similar document allowing EAH to construct and manage housing on the site.

RELATIONSHIP TO HOUSING ELEMENT DSEIR: The City is also analyzing the concept of housing on the 1 Hamilton site on a programmatic level in the Draft Subsequent Housing Element EIR (DSEIR). The Housing Element DSEIR is a “program EIR” which analyzes the impacts of the policies laid out in the Housing Element on the City of Mill Valley as a whole, pursuant to CEQA. The Housing Element DSEIR will not include a site-specific, project-level analysis of the proposed 1 Hamilton development or any other site described in the sites inventory, nor is it required to include such an analysis.

This NOP is for a project-level DEIR that will specifically evaluate the direct and indirect impacts of the proposed 1 Hamilton project. It is anticipated that this project-level DEIR will be circulated for public comment after publication of the Housing Element DSEIR.

PROBABLE ENVIRONMENTAL EFFECTS: An Initial Study providing more detail regarding the anticipated scope of the DEIR will be released on the project website (www.cityofmillvalley.org/hamilton) in January during the scoping period. It is anticipated that the proposed project may have potentially significant environmental effects in the following areas: Aesthetics; Biological Resources; Cultural Resources; Energy; Geology and Soils; Hazards and Hazardous Materials; Land Use and Planning; Noise; Population and Housing; Public Services; Recreation; Transportation; Tribal Cultural Resources; and Utilities and Service Systems. The project is not anticipated to result in potentially significant environmental effects in the following areas: Agriculture and Forestry Resources; Air Quality; Greenhouse Gas Emissions; Hydrology and Water Quality; Mineral Resources; and Wildfire. The level of analysis for these subject areas may be refined or additional subject areas may be analyzed based on responses to this NOP, the Initial Study, and/or refinements to the proposed project. More detail concerning the proposed DEIR analyses is presented below.

Aesthetics

The aesthetics discussion and analysis in the DEIR will evaluate the visual impact of the project with regard to building height, bulk/mass, and viewshed alteration/obstruction. The project will be evaluated for consistency with applicable City design guidelines and other policies related to the protection of views from public corridors.

Biological Resources

This section of the DEIR will evaluate the project's impact on trees, wetlands, and other vegetation at the project site, as well as the project's potential to impact special status plant and wildlife species. A discussion of the potential relevant regulatory agency approvals necessary for project implementation will also be included.

Cultural Resources

This section of the DEIR will evaluate the project's potential to disturb archaeological resources, both known and unknown, at or within the vicinity of the project site.

Energy

The proposed project would create new development capacity that would result in increased energy demand. The three primary sources of energy demand would likely be fuel use in vehicles, and electricity and natural gas use in buildings. The net change in demand for these types of energy will be evaluated. Because the threshold of significance for energy impacts is qualitative, the impact discussion and analysis will also be qualitative.

Geology and Soils

The project site is located on a sloping hillside. This section of the DEIR will evaluate the potential for the project to exacerbate the effects of geologic hazards, such as landslides, soil instability, and seismic ground shaking/surface rupture. In addition, the presence of naturally occurring asbestos on-site will be evaluated and relevant mitigation identified as necessary.

Hazards and Hazardous Materials

The project site is located adjacent to the City of Mill Valley's PSB, which includes fire and police stations and is a staging location for emergency response. This section of the DEIR will evaluate the project's potential impact on adopted emergency response and evacuation plans.

Land Use and Planning

This section of the DEIR will evaluate the project's consistency with adopted land use policies that are applicable to the project and project site. A discussion of project conformance with the City's current Housing Element and draft Housing Element Update will be included.

Noise

This section will address whether the proposed project would result in an increase in noise levels during both construction and future operation in violation of City policies and applicable municipal regulations.

Population and Housing

The DEIR will evaluate the impact of the project on population and housing within the City.

Public Services

This section of the DEIR will address whether the proposed project would require new or expanded public services facilities, such as fire/police protection, schools, parks, and libraries, and whether those facilities would result in significant environmental impacts.

Recreation

This section of the DEIR will address whether the proposed project would require new or expanded recreational facilities and whether the project would adversely affect existing parks and recreational facilities within the City.

Transportation

This section of the DEIR will address the vehicle miles traveled (VMT) impacts of the project as well as the project's consistency with applicable General Plan policies pertaining to City roadway performance criteria, safety, and multi-modal accessibility (pedestrian circulation, bicycle routes).

Tribal Cultural Resources

This section of the DEIR will describe the City's AB 52 tribal consultation process for the project and evaluate whether the project may result in an adverse change on the significance of a tribal cultural resource.

Utilities and Service Systems

This section will address possible physical changes associated with expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunication services at the project site. The ability of existing water supplies, water/wastewater treatment capacity, and solid waste disposal systems to serve the project will be evaluated. Multiple relevant agencies and utilities will be consulted in the preparation of this analysis.



Path: L:\Acad 2000 Files\320000\320021-1\GIS\ArcMap\320021-1Base.aprx Layout Name:Location

Sources National Geographic, WRA | Prepared By: kobylarz, 11/11/2022

Figure 1. Regional and Vicinity Map

1 Hamilton Drive
Mill Valley, California

0 0.25 0.5 Miles

N

wra Environmental Consultants

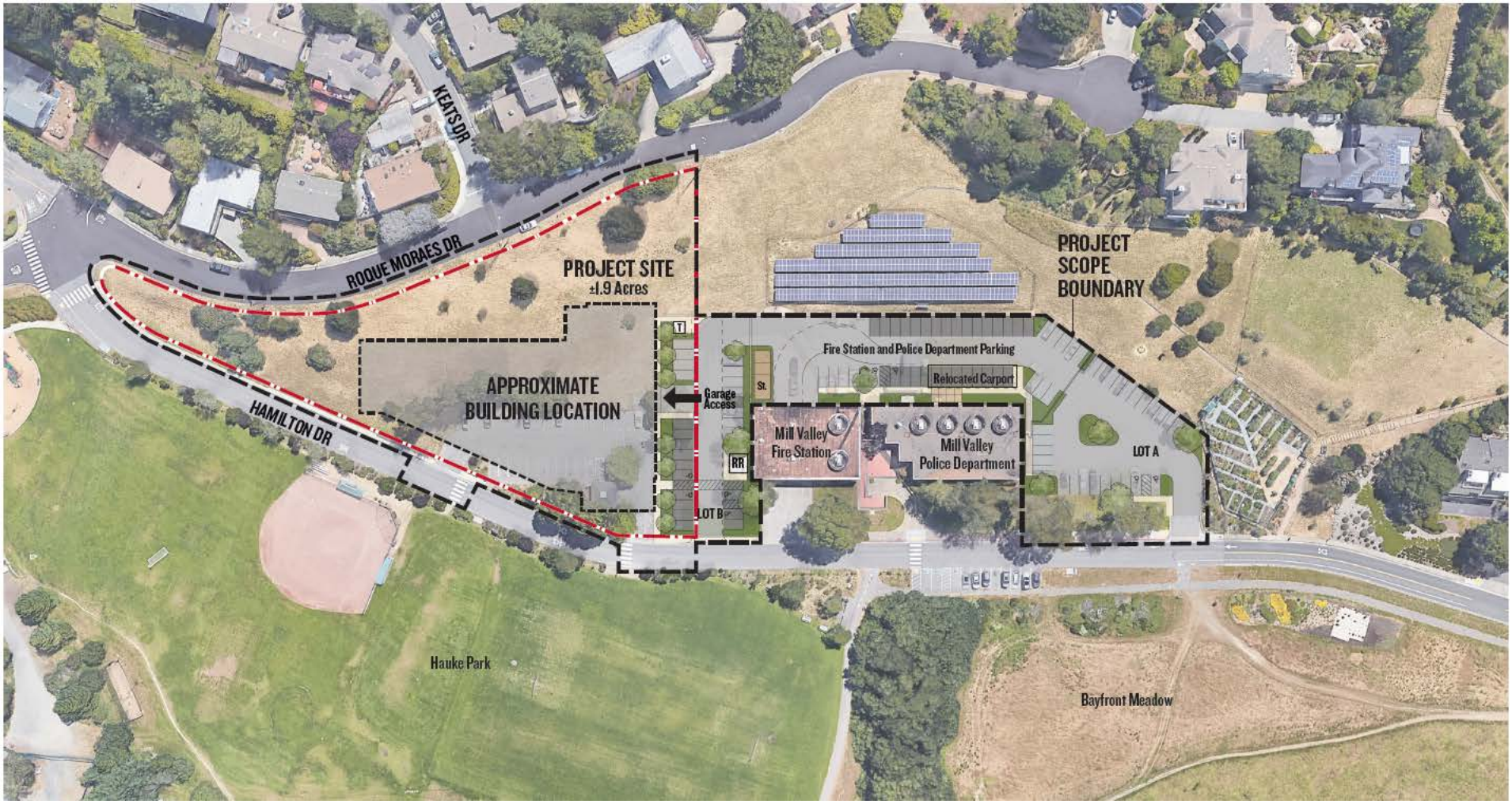


Figure 2. Project Site Plan

1 Hamilton Affordable Housing Development Project
Mill Valley, California

wra
Environmental
Consultants

NATIVE AMERICAN HERITAGE COMMISSION

RECEIVED
JAN 09 2023
Finance Department
City of Mill Valley

December 29, 2022

Patrick Kelly
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, CA 94941

Re: 2022120597, 1 Hamilton Drive Affordable Housing Development Project, Marin County

Dear Mr. Kelly:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

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Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Sara Dutschke
Miwok

COMMISSIONER
Isaac Bojorquez
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Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

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AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
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ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

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b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

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SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

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

Sincerely,

Cody Campagne

Cody Campagne
Cultural Resources Analyst

cc: State Clearinghouse

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

January 19, 2023

Patrick Kelly
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, CA 94941
PKelly@cityofmillvalley.org

Subject: 1 Hamilton Drive Affordable Housing Development, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2022120597, City of Mill Valley, Marin County

Dear Mr. Kelly:

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the 1 Hamilton Drive Affordable Housing Development Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.

CDFW is providing the City of Mill Valley as the Lead Agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the EIR (Cal. Code Regs., tit. 14, § 15082, subd. (b)).

CDFW ROLE

CDFW is a **Trustee Agency** with responsibility under the CEQA for commenting on projects that could impact fish, plant, and wildlife resources (Pub. Resources Code, § 21000 et seq.; Cal. Code Regs., tit. 14, § 15386). CDFW is also considered a **Responsible Agency** if a project would require discretionary approval, such as a permit pursuant to the California Endangered Species Act (CESA) or Native Plant Protection Act (NPPA), the Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. Pursuant to our authority, CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT DESCRIPTION AND LOCATION

The Project site is located at 1 Hamilton Drive, Accessor Parcel Number (APN) 030-250-01, in the City of Mill Valley, Marin County, and encompasses approximately 1.8 acres. The Project objective is the construction and development of up to 50 affordable housing units including the removal of an existing parking lot and restroom facilities and the construction of 65 parking spaces, new public restrooms, and vehicle

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charging stations. Development activities will include removal of approximately 40 trees, approximately 20 of which are coast live oaks (*Quercus agrifolia*).

The CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) require that the EIR incorporate a full Project description, including reasonably foreseeable future phases of the Project, that contains sufficient information to evaluate and review the Project's environmental impact (CEQA Guidelines, §§ 15124 & 15378). Please include a complete description of the following Project components in the Project description:

- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes.
- Area and plans for any proposed buildings/structures, ground-disturbing activities, fencing, paving, stationary machinery, landscaping, and stormwater systems.
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features.
- Construction schedule, activities, equipment, and crew sizes.

REGULATORY REQUIREMENTS

California Endangered Species Act and Native Plant Protection Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA or NPPA, either during construction or over the life of the Project. Issuance of a CESA ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, such as those identified in **Attachment 1**, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with CESA.

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Lake and Streambed Alteration Agreement

CDFW will require an LSA Notification, pursuant to Fish and Game Code sections 1600 et. seq. for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that will substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. **Review of hydrological data and topographic maps indicates that parcel APN 030-250-01 contains at least four streams; work within these streams or their associated riparian areas would warrant an LSA Notification.** CDFW, as a Responsible Agency under CEQA, will consider the CEQA document for the Project. CDFW may not execute the final LSA Agreement until it has complied with CEQA as a Responsible Agency.

Nesting Birds

CDFW also has authority over actions that may disturb or destroy active nest sites or take birds. Fish and Game Code sections 3503, 3503.5, and 3513 protect birds, their eggs, and nests. Migratory birds are also protected under the federal Migratory Bird Treaty Act.

Fully Protected Species

Fully Protected species, including any listed in **Attachment 1,** may not be taken or possessed at any time except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

ENVIRONMENTAL SETTING

The EIR should provide sufficient information regarding the environmental setting (“baseline”) to understand the Project’s, and its alternative’s (if applicable), potentially significant impacts on the environment (CEQA Guidelines, §§ 15125 & 15360).

CDFW recommends that the CEQA document prepared for the Project provide baseline habitat assessments for special-status plant, fish and wildlife species located and potentially located within the Project area and surrounding lands, including, but not limited to, all rare, threatened, or endangered species (CEQA Guidelines, § 15380). The EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or State, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see: https://wildlife.ca.gov/Data/

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VegCAMP/NaturalCommunities#sensitive%20natural%20communities), and any stream or wetland set back distances the City of Mill Valley may require. Fully protected, threatened or endangered, candidate, and other special-status species and sensitive natural communities that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to, those listed in **Attachment 1**.

Habitat descriptions and the potential for species occurrence should include information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System, California Aquatic Resource Inventory, and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Based on the data and information from the habitat assessment, the EIR should adequately assess which special-status species are likely to occur on or near the Project site, and whether they could be impacted by the Project.

CDFW recommends that prior to Project implementation, surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol.

Botanical surveys for special-status plant species, including those with a California Rare Plant Rank (http://www.cnps.org/cnps/rareplants/inventory/), must be conducted during the blooming period within the Project area and adjacent habitats that may be indirectly impacted by, for example, changes to hydrological conditions, and require the identification of reference populations[1]. More than one year of surveys may be necessary based on environmental conditions. Please refer to CDFW protocols for surveying and evaluating impacts to special-status plants available at: https://www.wildlife.ca.gov/Conservation/Plants.

IMPACT ANALYSIS AND MITIGATION MEASURES

The EIR should discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project (CEQA Guidelines, § 15126.2). This includes evaluating and describing impacts such as:

- Encroachments into riparian habitats, wetlands or other sensitive areas;
- Potential for impacts to special-status species;

[1] CRPR 1B plants are considered rare, threatened, or endangered in California and elsewhere. Further information on CRPR ranks is available in CDFW's Special Vascular Plants, Bryophytes, and Lichens List (https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline) and on the California Native Plant Society website (https://www.cnps.org/rare-plants/cnps-rare-plant-ranks).

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- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features (e.g., snags, roosts, vegetation overhanging banks);

- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; and

- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.

The CEQA document should also identify reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to the impact (CEQA Guidelines, §15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact – e.g., reduction of available habitat for a special-status species – should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

Based on the comprehensive analysis of the direct, indirect, and cumulative impacts of the Project, the CEQA Guidelines direct the lead agency to consider and describe all feasible mitigation measures to avoid potentially significant impacts in the EIR, and/or mitigate significant impacts of the Project on the environment (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370). This includes a discussion of impact avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with CDFW, USFWS, and the National Marine Fisheries Service. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

ENVIRONMENTAL DATA

CEQA requires that information developed in EIRs and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNNDB online field survey form and other methods for submitting data can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported to CNDDB can be found at the following link: https://wildlife.ca.gov/Data/CNDDB/Plantsand-Animals.

FILING FEES

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CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish & G. Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

If you have any questions, please contact Alex Single, Environmental Scientist, at (707) 799-4210 or Alexander.Single@wildlife.ca.gov; or Melanie Day, Senior Environmental Scientist (Supervisory), at (707) 210-4415 or Melanie.Day@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

Attachment 1: Special-Status Species

ec: State Clearinghouse # 2022120597

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ATTACHMENT 1

Special-Status Species

Scientific Name	Common Name	Status
Amphibians and Reptiles		
Rana draytonii	California red-legged frog	FT, SSC
Rana boylii	foothill yellow-legged frog - north coast DPS	SSC
Dicamptodon ensatus	California giant salamander	SSC
Emys marmorata	western pond turtle	SSC
Birds		
Rallus obsoletus obsoletus	California Ridgway's rail	FE, SE, FP
Laterallus jamaicensis coturniculus	California black rail	FP, ST
Athene cunicularia	burrowing owl	SSC
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	SSC
Melospiza melodia samuelis	San Pablo song sparrow	SSC
Plants		
Castilleja affinis var. *neglecta*	Tiburon paintbrush	FE, SE, CRPR 1B.2
Arenaria paludicola	marsh sandwort	FE, SE, CRPR 1B.1
Pentachaeta bellidiflora	white-rayed pentachaeta	FE, SE, CRPR 1B.1
Holocarpha macradenia	Santa Cruz tarplant	FT, SE, CRPR 1B.1
Hesperolinon congestum	Marin western flax	FT, ST, CRPR 1B.1
Calochortus tiburonensis	Tiburon mariposa-lily	FT, ST, CRPR 1B.1
Pleuropogon hooverianus	North Coast semaphore grass	ST, CRPR 1B.1

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Trifolium amoenum	two-fork clover	FE, CRPR 1B.1
Triquetrella californica	coastal triquetrella	CRPR 1B.2
Fissidens pauperculus	minute pocket moss	CRPR 1B.2
Polemonium carneum	Oregon polemonium	CRPR 2B.2
Chloropyron maritimum ssp. *palustre*	Point Reyes salty bird's-beak	CRPR 1B.2
Eriogonum luteolum var. *caninum*	Tiburon buckwheat	CRPR 1B.2
Polygonum marinense	Marin knotweed	CRPR 3.1
Gilia millefoliata	dark-eyed gilia	CRPR 1B.2
Quercus parvula var. *tamalpaisensis*	Tamalpais oak	CRPR 1B.3
Stebbinsoseris decipiens	Santa Cruz microseris	CRPR 1B.2
Amorpha californica var. *napensis*	Napa false indigo	CRPR 1B.2
Arctostaphylos virgata	Marin manzanita	CRPR 1B.2
Kopsiopsis hookeri	small groundcone	CRPR 2B.3
Calystegia purpurata ssp. *saxicola*	coastal bluff morning-glory	CRPR 1B.2
Arctostaphylos montana ssp. *montana*	Mt. Tamalpais manzanita	CRPR 1B.3
Lessingia micradenia var. *micradenia*	Tamalpais lessingia	CRPR 1B.2
Cirsium andrewsii	Franciscan thistle	CRPR 1B.2
Hemizonia congesta ssp. *congesta*	congested-headed hayfield tarplant	CRPR 1B.2
Plagiobothrys glaber	hairless popcornflower	CRPR 1A
Microseris paludosa	marsh microseris	CRPR 1B.2
Navarretia rosulata	Marin County navarretia	CRPR 1B.2
Silene scouleri ssp. *scouleri*	Scouler's catchfly	CRPR 2B.2

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Streptanthus batrachopus	Tamalpais jewelflower	CRPR 1B.3
Helianthella castanea	Diablo helianthella	CRPR 1B.2
Horkelia tenuiloba	thin-lobed horkelia	CRPR 1B.2
Gilia capitata ssp. *chamissonis*	blue coast gilia	CRPR 1B.1
Dirca occidentalis	western leatherwood	CRPR 1B.2
Fritillaria lanceolata var. *tristulis*	Marin checker lily	CRPR 1B.1
Calamagrostis crassiglumis	Thurber's reed grass	CRPR 2B.1
Streptanthus glandulosus ssp. *pulchellus*	Mt. Tamalpais bristly jewelflower	CRPR 1B.2
Streptanthus glandulosus ssp. *niger*	Tiburon jewelflower	CRPR 1B.1
Cirsium hydrophilum var. *vaseyi*	Mt. Tamalpais thistle	CRPR 1B.2
Fishes		
Oncorhynchus tshawytscha	Central Valley winter Chinook salmon	FE, SE
Oncorhynchus kisutch	Coho salmon – central California coast Evolutionarily Significant Unit	FE, SE
Hypomesus pacificus	Delta smelt	FT, SE
Oncorhynchus tshawytscha	Central Valley spring Chinook salmon	FT, ST
Spirinchus thaleichthys	longfin smelt	FC, ST
Eucyclogobius newberryi	tidewater goby	FE
Oncorhynchus mykiss	Central Valley steelhead	FT
Oncorhynchus mykiss	Central California Coast winter Steelhead	FT
Lavinia symmetricus symmetricus	Central California roach	FT
Acipenser medirostris	green sturgeon - southern DPS	FT, SSC
Cottus gulosus	riffle sculpin	SSC
Entosphenus tridentata	Pacific lamprey	SSC

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Acipenser transmontanus	white sturgeon	SSC
Lampetra ayersi	river lamprey	SSC
Pogonichthys macrolepidotus	Sacramento splittail	SSC
Oncorhynchus tshawytscha	Central Valley late-fall Chinook salmon	SSC
Oncorhynchus tshawytscha	Central Valley fall Chinook salmon	SSC
Lampetra richardsoni	western brook lamprey	SSC
Lavinia symmetricus subspecies	Tomales roach	SSC
Insects		
Bombus occidentalis	western bumble bee	SC
Icaricia icarioides missionensis	mission blue butterfly	FE
Danaus plexippus plexippus	monarch - California overwintering population	FC
Mammals		
Reithrodontomys raviventris	salt-marsh harvest mouse	FP, FE, SE
Enhydra lutris nereis	southern sea otter	FP, FT
Corynorhinus townsendii	Townsend's big-eared bat	SSC
Antrozous pallidus	pallid bat	SSC
Taxidea taxus	American badger	SSC

FP = state fully protected under Fish and Game Code; FE = federally listed as endangered under the Endangered Species Act (ESA); FT = federally listed as threatened under ESA; SE = state listed as endangered under CESA; ST = state listed as threatened under CESA; SSC = state Species of Special Concern; CRPR = California Rare Plant Rank, DPS = Distinct Population Segment

SOLURI MESERVE
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510 8th Street · Sacramento, CA 95814

January 27, 2023

SENT VIA EMAIL
(pkelly@cityofmillvalley.org)

Patrick Kelly
Director of Building & Planning
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, California 94941

RE: Notice of Preparation of Draft Environmental Impact Report, City of Mill Valley, 1 Hamilton Drive Affordable Housing Development

Dear Mr. Kelly:

On behalf of Friends of Hauke Park ("FOHP"), this letter provides comments regarding the City of Mill Valley's ("City") Notice of Preparation ("NOP") of an Environmental Impact Report ("EIR") for the 1 Hamilton Drive Affordable Housing Development ("Project").

An NOP must include a description of the underlying project. (CEQA Guidelines, § 15085, subd. (b)(2).) A project description includes "[a] list of permits and other approvals required to implement the project." (CEQA Guidelines, § 15124, subd. (d)(1)(B).) The NOP here purports to provide this information (p. 6), but conspicuously omits the Project's most significant entitlement — a General Plan amendment changing the site's land use designation from its present designation of Community Facilities (CF). This entitlement is of critical importance because the present land use designation prohibits any and all residential uses. The City's failure to disclose this significant entitlement is misleading because it suggests that residential uses are presently allowed on the site. They are not.

The City's failure to disclose the Project's most significant land use entitlement also suggests a deliberate effort by City officials to: (i) unlawfully piecemeal the Project (CEQA Guidelines, § 15378, subds. (c), (d)), and (ii) manufacture a false narrative that the City's discretion to deny or reduce the Project's density is constrained because it is "consistent" with the City's General Plan (Gov. Code, § 65589.5).

The NOP should be revised accordingly, and public notice of such revisions should be given. The City should also abandon its misguided effort to misuse CEQA and the Housing Accountability Act as described above.

Very truly yours,

SOLURI MESERVE
A Law Corporation

By: 
Patrick M. Soluri

PS/mre

HOUSING CRISIS ACTION

…To Create, Build, and Preserve Much-Needed Housing in Marin County

housingcrisisaction@gmail.com | housingcrisisaction.org

COALITION MEMBERS

Coalition for a Livable Marin

Community Land Trust Association of Marin

Homeward Bound of Marin

League of Women Voters of Marin

Legal Aid of Marin

Marin County Young Democrats

Marin Environmental Housing Collaborative

Marin Kids

Michael Barber Architects

North Bay Leadership Council

San Geronimo Affordable Housing Association

San Rafael Chamber of Commerce

Sustainable Marin

Sustainable San Rafael

United Educators Association for Affordable Housing

January 9, 2023

Subject: Housing at One Hamilton

Dear Mill Valley City Council and Planning Commission,

On behalf of Housing Crisis Action, a robust network of over 800 Marin County housing advocates and 17 organizations working to tackle our housing crisis, we urge for you to move the One Hamilton housing proposal forward to create 50 new homes for our community members to have an attainable place to live.

We commend the City of Mill Valley for your commitment and efforts in finding solutions to our housing needs. One Hamilton would be the first 100% affordable housing development in Mill Valley developed in the last 30 years. We're excited the City is partnering with EAH Housing who has a strong history of creating, financing, constructing, and managing quality affordable housing across Marin County. We know there are many considerations that need to be made, as with every proposal, but we are optimistic that all stakeholders can align on a solution that results in more housing in Mill Valley.

As a group of business leaders, union workers, environmental advocates, public servants, and educators living and working in Marin, we're excited about the opportunity to bring affordable family housing that is sorely needed at a great location near outdoor space, schools, and groceries. We urgently need to create housing that will sustain a more livable, inclusive, and thriving Marin. We respectfully ask you to proceed with the project.

Sincerely,

The Housing Crisis Action Steering Committee

Cynthia Murray	*CEO, North Bay Leadership Council*
Jeff Bialik	*Marin Organizing Committee*
Diana Conti	*Trustee, College of Marin*
Linda M. Jackson	*Program Director, Aging Action Initiative*
Larry Kennings	*Board member, Marin Environmental Housing Collaborative*
Joanne Webster	*President and CEO, San Rafael Chamber of Commerce*

From: Jonathan Knight
To: Jonathan Knight
Subject: [External] In strong support to the 1 Hamilton Drive project
Date: Monday, January 9, 2023 12:30:46 PM

Dear Mill Valley Councilors,
The housing crisis is an absolute emergency in Marin and the Bay Area. Every town in the county has to take the lead in alleviating this crisis. Affordable housing increases vitality, diversity, and community health. Affordable housing decreases traffic in the area by allowing people to live closer to their jobs and schools. Appropriate land is in such short supply, there is no good excuse for not going forward with this proposal as soon as possible.

Thank you!

--

Jonathan Knight

From: Taylor Renee
Subject: [External] In Support of 1 Hamilton Drive
Date: Monday, January 9, 2023 12:27:12 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

I am writing as a participant of SURJ Marin (Showing Up for Racial Justice) to thank you for your support in increasing the number of affordable family housing rental units in Mill Valley through the implementation of the 1 Hamilton Drive Housing Project using a public-private partnership.

I know Marin County has a long history of exclusionary housing practices that have resulted in a serious undersupply of affordable housing. This lack of affordable housing negatively impacts historically disadvantaged community members including those who are BIPOC. I believe Marin County has the moral responsibility to implement the very necessary state housing mandates and to follow the various adopted housing element plans. I am sure this is a difficult process to undertake, but I applaud your courage and perseverance in having a forward-thinking vision and doing what's right for the underserved members of our community.

As you may be aware, a report from UC Berkeley's Othering & Belonging Institute found that six of the 10 most racially segregated municipalities in the Bay Area are in Marin County. The top 10 includes Ross and Belvedere, where whites make up more than 90% of the population, as well as Sausalito, San Anselmo, Fairfax, and Mill Valley, which all have white populations of more than 85%.

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- Children are more likely thrive in school and have greater opportunities to learn inside and outside the classroom
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- There may be access to better overall health conditions
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It is clear that the City of Mill Valley does not have the infrastructure in place to manage affordable housing complexes on its own and has chosen to partner with a non-profit corporation to move this project forward. This is common practice with smaller municipalities, so a public-private partnership in this case seems appropriate to me.

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community.

Thank you for your time,
--
Taylor Newcomb
Doula, Student Midwife, Placenta Encapsulator
(949) 390-3434
www.taylorreneebirth.com

From: Mary Morgan
To: Urban Carmel
Subject: [External] In Support of 1 Hamilton Drive
Date: Monday, January 9, 2023 12:31:06 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

I am writing as a participant of SURJ Marin (Showing Up for Racial Justice) to thank you for your support in increasing the number of affordable family housing rental units in Mill Valley through the implementation of the 1 Hamilton Drive Housing Project using a public-private partnership.

I am disappointed that the 1 Hamilton Drive Housing Project is being met with opposition by some members of the community, but I am not surprised by this. This type of opposition against affordable housing is typical in Marin and it perpetuates the high racial segregation that exists in our county. Opposition to affordable housing in Marin repeatedly creates a disparate impact on the Bay Area's BIPOC community members by preventing a large number of them from being able to acquire housing in Marin.

Please stand strong and persevere with this affordable housing project for the benefit of the entire county.

Sincerely, Mary Morgan

From: jess lerner
To: jess lerner
Subject: [External] In Support of 1 Hamilton Drive
Date: Monday, January 9, 2023 12:39:23 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

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Thank you for your time,
Jess Lerner

--

Jess Lerner

she/her/hers

From Coast Miwok Land

"Land is more than the diaphanousness of inhabited memories; Land is spiritual, emotional, and relational; Land is experiential, (re)membered, and storied; Land is consciousness—Land is sentient. Land refers to the ways we honor and respect her as a sentient and conscious being. Therefore, in acknowledgment of the fundamental being of Land I always capitalize Land. I have come to know Land both as a fundamental sentient being and as a philosophical construct."
– Sandra Styres (Kanien'kehá:ka) from Literacies of Land

From: Tim Lentini
Subject: [External] In Support of 1 Hamilton Drive
Date: Monday, January 9, 2023 12:48:44 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

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Thank you for your time,
Tim Lentini

From:	Kalicia Pivirotto
To:	Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Max Perrey; Planning; City Clerk
Subject:	[External] In Support of 1 Hamilton Drive
Date:	Tuesday, January 10, 2023 9:42:12 AM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

I am writing as an organizer and core member of SURJ Marin (Showing Up for Racial Justice) to thank you for your support in increasing the number of affordable family housing rental units in Mill Valley through the implementation of the 1 Hamilton Drive Housing Project using a public-private partnership.

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-

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Thank you for your time,

Kalicia, Marin County resident
--
Not everything that is faced can be changed, but nothing can be changed until it is faced. - James Baldwin

From:	Jeanne Courtney
To:	Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Max Perrey; Planning; City Clerk
Subject:	[External] In support of 1 Hamilton Drive
Date:	Tuesday, January 10, 2023 6:21:34 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

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Thank you for your time,

Brenda Courtney

From: Kaytee Fink
To: Kaytee Fink
Subject: [External] In Support of 1 Hamilton Drive
Date: Monday, January 9, 2023 12:27:50 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

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Thank you for your time,
Kaytee Fink, she/her

From: Debbie Toizer
To: Debbie Toizer
Subject: [External] YES on 1 Hamilton Drive!
Date: Monday, January 9, 2023 12:28:57 PM

I am sure you are receiving a lot of push-back on this proposed project for affordable housing. I wanted to write today so that you would know that there are community members that support affordable housing in our county, especially for families. It seems to me that predominantly families of color are the worst hit by the lack of affordable housing in the county, and it is important to me that we actively work together to turn that situation around. I want to live in a county that is diverse and equitable and welcoming to all.

Thank you for pursuing this project. You definitely have my support.

Deborah Toizer

From: Lisa Scarsella
To: Jim Wickham - Mill Valley mail
Subject: [External] writing in support of One Hamilton
Date: Wednesday, January 11, 2023 7:36:54 PM

Dear Mill Valley City Council Members, Planning Commission Members, and City Clerk,

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Thank you for your time,

Best,
Lisa Scarsella (she/her)
more about pronouns
415-302-9080

'It is easier to build strong children than to repair broken men' - Frederick Douglass

From: Alice McCarthy
To: Patrick Kelly
Subject: [External]
Date: Saturday, January 21, 2023 12:39:22 PM

Please include Story Poles in the 1 Hamilton project.

Alice McCarthy
40 Camino Alto Mill Valley CA 94941

From: Anita Scott
To: Patrick Kelly; Danielle Staude
Subject: [External] Comments on scope of EIR 1 Hamilton
Date: Friday, January 20, 2023 11:33:36 AM

Dear Danielle and Patrick,

I live at 149 Roque Moraes Dr. directly above the proposed building site on 1 Hamilton Drive. I strongly support the need for story poles to be put up.

We as a community and as neighbors directly impacted by the proposed 40-50 unit apartment complex have a right to see the story poles to fully understand the bulk and mass of the building in order to consider the visual impact with neighborhood and park compatibility.

The city of Mill Valley's excuses of story poles are not used for projects this big and that they are too costly fall flat after research proves that is not the case.

Good story poles make good neighbors. I am asking the city of Mill Valley and EAH to be good neighbors and erect story poles.

I would also like to voice my concerns, along with others that have gone on record, to the geology and soils hazard regarding the asbestos found in the serpentine rock on the site.

No "safe" level of exposure to asbestos has been established. Any exposure to asbestos fibers involves some risk of disease.

As stated earlier, I live directly above the building site at 149 Roque Moraes. Disturbing the soils while excavating the site will create dust that contains asbestos fibers.

I worry for my health and the health of my 3 & 5 year old grandsons who I watch on a regular basis. My concerns are also for the hundreds of young athletes that play on the sports fields directly across the street from the site, along with the younger children at the playground twenty-five feet away.

Environmental health scientists suggest children are at higher risk of asbestos disease due to their faster breathing rates. Taking into consideration the faster breathing rates of athletes, our young athletes are doubly cursed with the possibility of asbestos contamination. It is the city's responsibility to be upfront with the citizens of MV and southern Marin who use these fields to the asbestos issue.

In addition, the city of Mill Valley and EAH should be responsible for safety training and air monitoring by hiring a dedicated environmental and industrial hygiene firm prior to any excavation of the site.

Thank you,
Anita Scott

From: Ann Mannheimer and Randall Matthews
To: Patrick Kelly
Subject: [External] Story Poles 1 Hamilton
Date: Saturday, January 21, 2023 8:22:34 PM

Dear Mr. Kelly,

I am writing to request that story poles be put up for the 1 Hamilton project just as they were for the Richardson project west of Camino Alto. There should be done so that residents of Mill Valley can see the size and scope of what is being proposed for this project. I cannot understand why this is not being done. The city gave the project $500,000 of tax payer money to get this going in addition to the land. There is not excuse not to let residents know the scale of what is being proposed. This needs to be done now in consideration of the Mill Valley residents who want this visual information.

Yours truly,

Ann Mannheimer Matthews

From: Ann Mannheimer and Randall Matthews
To: Danielle Staude
Subject: FW: [External] Story Poles 1 Hamilton
Date: Saturday, January 21, 2023 9:06:33 PM

Dear Danielle,

Please see what you can do about having the city put up story poles for the 1 Hamilton Drive project. Poles were put up for the Richardson project west of Camino Alto. There should be done so that residents of Mill Valley can see the size and scope of what is being proposed for this project. I cannot understand why this is not being done. The city gave the project $500,000 of tax payer money to get this going in addition to the land. There is not excuse not to let residents know the scale of what is being proposed. This needs to be done now in consideration of the Mill Valley residents who want this visual information.

Yours truly,

Ann Mannheimer Matthews
117 Eucalyptus Knoll

From: Ann Ritchie
To: Patrick Kelly
Subject: [External] Story Poles for 1 Hamilton Project
Date: Saturday, January 21, 2023 11:15:21 AM

Dear Mr Kelly,

We are sending this email to the City of Mill Valley to add our names to the growing list of citizens that are asking that Story Poles be placed at the 1 Hamilton Site. This needs to be done well before the EIR Review at the end of the month.

It has been apparent from Day 1 that the City of Mill Valley, as well as Mill Valley City Council, have decided to ram the 1 Hamilton Project through without all the appropriate steps that need to be taken on a new construction project within City limits. Mill Valley has a set of Rules that need to be followed by its own Citizens as well Contractors when they apply for a Building Permit, so it should be expected that City Council follows the same rules for their own projects.

Why did the City ask for story poles to be put up for the Richardson Project but have completely refused to do it at 1 Hamilton? Controversy surrounds both projects with many of the very same issues.

Most people need a visual experience before they can completely understand how a large building will impact a site. A small rendering will never be able to convey that feeling of mass and scale. The 50 units that are being proposed for such a small square footage site clearly demand that story poles be erected. Everyone needs to fully understand exactly how this project will impact the Enchanted Knolls neighborhood for decades to come.

Do the right thing Mill Valley. Erect those story poles now. Stop making excuses. What are you afraid of?

Sincerely,

Ann and Bill Ritchie
65 Kipling Drive
Mill Valley, CA 94941

Sent from my iPad

From: Eric Pop
To: Patrick Kelly
Cc: Amy Meyer; Rob Carnachan; Danielle Staude
Subject: RE: [External] Naturally Occurring Asbestos at 1 Hamilton, Mill Valley, CA
Date: Tuesday, January 3, 2023 1:32:58 PM

Thank you Patrick,

I wanted to make you aware of the ATCM requirements for sites with Naturally Occurring Asbestos. Based on what I reviewed, it looks like this site will need to submit an Asbestos Dust Mitigation Plan (ADMP) to the Air District for review and approval prior to soil disturbance activities. The application as well as more information is located here: https://www.baaqmd.gov/permits/asbestos/naturally-occuring-asbestos

If you have any questions, please let Amy or me know.

Happy New Year,
Eric

From: Patrick Kelly <pkelly@cityofmillvalley.org>
Sent: Wednesday, December 28, 2022 10:27 AM
To: Eric Pop <epop@baaqmd.gov>
Cc: Amy Meyer <AMeyer@baaqmd.gov>; Rob Carnachan <robert.carnachan@wra-ca.com>; Danielle Staude <dstaude@cityofmillvalley.org>
Subject: RE: [External] Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

Hi Eric,

Yes, the NOP was sent last week per attached email. Following my email of November 22, later that day, staff decided to postpone sending the NOP, until after a joint City Council/Planning Commission

meeting on the 1 Hamilton project held on November 30.

The NOP is included as an attachment to the attached email.

Please let me know if you have any questions regarding the NOP or 1 Hamilton project.

Patrick

Patrick Kelly, AICP
Director of Planning & Building
City of Mill Valley
pkelly@cityofmillvalley.org
415-388-4039

From: Eric Pop <epop@baaqmd.gov>

Sent: Tuesday, December 27, 2022 3:10 PM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Cc: Amy Meyer <AMeyer@baaqmd.gov>; Rob Carnachan <robert.carnachan@wra-ca.com>
Subject: RE: [External] Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

Hello Patrick,

I hope you are having a nice holiday week. I wanted to see if the NOP was sent out. I didn't see an email but I may have missed it. Can you please tell me the size of the project?

Thank you,
Eric

From: Patrick Kelly <pkelly@cityofmillvalley.org>
Sent: Tuesday, November 22, 2022 9:08 AM
To: Eric Pop <epop@baaqmd.gov>
Cc: Amy Meyer <AMeyer@baaqmd.gov>; Rob Carnachan <robert.carnachan@wra-ca.com>
Subject: RE: [External] Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

Hello Eric,

Thank you for clarifying. The city will be releasing a Notice of Preparation (NOP) today to collect input on the scope of the environmental review for the 1 Hamilton project. We will include you on the distribution list for the NOP and would appreciate your review and input on the NOP. The City's CEQA Consultant for the 1 Hamilton project, WRA, may want to follow up with you regarding NOA and ADMP applicability in their preparation of the CEQA documentation for the project.

Patrick Kelly, MPA, AICP
Director of Planning and Building
City of Mill Valley
26 Corte Madera Ave.
P. 415-388-4039

THE PLANNING & BUILDING DEPARMENT IS OPEN TUESDAYS AND THURSDAYS FROM 9-11 FOR CONSULTATION.
Use our QLess system on the morning of your visit to establish your place in line.

PLEASE REVIEW THE DEPARTMENT'S WEB PAGE FOR PLANNING RELATED INFORMATION INCLUDING APPLICATION FORMS, FEES, AND FREQUENTLY ASKED QUESTIONS.

THE PLANNING DIVISION CONTINUES TO RESPOND TO INQUIRIES PRIMARILY VIA PHONE AND E-MAIL. WE ARE ACCEPTING COMPLETE APPLICATIONS SUBMITTED VIA MAIL OR DROP OFF AT CITY HALL, INCLUDING PRINTED AND DIGITAL (PDF FILES) OF ALL APPLICATION MATERIALS AND FEES.

From: Eric Pop <epop@baaqmd.gov>
Sent: Monday, November 21, 2022 4:35 PM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Cc: Amy Meyer <AMeyer@baaqmd.gov>
Subject: RE: [External] Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

Thanks for your help Patrick. The correct project address is at 1 Hamilton Dr. Here's a link to the project.

From: Patrick Kelly <pkelly@cityofmillvalley.org>
Sent: Monday, November 21, 2022 4:06 PM
To: Eric Pop <epop@baaqmd.gov>
Cc: Amy Meyer <AMeyer@baaqmd.gov>
Subject: RE: Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

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

Hello Eric,

Thank you for reaching out. What project are you referring to? The subject address is the Mill Valley Community Center.

Patrick Kelly, MPA, AICP
Director of Planning and Building
City of Mill Valley
26 Corte Madera Ave.
P. 415-388-4039

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Use our QLess system on the morning of your visit to establish your place in line.

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From: Eric Pop <epop@baaqmd.gov>
Sent: Monday, November 21, 2022 10:57 AM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Cc: Amy Meyer <AMeyer@baaqmd.gov>
Subject: [External] Naturally Occurring Asbestos at 180 Camino Alto, Mill Valley, CA

Hello Mr. Kelly,

I'm reaching out to you regarding the project at: 180 Camino Alto, Mill Valley, CA. I work at the Bay Area Air Quality Management District and help process new Asbestos Dust Mitigation Plans for area with Naturally Occurring Asbestos (NOA). I wanted to reach out to you if you had any questions regarding NOA and ADMP applicability.

Thank you,
Eric

Eric Pop, Air Quality Specialist
Compliance & Enforcement Division

Woodsmoke: 1-877-466-2876
epop@baaqmd.gov| www.spareheair.org

The Air District mailing address and location is:
The Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

Our location includes our regional partners,
the Metropolitan Transportation Commission and the Association of Bay Area Governments.

From: Betty Taisch
To: Patrick Kelly
Subject: [External] 1 Hamilton - an important request
Date: Saturday, January 21, 2023 11:32:39 AM

Hi -

It is imperative that story poles be erected as part of the upcoming EIR evaluation for the proposed project at 1 Hamilton. This is essential for us all to have an idea of the proposed plans.

Thank you for your attention to this important matter for all.

Best Regards,

Betty

Betty Taisch
6064 Shelter Bay Ave.
Mill Valley, CA 94941

From: Brad Drury
To: Patrick Kelly
Subject: [External] Story Poles for 1 Hamilton EIR
Date: Thursday, January 26, 2023 3:56:26 PM

Hi Patrick,

I'd like to request that story poles be erected as part of the 1 Hamilton EIR.

At the council meeting on November 30, when the subject of Story Poles was raised by the community, the developer stated that story poles were not feasible on a project of the size of One Hamilton. They stated that the project is too large. That is simply not true.

I spoke today with Dallas Rutherford at californiastorypoles.com They are one of many story pole companies in the Bay Area and have erected story poles in Marin on much larger projects in Marin County, including story poles that were 85 feet high for the recent enormous Marin General Hospital expansion! They just completed story poles for the North Forty project in Los Gatos. https://www.losgatosca.gov/2305/N40-Phase-1-Story-Poles That Los Gatos project is enormous, with many buildings at 5 stories, 120 residential units, a 280 room hotel, and office space over 320K square feet. Dallas said that story poles are very often required on these large projects.

Story poles should absolutely be required for the One Hamilton project EIR so the community and neighbors can see the impact of the design and properly evaluate the building height, bulk/mass, and view obstructions. Since these poles are required on other projects in Mill Valley, it would be extremely hypocritical for the city to not require them on a project that they are participating in. They can be erected safely and competitive bids can be obtained.

Thanks,

Brad Drury

Roque Moraes Dr.

From:	Michael Stern
To:	Danielle Staude; City Clerk; Jim Wickham - Mill Valley mail; Max Perrey; Stephen Burke; Urban Carmel; Patrick Kelly
Subject:	[External] 1 Hamilton story poles
Date:	Sunday, January 22, 2023 9:47:20 AM

Mayor, City Council Members and Planning Department,

I'm writing to request that story poles be installed for the 1 Hamilton project. It's my understanding that the developer does not want them installed. It's also my understanding that story poles for new construction are a requirement under the city code; as a developer in Marin I've been required to put them up on every project we've done in Mill Valley. The size of the proposed structure makes it even more important to install the poles, just as they're been installed on your large 575 East Blithedale project, as it's unfair for our community to have no idea of the scale of the project based on looking at drawings alone. It seems that's the whole purpose of story poles, and it would be a great disservice to the city's residents to have the project move forward without complete information on the project.

If you are being told that the poles can't be put up in that location,'I'll be happy to provide contact information for a reliable company that can and will do the work. Given its hillside location it should be no problem to put them up.

This is an important project for the City, and I strongly recommend that it is handled properly, openly and with complete respect for the residents of Mill Valley. Thanks very much for your consideration. I look forward to seeing those story poles.

Michael Stern
415-730-4885 (c)

From: fletcherc45@yahoo.com
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Saturday, January 21, 2023 11:36:55 AM

Greetings,

I am reaching out as an extremely concerned resident of the neighborhood.

Throughout this entire one Hamilton drive process. Multiple items have been attempted to be either covered up or swept under the rug by the developer and city alike.

I know for a fact, if I were trying to build a house or an addition for myself there would be a much closer review and approval by the city and local officials before approving it. Why should the reverse be any different?

Our neighborhood is already overly impacted by traffic and not to mention one EAH development facing the 101 on Seaver.

I understand there is a state housing demand, but please do not try and fool long-standing residents who have worked very hard and contributed to this community.

There are already camper vans along with various other items on a decaying road overrun with king tides to get into and out safely of this neighborhood.

Do the right thing and explore other sites no matter the offerings EAH is giving.

Thanks for the time.
Sincerely,

Cameron Fletcher

Danielle Staude

Subject: FW: Hamilton Dr
Attachments: Screen Shot 2022-12-27 at 12.24.56 PM.png

From: Long, Carlin <Carlin.Long@ucsf.edu>
Sent: Tuesday, December 27, 2022 2:40 PM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Subject: [External] Hamilton Dr

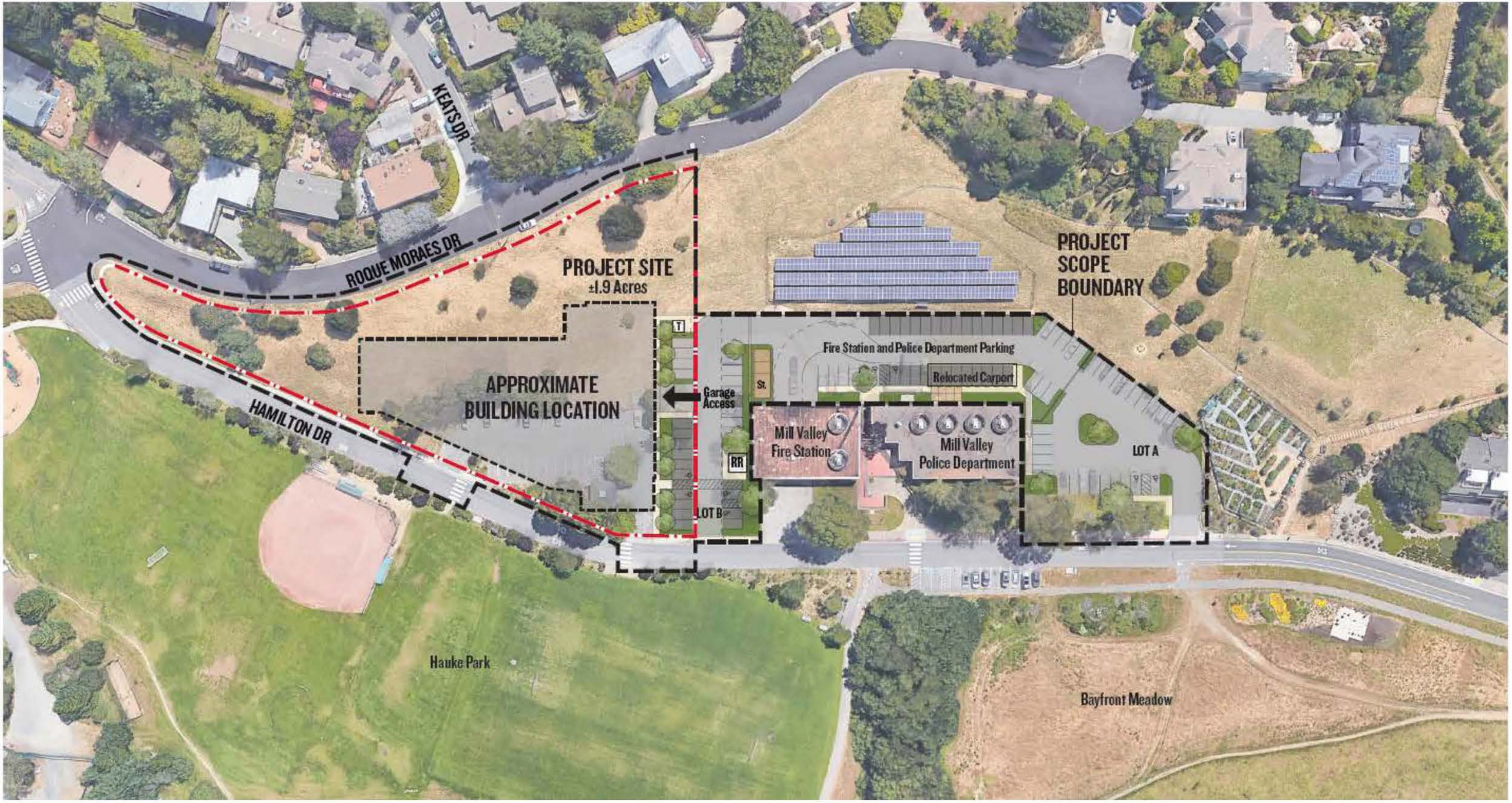
Hi,

I noticed in your recent NOP for the 1 Hamilton site that you have drawn the "project scope boundaries" in a way in which they extend **around** the hazard area of Serpentine rock shown on county maps. You say in the NOP that you will investigate for the presence of asbestos and plan for mitigation within the project scope boundaries, but you have made the boundary around the area you have an ethical and moral obligation to study. (This seems similar to gerrymandering tactics used for delimitating voting populations - designed to get the "desired" result). This is not a safe way to approach the project and you are endangering the health of our children by doing this.

Sincerely,
Carlin Long
Mill Valley resident

Carlin

Carlin S Long, MD
Professor of Medicine and Cardiology
Director, Center for the Prevention of Heart and Vascular Disease
University of California, San Francisco
555 Mission Bay Blvd South, Rm 352K
San Francisco, CA 94143
415-502-3910
FAX 415-502-7949


KEATS DR
ROQUE MORAES DR
PROJECT SITE
±1.9 Acres
APPROXIMATE
BUILDING LOCATION
HAMILTON DR
PROJECT
SCOPE
BOUNDARY
T
Garage
Access
St.
RR
LOT B
Fire Station and Police Department Parking
Relocated Carport
Mill Valley
Fire Station
Mill Valley
Police Department
LOT A
Hauke Park
Bayfront Meadow

From: Carlos Montalvan
To: Patrick Kelly; Danielle Staude; City Clerk
Subject: [External] Story Poles at 1 Hamilton
Date: Saturday, January 21, 2023 4:34:36 PM

I am writing to request story poles be put up to demonstrate the visual impact of the planned building 1 Hamilton. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass, and visual impact of the project.

Story poles were just required by the City for the 25-unit project at 575 E. Blithedale, so there is no reason they shouldn't be required for a project the size of 1 Hamilton. Erecting story poles is standard practice and consistent with the City's Residential Design guidelines. If the City does not install story poles at 1 Hamilton, it is further evidence of the City's discriminatory treatment of the residents who live in the surrounding neighborhood.

Carlos Montalvan
Keats Dr.

From:	Carolyn Heyder
To:	Danielle Staude
Subject:	[External] Public Comment Draft EIR Scoping Period; Story Poles 1 Hamilton
Date:	Saturday, January 21, 2023 11:23:14 AM

Dear Danielle:
I am writing to request the installation of story poles at 1 Hamilton.
Story poles were recently installed at the 575 Blithedale project and need to be installed at 1 Hamilton. I believe the reasons previously given for not installing story poles at 1 Hamilton are without merit, and the poles must be installed as part of evaluating the aesthetic impact (one of the environmental impacts of the draft EIR) . It is imperative that the residents of Mill Valley are provided with an actual physical depiction of the height, size, bulk and mass of the project that has been planned and is being considered.
All of Mill Valley deserves to be able to envision the full scope of this project.

I believe the public is allowed to submit comments until February 27th, to be heard at the February 28, 2023 planning commission hearing. If you would circulate this email to the city council and planning commission for that purpose, I would be grateful.
Sincerely,
Carolyn Heyder

From: Charlie Canellakis
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Sunday, January 22, 2023 2:09:03 PM

Please arrange for the developer to put up "story poles" so that neighbors may understand the scope of the 1 Hamilton project. Story poles are a fair way for the developer to show the impact the project will have on the neighborhood and provide a way for neighbors to evaluate the impact the project will have on their respective properties. Thank you for your consideration.
Charles & Jill Canellakis
100 Eucalyptus Knoll
(707)339-0801

be erected to as part of the upcoming EIR evaluation for 1 Hamilton by the **Friday 1/27/2023 deadline** for scoping feedback. If the City does not install story poles at 1 Hamilton, it would be further evidence of the City's discriminatory treatment of East Mill Valley neighborhoods.

From:	Christopher L. Lebsock
To:	Danielle Staude; Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Sashi McEntee; Max Perrey; Patrick Kelly
Subject:	[External] Story Poles for 1 Hamilton
Date:	Saturday, January 21, 2023 12:18:53 PM
Attachments:	image473065.png image418581.png

Dear Members of the City Council:

I understand that the City seeks to avoid erecting story poles at 1 Hamilton. Under the City's own policy—as noted on the City of Mill Valley Planning Department's "Story Pole Certification"—the "purpose" of the story pole requirement is "[t]o provide the decision makers and neighbors with a visual tool to evaluate the proposed construction." *See* https://www.millvalleylibrary.org/DocumentCenter/View/573/Story-Pole-Certification-PDF#:~:text=To%20provide%20the%20decision%2Dmakers,to%20evaluate%20the%20proposed%20construction.&text=Install%20story%20poles%20or%20site,addition%20to%20an%20existing%20building.

The only credible reason that I can fathom for why the City would exempt itself from the sensible obligation it imposes on members of this community to provide "neighbors with a visual tool to evaluate the proposed construction" is that the City Council is concerned about the reaction of the community. Please remember that you are vested with leading the City's affairs for a short period of time relative to the life of the proposed project, and that your personal support of this project must not blind you to the views of the entire community, including those most directly affected by it. The community has a right to see, in advance, the mass of the structure that is being proposed so that the community can provide informed feedback to you about what is (or is not) appropriate for this site.

A reasonable request has been made for story poles. You should honor it.

Best Regards,

Chris

CHRISTOPHER L. LEBSOCK
Partner
clebsock@hausfeld.com
+1 415-633-1949 direct

HAUSFELD

600 Montgomery Street
Suite 3200
San Francisco, CA 94111
+1 415 633 1908
hausfeld.com

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From:	Christopher L. Lebsock
To:	Danielle Staude; Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Sashi McEntee; Max Perrey; Patrick Kelly
Subject:	[External] Story Poles for 1 Hamilton
Date:	Saturday, January 21, 2023 12:18:17 PM
Attachments:	image473065.png image418581.png

Dear Members of the City Council:

I understand that the City seeks to avoid erecting story poles at 1 Hamilton. Under the City's own policy—as noted on the City of Mill Valley Planning Department's "Story Pole Certification"—the "purpose" of the story pole requirement is "[t]o provide the decision makers and neighbors with a visual tool to evaluate the proposed construction." *See* https://www.millvalleylibrary.org/DocumentCenter/View/573/Story-Pole-Certification-PDF#:~:text=To%20provide%20the%20decision%2Dmakers,to%20evaluate%20the%20proposed%20construction.&text=Install%20story%20poles%20or%20site,addition%20to%20an%20existing%20building.

The only credible reason that I can fathom for why the City would exempt itself from the sensible obligation it imposes on members of this community to provide "neighbors with a visual tool to evaluate the proposed construction" is that the City Council is concerned about the reaction of the community. Please remember that you are vested with leading the City's affairs for a short period of time relative to the life of the proposed project, and that your personal support of this project must not blind you to the views of the entire community, including those most directly affected by it. The community has a right to see, in advance, the mass of the structure that is being proposed so that the community can provide informed feedback to you about what is (or is not) appropriate for this site.

A reasonable request has been made for story poles. You should honor it.

Best Regards,

Chris

CHRISTOPHER L. LEBSOCK
Partner
clebsock@hausfeld.com
+1 415-633-1949 direct

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600 Montgomery Street
Suite 3200
San Francisco, CA 94111
+1 415 633 1908
hausfeld.com

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From: Craig Heath
To: Patrick Kelly
Subject: [External] Story Poles for 1 Hamilton
Date: Sunday, January 22, 2023 6:02:06 AM

Dear Patrick,

I'm asking that story poles be erected for the 1 Hamilton proposed project.

Thank you,

Craig Heath
128 Eucalyptus Knoll Street

Sent from my iPhone

From: Daphne de Marneffe
To: Patrick Kelly
Subject: [External] 1 Hamilton Project
Date: Sunday, January 22, 2023 1:05:17 PM

Dear Patrick Kelly,
In anticipation of upcoming reviews of the 1 Hamilton Project, we request the city erect story poles at the site. We believe they are both required and necessary for appropriate review of the project.
Thank you.
Sincerely,
Daphne de Marneffe & Terry Becker

From:	Darla Farr
To:	Patrick Kelly
Subject:	[External] EIR evaluation for 1 Hamilton
Date:	Thursday, January 26, 2023 9:33:04 AM

Mr. Kelly -
As a resident of the Hamilton area, I expect story poles to be erected as part of the upcoming EIR evaluation for the proposed 1 Hamilton housing project.

The proposal for this property represents an urban density in a suburban neighborhood and the community deserves to see those density and height dimensions before building occurs. That this was not in the EIR scope has the appearance of an obfuscation of that impact.

The community deserves to have story poles erected for the environmental impact assessment for the proposed 1 Hamilton project.

Thank you for addressing this matter,
Darla Farr
118 eucalyptus Knoll Street

From: flowchart@gmail.com
To: Patrick Kelly
Subject: [External] EIR Evaluation for 1 Hamilton Dr - Story Poles
Date: Saturday, January 21, 2023 11:42:35 AM

01/21/2023

Dear Mr Kelly,

Please add my voice to request story poles be placed for the proposed 1 Hamilton Dr building project so that the Mill Valley community can visually better understand the potential physical impact of this project.

Thank you,

Dave Ewing
68 Millay Place
MV, CA 94941

From: Dave Chenoweth
To: Patrick Kelly
Subject: Fw: [External] Where Are The Story Poles?
Date: Saturday, January 21, 2023 12:04:12 PM

Dear Mr. Kelly,

I write to you to demand that story poles be erected on the site of the proposed housing to be built on Hamilton Drive. I further demand that story poles be erected at the location of the new toilets. I am not aware of where they will be placed. Also, the location should be tested for asbestos.

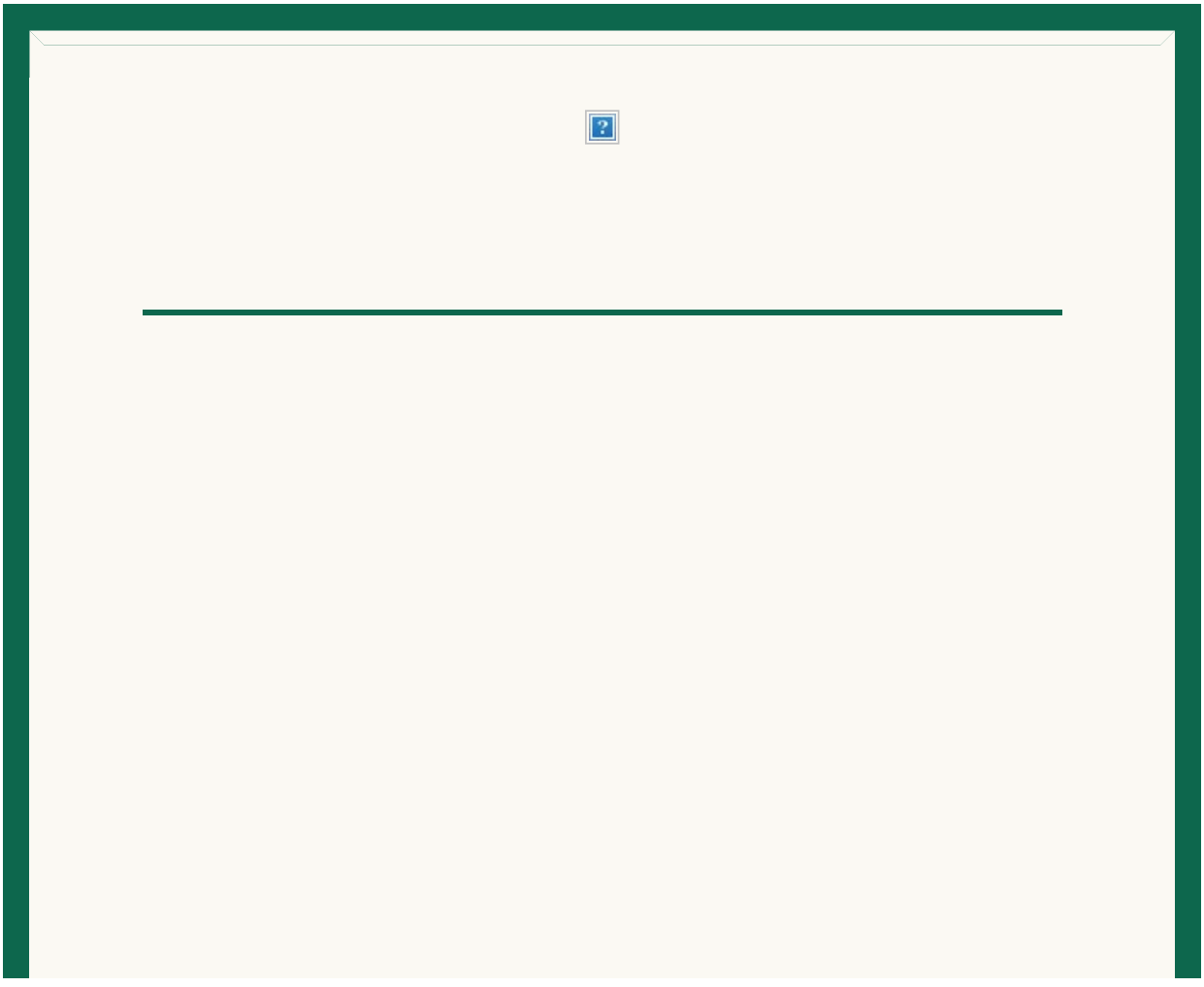
I believe it is important in the interest of openness that this information be made public.

Thank you,

David Chenoweth

----- Forwarded Message -----
From: Friends of Hauke Park <info@haukepark.org>
To: Dave Chenoweth <dave_chenoweth@yahoo.com>
Sent: Saturday, January 21, 2023 at 10:33:33 AM PST
Subject: Where Are The Story Poles?

Can't see this message? View in a browser



Dear Friends of Hauke Park,

In yet another attempt to hide their intentions and the impact of their actions, the Mill Valley City Council is trying to get away with not using story poles at 1 Hamilton. Story poles are a necessary demonstration of the visual impact of the planned building, are often part of an Environmental Impact Report (EIR), are required by the City's own Residential Design Handbook, and were just required by the City for the 25-unit project on East Blithedale.

We are asking you to email Patrick Kelly

(pkelly@cityofmillvalley.org) to demand that story poles be erected to

as part of the upcoming EIR evaluation for 1 Hamilton by the **Friday 1/27/2023 deadline** for scoping feedback. If the City does not install story poles at 1 Hamilton, it would be further evidence of the City's discriminatory treatment of East Mill Valley neighborhoods.

If you also wish to add your name to the FOHP petition, please do so using this **link** **before Friday 1/27/2023**.

Warmly,

Gary Batroff

Easy ways to donate:

Mail check to:

Friends of Hauke Park

108 Kipling Dr,

Mill Valley, CA 94941

Venmo to

@David-Wygant-1

(code 4376)

PayPal to

David.wygant@gmail.com

(Choose *Friends & Family* to avoid fee)

Hauke Park, Mill Valley, CA 94941, USA

Our site

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From:	David Wygant
To:	Patrick Kelly
Subject:	[External] Story Poles - 1 Hamilton requested
Date:	Saturday, January 21, 2023 3:08:47 PM

Mr Kelly,

The aesthetics discussion and analysis in the EIR will evaluate the visual impact of the 1 Hamilton project with regard to building height, bulk/mass, and view alteration/obstruction.

Story poles were recently erected for the 25-unit Richardson project west of Camino Alto and the residents east of Camino Alto deserve equal treatment for the 45-unit 1 Hamilton project.

Consequently, I ask that you put up story poles for the 1 Hamilton project. Thank you for your consideration.

David Wygant

108 Kipling Dr

Danielle Staude

From: Patrick Kelly
Sent: Tuesday, January 3, 2023 2:15 PM
To: Danielle Staude
Subject: FW: [External] Environmental review 1 Hamilton

Please make sure Elizabeth's contact info. is included in the interested parties list for the 1 Hamilton DEIR.

Thank you,

Patrick Kelly, MPA, AICP
Director of Planning & Building
Planning & Building Department
26 Corte Madera Ave, CA 94941
Web: https://www.cityofmillvalley.org
Email: pkelly@cityofmillvalley.org
Phone: 415-388-4039

Please note that City Hall will be closed on the following dates in December and January for holidays and regular Fridays closed. Please plan accordingly where possible:

Thurs 12/22 – Mon 1/2
Fri 1/6
Mon 1/16
Fri 1/20

From: Elizabeth O <elizabethodonnelllong@gmail.com>
Sent: Tuesday, December 27, 2022 10:50 AM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Cc: communications@eahhousing.org
Subject: [External] Environmental review 1 Hamilton

I attended the Joint City Council and Planning Commission meeting on November 30th where I asked what plans EAH had to deal with the serpentine rock containing asbestos which is located in the area of the 1 Hamilton project site. Construction on this site will obviously disturb the rock and result in the release of asbestos into the air. As the City and EAH are aware, our Mill Valley children's sports fields are located across the street.

The EAH representative replied that he was unfamiliar with asbestos or how to deal with it at a building site. He said that it would be an issue for the construction people to deal with. He acknowledged EAH had not investigated the serpentine rock but knew that there was concern in the community about it. He said that he supposed what they would do would be to monitor the site during construction for the release of asbestos. He said he didn't foresee that the asbestos would be a major problem or one that would be limiting to the project.

First, being unfamiliar with where or how much serpentine rock/asbestos is present at the proposed construction site, or what to do about it seems to me to be a dereliction of duty on the part of EAH (as well as

the City)! Since asbestos remediation could drive the cost of the 1 Hamilton project to astronomical levels, one would think the extent of the asbestos problem would be a priority to investigate. I believe ignoring this issue until now is completely unacceptable.

The serpentine rock is plainly visible on county hazard maps of the site, so a check of this hazard should be a no-brainer. The City of Mill Valley has given EAH $150,000 for “pre-development” work on 1 Hamilton. With that money multiple studies with drawings, calculations and photos were done to explore the potential interruption of residential views, but nothing has been done regarding a simple and easy check into a hazard like asbestos? They drilled the ground for a soil stability check, but specifically ignored checking the rock for the asbestos hazard. Who made that choice?

Furthermore, claiming the “fix” will be monitoring the air for asbestos “after the fact” of its release but knowing nothing about how to deal with its presence is appalling.

Asbestos release from the rock would affect the Mill Valley children’s sports fields at Hauke Park across the street. This is beyond troubling.

EAH and the City need to do a lot better than this for the health of our children

Elizabeth O'Donnell
95 Eucalyptus Knoll Street
Mill Valley, CA
Elizabethodonnelllong@gmail.com

From: Elizabeth Suzuki
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Thursday, January 26, 2023 4:39:22 PM

Greetings Patrick.

I am writing to insist that the city be consistent with regard to requiring story poles for the 1 Hamilton project. The policy requiring story poles has been in existence for as long as I can remember, and I don't see any reason to suddenly treat one project differently.

Story poles can be simplified but not eliminated.

Elizabeth Suzuki

From: Ellen Riaboff
To: Patrick Kelly
Subject: [External] 1 Hamilton EIR
Date: Monday, January 23, 2023 11:28:54 AM

Dear Mr. Kelly,

I have heard that Mill Valley doesn't want to put up story poles for their project at 1 Hamilton. The projected building is twice the size of the one on East Blithedale that has story poles. People who live in the neighborhood, people who use the park and those who occasionally drive up Hamilton deserve to see story poles to understand the impact this building will have on Hauke Park and its surroundings.

Every new building and remodel in Mill Valley has always required story poles. There is no excuse for not putting them up for this project unless the city is discriminating against those of us who live East of Camino Alto.

Sincerely,

Peter Riaboff

From:	Eric Bindelglass
To:	Danielle Staude; Patrick Kelly; Jim Wickham - Mill Valley mail; Max Perrey; Stephen Burke; Urban Carmel
Subject:	[External] Request For Story Poles At One Hamilton
Date:	Saturday, January 21, 2023 1:21:16 PM

One of the most important objectives of the EIR process at One Hamilton is to evaluate the visual impact of the project with regard to building height and bulk/mass. I am requesting/urging the City to have store poles installed at the site (as they were at 575 E. Blithedale) so that aesthetic impact can be properly evaluated by the City and the Public. Erecting story poles is standard practice and consistent with the City's Residential Design guidelines. Seeing the actual massing of the building will provide essential input as you make such an important long-term decision for our community. Please do not let EAH talk you out of taking this responsible and valuable step on this project.

Thank you for your consideration and for your continued leadership and work.

Regards,
Eric Bindelglass
Mill Valley

From: Patrick Kelly
To: Danielle Staude
Subject: Fwd: [External] In support of affordable housing initiatives in Mill Valley
Date: Friday, January 20, 2023 2:27:12 PM

FYI

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Jaki Chaparro <jakichaparro@gmail.com>
Sent: Friday, January 20, 2023 2:18:42 PM
To: Patrick Kelly <pkelly@cityofmillvalley.org>
Cc: Chuck Moore <chuck@chuckmoore.net>
Subject: [External] In support of affordable housing initiatives in Mill Valley

Dear Mr Kelly,

We own property on Dorset Lane and selected this property because it was an opportunity to interact with our neighbors and become part of a community. We have neighbors who rent properties and others are owner occupied homes.

I love raising our children in Mill Valley but have concerns that they may not be able to live here if they decide to return after college.

We need affordable housing and a welcoming environment for all humans. Housing is a right and it really saddens me to see neighbors struggle financially. Some are deciding to leave Mill Valley to experience a better quality of life.

We have natural beauty but we need to address the need for affordable housing. We had a history of redlining and we need to do better now!

I say “Yes In My Backyard” and feel that using Traffic, Parking at Hauke Park and other Environmental Concerns as excuses to delay addressing the housing issue.

Thank you for accepting comments on this issue.

Best,
Jacqueline Chaparro- Moore

From: GABE and SUSIE NGARANGAD
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Sunday, January 22, 2023 7:16:37 AM

Mr. Kelly,

I was very disappointed to hear that the city is considering not erecting story poles for the proposed development at 1 Hamilton. I am unable to think of a non-duplicitous reason to not use story poles. The use of story poles will provide residents an honest representation of the project. Please follow common practice and use story poles and restore some sense of credibility to the Mill Valley City Council.

Sincerely,
Gabriel and Susie Ngarangad

From:	Gabrielle Tierney
To:	Danielle Staude; City Clerk; Jim Wickham - Mill Valley mail; Max Perrey; Stephen Burke; Urban Carmel; Patrick Kelly
Cc:	Gabrielle Tierney
Subject:	[External] 1 Hamilton
Date:	Saturday, January 21, 2023 1:10:28 PM

Mayor, City Council Members and Planning Department,
I am writing to reinforce the request for story poles to be put up for 1 Hamilton. At previous meetings this repeated request has been met with rejection with no credible reason or discussion. It is feasible to put up story poles especially with this project being adjacent to a hillside (I have a career in commercial development and know). Erecting story poles is a standard practice and would go far in demonstrating transparency by EAH and the City.

It is important that all of you to see for yourself, the actual massing of this development in order to make such an important, long term decision for our community.

Thank you.

Gabrielle Tierney

From: Gary Batroff
To: Patrick Kelly
Subject: [External] EIR Scoping Feedback
Date: Monday, January 23, 2023 8:00:30 AM

Hi Patrick,

Here's my feedback on the EIR Scoping:

- We recently saw a very large set of story poles go up for the 25-unit Richardson project west of Camino Alto and the residents east of Camino Alto deserve equal treatment for the 45-unit 1 Hamilton project.
- Excuses were made at the last design meeting that story poles aren't used for buildings this big. I spent 90 seconds online and found a company to respond to me that does 100-foot-high story poles. So, it can and is done elsewhere.
- Excuses were also made about the cost of story poles. Given the city has already thrown half a million dollars into this project, you should also be willing to put in story poles.
- A failure by the city to put up story poles for such an important project will only be interpreted as additional discrimination towards East Mill Valley.

Best regards,

Gary

From: Gillian Emblad
To: Patrick Kelly
Subject: [External] Hamilton Project
Date: Saturday, January 21, 2023 11:21:00 AM

Hello Mr. Kelly,

Could you please tell me why we do not have story poles for the Hamilton Project? I live here and would like to see how big this building is proposed to be and what it will look like in our currently beautiful hillside.

THank you,
Gililan Emblad
50 Millay Place.

PS I'd like to again voice my concern at a large apartment building at this site. I would be fine if you housed the same number of people there but kept it in the style that already exists nearby of duplexes and townhomes. It is not the people I oppose, just an obtrusively large structure in an otherwise family area.

--



From: Grant Morris
To: Danielle Staude
Subject: [External] 1 Hamilton Project - Request for Story Poles
Date: Friday, January 20, 2023 2:07:02 PM

Dear Danielle:

For the 1 Hamilton project, one of the environmental impacts to be addressed in the draft EIR is aesthetics.

To properly evaluate the aesthetic impact, I request that story poles be installed at the site. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass and viewshed alteration/obstruction of the project.

Story poles are up for the project at 575 E. Blithedale which has half the units of the 1 Hamilton project. The City's Residential Design Handbook references a story pole plan as part of the application process. If the City does not install story poles at 1 Hamilton, this is further evidence of the City's discriminatory treatment of those residents who live east of Camino Alto.

Thank you for your consideration of these comments.

Grant Morris

From: GUNNEL STROM
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Saturday, January 21, 2023 10:57:53 AM

Dear Mr. Kelly,

Why is it that you feel you don't have to put up story poles for the project at 1 Hamilton when it is required for any homeowner in Mill Valley to do so for their project and it is a requirement as per your hand book guide lines.
I am looking forward for your response.

All the best
(Ms.) Gunnel Strom
All the best and stay well

(Ms.) Gunnel Strom

Office: 415-956-1514 (Mondays and Thursdays)
Mobile: 415-385-6645

From:	Hauke Park
To:	Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Max Perrey; Danielle Staude; Patrick Kelly; City Clerk
Subject:	Re: [External] Request to put up story poles for 1 Hamilton
Date:	Friday, January 27, 2023 6:46:58 PM

Hello,
This signature was received later in the afternoon today. Please append to the list.
Jacqueline Finn

Thank you,
FOHP

On Fri, Jan 27, 2023 at 1:17 PM Hauke Park <info@haukepark.org> wrote:

> Dear Mill Valley City Council members, I am adding my name to this petition to request that story poles be erected as part of the 1 Hamilton EIR. The aesthetics discussion and analysis in the EIR will evaluate the visual impact of the project with regard to building height, bulk/mass, and viewshed alteration/obstruction. The project will be evaluated for consistency with applicable City design guidelines and other policies related to the protection of views from public corridors. Story poles were recently erected for the 25-unit Richardson project west of Camino Alto and the residents east of Camino Alto deserve equal treatment for the 45-unit 1 Hamilton project. Excuses made about the height and cost of story poles are not acceptable. A failure by the city to put up story poles for such an important project only points to continued discrimination towards East Mill Valley. Sincerely, Friends of Hauke Park
> Julianna Hayes
> Keith Feldman
> Craig B Collins
> Marion Brennan
> Gail katz
> Simin Batroff
> Gunnel Strom
> Eric Bindelglass
> David Chenoweth
> James Horio
> Regina Garcia
> Richard Garcia
> James D. LaRocca
> Jill Lebsock
> Scott Griemsmann
> Jane Black
> David Kennedy
> Cameron fletcher
> Ryan Jones
> Rod eshelman
> Mary McGerity
> Betty Taisch
> Christopher Lebsock
> Sue Hefty
> Alice McCarthy
> Brooke Welch
> Mike Shapiro
> Janice Leach

Nana Meyer
Tom Conneely
David Wygant
Carlos Montalvan
wayne buder
Steve Suzuki
Nancy McQuilkin
Dorinne Low
Ann M Mannheimer
Stephen C. Pardys
Renée ward
Jennifer Bennett
Craig Heath
Gabriel Ngarangad
Ruth Holly
Leslie Shiner
Roger Hefty
Toni Brayer
Elise Vitale
Craig Patterson
Peggy Mathers
Jennifer Boon
C, McQuilkin
Mary Beth Culler
Laurie Schwarz
Eva Libien
Mark Hayes
Peter Riaboff
Ligaya Arcy
Kristi Duchon
Carolyn Hughes
Jillian Wood
Lindsay Lohden
Anna Biggio
Geoff MacDonald
Gary Batroff
Adriana J Broullon
Patrick McCarthy
Tim steele
Marie Greunke
Gregory Greunke
Donna Andrews
S. Johnson
Maria Scott
James Urfer
Eva Libien
Brad Drury
Gisela I Lake
Elizabeth Suzuki
Jim Filippi

Pei Chin Chiang
Sze Lim

From: Jennifer Jones
To: Patrick Kelly
Subject: [External] Story Poles
Date: Saturday, January 21, 2023 8:58:25 PM

Dear Mr. Kelly,
Please ensure that story poles are put up for the 1 Hamilton project.
Sincerely,
Jennifer Bennett

Sent from my iPhone

From: Jeralyn Seiling
To: Danielle Staude; Jim Wickham - Mill Valley mail; Urban Carmel; Stephen Burke; Max Perrey; City Clerk
Subject: [External] Request For Story Poles At One Hamilton
Date: Friday, January 27, 2023 8:09:02 AM

Danielle, please add my voice to the chorus of voices urging the City to erect story poles for the One Hamilton project. It is impossible to gather meaningful community input on the draft EIR without a visualization of the building's height and mass. EAH complains that it is expensive, but EAH makes this claim for every one of their projects, all while sitting on an extraordinary amount of working capital, getting free land, and happily accepting additional funds from the City, donors and grants to cover all of its costs. It is not about the expense; it is about cutting off community input.

Story poles are required for other projects, including 575 E. Blithedale, so why is this neighborhood once again being treated differently? We have been told repeatedly that the City has not built any housing for 30 years, so this is obviously a project of great interest to the community. Please act accordingly and provide fair opportunities for input.

I also ask that my email, and all other emails received by the City about the need for story poles, be provided to the Planning Commission prior to any Commission meetings that relate to One Hamilton.

Thank you.
Jeralyn Seiling, J.D.
21 Longfellow Road, Mill Valley

From: Jim Devitt
To: Patrick Kelly; Danielle Staude
Subject: [External] 1 Hamilton Project
Date: Tuesday, January 24, 2023 12:13:35 PM

As a former Mill Valley Planning Commissioner (1990-1997), I strongly recommend that story poles be installed for the 1 Hamilton project. This project should follow the same requirements as other projects. Mill Valley citizens deserve an objective and comprehensive review of 1 Hamilton. Thank you for your service to our community, Jim Devitt

From: John Ballard
To: Patrick Kelly
Subject: [External] Please respond to question regarding 1 Hamilton affordable housing project
Date: Saturday, January 21, 2023 8:03:45 PM

Dear Patrick,
I am a long term resident of Mill Valley, close to 30 years. Thank you for your hard work and service to the city. We all wish to see affordable housing in the city, and I have four questions regarding the project at #1 Hamilton:
1) What is the cost of the project?
2) Who will be paying for it, a builder? The city? And how will the costs be recompensed?
3) Will I, as a homeowner in the City of Mill Valley, have my taxes raised in any way as a result of this project?
4) if so, by approximately how much?
Kindly respond with as much info as you can.
Thank you so much for this courtesy and all you have done to make our city a better place to live.
Respectfully yours,
John Ballard, President
OpenArt Productions LLC
(Film Producer and Director, former Mill Valley teacher Awarded Congressional Gold Medal by United States Congress)
443 Molino Ave. Mill Valley
PRIVATE CELL: 415-233-2822

From: Judith Staples
To: Danielle Staude
Subject: [External] 1 Hamilton Project - Story Poles
Date: Friday, January 20, 2023 2:55:08 PM

Dear Danielle,

Given the size and location of the proposed 1 Hamilton project, in an existing community and adjacent to a community park, story poles are especially important and should be required as with all other projects. (NOTE Story poles for the 575 E.Blithedale project are up)

Please ensure that story poles for 1 Hamilton will be installed so that the scale and impact of the building(s) can be assessed.

From the
City of Mill Valley Planning Department Design Review Application Submittal Checklist

Story Pole Plan: (may be combined with roof plan or site plan for simple projects). Story poles must be installed 10 days prior to the public hearing and certified by a licensed land surveyor (certifying document **must** be submitted to the Planning and Building Department). Story poles **must** show the elevations to the wall line (not eaves) of the proposed corners and **must** be strung with bright colored netting or heavy-duty tape to represent the roofline of the proposed structure or addition. Police caution tape is not allowed. The intent for story poles is to represent a general outline of the significant height features of the proposed structure. Not every building corner or architectural element is required to have a story pole. In the event a structure, tree, or powerline interferes with installation of story poles, the Planning and Building Director will make a determination for how to demonstrate proposed building height. The applicant shall submit the following information...

Sincerely,

Judith Staples

From: KAREN SHAPIRO
To: Patrick Kelly
Subject: [External] Story Poles
Date: Saturday, January 21, 2023 11:07:13 AM

Where are they for the Hamilton project? They were put up for East Blithedale. They alway need to be erected. I don't understand why you are not treating this project the same way. There have been half truths all the way along… we want them up to see size and scope if project. That is the right thing to do.
Sincerely,
Karen Evans

Sent from my iPhone

From: Gail Katz
To: Danielle Staude
Cc: Jim Wickham - Mill Valley mail; City Clerk; Patrick Kelly
Subject: [External] Request to put up story poles at 1 Hamilton site
Date: Friday, January 20, 2023 4:22:06 PM

Dear Danielle:

I am requesting the installation of story poles at the 1 Hamilton site. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass and viewshed alteration/obstruction of the project. Story poles are up for the project at 575 E. Blithedale which has half the units of the 1 Hamilton project. The City's Residential Design Handbook references a story pole plan as part of the application process. If the City does not install story poles at 1 Hamilton, this is further evidence of the City's discriminatory treatment of those residents who live east of Camino Alto. Excusess such as cost are not valid as the city as already spent 1/2 million on this project. Excuses that story poles are not used for buildings this big are also not valid and not the case.

Regards,
Gail Katz
89 Keats Drive

-

From: Keith Feldman
To: Patrick Kelly
Subject: [External] 1 Hamilton // Story Poles
Date: Saturday, January 21, 2023 10:44:12 AM

Hello Patrick,

It is essential to erect story poles at 1 Hamilton to understand the full visual impact of the proposed development.

It seems unusual and manipulative to not erect/display story poles for 1 Hamilton when this has been part of other developments, including the most recent one on East Blithedale.

Thank you,

Keith

From:	Kim Hettena
To:	Patrick Kelly
Subject:	[External] Story Poles for proposed development at 1 Hamilton, Mill Valley
Date:	Saturday, January 21, 2023 3:03:21 PM

I live at 8 Eucalyptus Knoll St. in Mill Valley in close proximity to the proposed development at 1 Hamilton. Without story poles, it is impossible to assess the impact of the development on views and the environment, and I strongly urge that story poles be installed to give local residents a realistic understanding of the scope of the project.

Kim Hettena

From: Kristi Duchon
To: Patrick Kelly
Subject: [External] 1 Hamilton EIR Evaluation
Date: Monday, January 23, 2023 1:59:43 PM

Patrick Kelly,

I am writing to demand that story poles be erected as part of the upcoming EIR evaluation for 1 Hamilton by the Friday 1/27/2023 deadline for scoping feedback. Story poles are a necessary demonstration of the visual impact of the planned building and are required by Mill Valley's own Residential Design Handbook. They were required by the City for the smaller, 25-unit project on East Blithedale. If the City does not install story poles at 1 Hamilton, it is further evidence of the blatant discriminatory treatment of the East Mill Valley neighborhoods.

Thanks for your urgent attention.

Kristi Duchon
Homeowner, 151 Kipling Drive

From: Ladonna
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Wednesday, January 25, 2023 10:05:27 AM

Dear Mr. Kelly,
It is in the community's best interest to put up story poles for the 1 Hamilton development. I was very surprised to hear that this wasn't considered. The proposed development, which is massive, will impact the immediate environment. The Mill Valley website describes story poles as a requirement for projects. Is 1 Hamilton an exception? If so, why?
Respectfully,
Ladonna Wood
91 Longfellow

Sent from my iPhone

From: Linda Rames
To: Danielle Staude; Patrick Kelly
Subject: [External] Story poles at Hauke development
Date: Monday, January 23, 2023 5:49:36 PM

I feel it is imperative that story poles be erected to show the scope of the EAH/MV proposed development of affordable housing at Hauke Park. What would make the city think it is necessary to have story poles for the Richardson project and not for the Hauke Park development which is slated to be much larger and even more intrusive to the neighborhood around Hauke Park? Too expensive is a pretty poor excuse when EAH is receiving the land for free. l suggest the city stop jerking these neighbors around and follow the law.

Linda Rames
owner: 206-208 Miller Avenue
Mill Valley, CA 94941

From:	Lisa
To:	Patrick Kelly
Cc:	Danielle Staude; Jim Wickham - Mill Valley mail; Urban Carmel; Max Perrey; City Clerk
Subject:	[External] Story Poles at 1 Hamilton?
Date:	Sunday, January 22, 2023 12:15:50 PM

Mayor, Planning Department and City Council,

Numerous requests for story poles at 1 Hamilton were made at the joint meeting of City Council and Planning Department. EAH stated that story poles at this proposed height are costly and rarely done. EAH believes their renderings are sufficient to indicate scale and height. I respectfully disagree. Most people can't translate 2-dimensional renderings into 3-dimensional impact. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass, and visual impact of the project.

Why did the City require story poles for Richardson Terrace—a 25-unit project at 575 E. Blithedale— but not for 1 Hamilton? Erecting story poles is standard practice and consistent with the City's Residential Design guidelines. They absolutely should be required for a project the size of 1 Hamilton. It seems the E. Blithedale project requires complete phases of review, while short cuts are sufficient for 1 Hamilton. The City again assumes our neighborhood doesn't warrant equal consideration.

Lisa Edson Design
7 Coleridge Drive
Mill Valley, CA 94941

From: Lynn Perry
To: Patrick Kelly
Subject: [External] Story poles for 1 Hamilton
Date: Monday, January 23, 2023 11:26:35 AM

Dear Mr. Kelly,

Please make sure that story poles be erected to as part of the upcoming EIR evaluation for 1 Hamilton. There is no other way for us to tell the true height and mass of any proposed project. Thank you.

Regards,

Lynn Perry
4 Eucalyptus Knoll St.
Mill Valley CA 94941

PLEASE NOTE: This e-mail (including any attachments) may contain material that is confidential and for the sole use of the intended recipient. Any review, reliance, distribution or forwarding without express permission is strictly prohibited. If you are not the intended recipient, please let the sender know and delete all copies.

From: Marie Greunke
To: Danielle Staude
Subject: [External] 1 Hamilton Project
Date: Friday, January 27, 2023 9:31:14 AM

Dear Danielle,

It is really a rather simple question. Should the residents of Mill Valley be given the opportunity to become fully aware of the size of the proposed 1 Hamilton project or not.

That this large building will have an impact on the many children and families who use the field and park near the site is indisputable.

It would be an embarrassment and a sad commentary about Mill Valley to hear from the public later that "we had no idea" the project was the size it is, and that requests for providing valuable visual information were simply ignored.

Rather, Mill Valley be praised for honoring its commitment to respect its residents by providing the best information available on our city's developing landscape and on this project specifically.

Erecting story poles on the site will provide the best information as no words or drawings can do.

I request that story poles be timely erected on the 1 Hamilton project site.

Thank you for your attention.

Sincerely, Marie Greunke

From: Marion Brennan
To: Patrick Kelly
Subject: [External] Story Poles
Date: Saturday, January 21, 2023 10:49:28 AM

I understand that story poles are required for environmental impact report and ask that the city of Mill Valley follow its own regulations.
Sincerely,
Marion Brennan
45 Longfellow Rd

Sent from my iPad

From: Mark Breitbard
To: Danielle Staude
Subject: [External] 1 Hamilton DEIR
Date: Saturday, January 21, 2023 3:36:05 PM

Hi Danielle,

Please forward this letter to the Council, regarding the 1 Hamilton proposed project. I would like to request that the city follow its own guidelines in the Residential Design Handbook and include Story Poles as part of the EIR.

This is an opportunity for transparency and for the entire community, not just residents near 1 Hamilton to evaluate this proposal. 575 E. Blithedale has story poles and is a smaller project. The scale of the 1 Hamilton proposal requires clear visuals to completely understand the impact.

Please enforce the use of story poles on this project.

Thank you,

Mark Breitbard

From: Mary Ann Dunlap
To: Patrick Kelly
Subject: [External] One Hamilton must have story poles to demonstrate the visual impact of the project! Mary Ann Dunlap 62 Eucalyptus Knoll St. Mill Valley
Date: Thursday, January 26, 2023 6:21:53 AM

From:	Michael Stern
To:	Danielle Staude; City Clerk; Jim Wickham - Mill Valley mail; Max Perrey; Stephen Burke; Urban Carmel; Patrick Kelly
Subject:	[External] 1 Hamilton story poles
Date:	Sunday, January 22, 2023 9:47:20 AM

Mayor, City Council Members and Planning Department,

I'm writing to request that story poles be installed for the 1 Hamilton project. It's my understanding that the developer does not want them installed. It's also my understanding that story poles for new construction are a requirement under the city code; as a developer in Marin I've been required to put them up on every project we've done in Mill Valley. The size of the proposed structure makes it even more important to install the poles, just as they're been installed on your large 575 East Blithedale project, as it's unfair for our community to have no idea of the scale of the project based on looking at drawings alone. It seems that's the whole purpose of story poles, and it would be a great disservice to the city's residents to have the project move forward without complete information on the project.

If you are being told that the poles can't be put up in that location,'I'll be happy to provide contact information for a reliable company that can and will do the work. Given its hillside location it should be no problem to put them up.

This is an important project for the City, and I strongly recommend that it is handled properly, openly and with complete respect for the residents of Mill Valley. Thanks very much for your consideration. I look forward to seeing those story poles.

Michael Stern
415-730-4885 (c)

From: micheledermer
To: Patrick Kelly
Subject: [External] 1. Hamilton Drive
Date: Wednesday, January 25, 2023 3:43:07 PM

Hello Sir -

My neighbors are suggesting we request story poles for this proposed project. Seems reasonable and required, so I'm adding my name to the request.

Thank you for your attention.

Sincerely
Michele DERMER
23 Eucalyptus knoll
Mill valley 94941

Sent from my iPhone

From: patenski.pd@gmail.com
To: Patrick Kelly
Subject: [External] Story Poles for the Upcoming EIR Evaluation for 1 Hamilton
Date: Thursday, January 26, 2023 3:14:10 PM

Dear Mr. Kelly,

In the interest of full community transparency please erect story poles as part of the upcoming EIR evaluation for 1 Hamilton.

I believe Story poles are a necessary demonstration of the visual impact of the planned building, are often part of an Environmental Impact Report (EIR), are required by the City's own Residential Design Handbook, and were just required by the City for the 25-unit project on East Blithedale.

I further believe if the City does not install story poles at 1 Hamilton, it would be evidence of the City's discriminatory treatment of East Mill Valley neighborhoods.

Thank you.

Sincerely,

Patricia Delucchi
112 Eucalyptus Knoll Street
Mill Valley, CA 94941

From: Paula Weaver
To: Danielle Staude
Subject: [External] Request for Story Poles to Assess Aesthetics of 1 Hamilton Project
Date: Thursday, January 19, 2023 6:04:01 PM

Dear Danielle:

For the 1 Hamilton project, one of the environmental impacts to be addressed in the draft EIR is aesthetics. I quote from the Notice of Preparation:

"Aesthetics
The aesthetics discussion and analysis in the DEIR will evaluate the visual impact of the project with regard to building height, bulk/mass, and viewshed alteration/obstruction. The project will be evaluated for consistency with applicable City design guidelines and other policies related to the protection of views from public corridors. "

To properly evaluate the aesthetic impact, I request that story poles be installed at the site. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass and viewshed alteration/obstruction of the project.

Story poles are up for the project at 575 E. Blithedale which has half the units of the 1 Hamilton project. The City's Residential Design Handbook references a story pole plan as part of the application process. If the City does not install story poles at 1 Hamilton, this is further evidence of the City's discriminatory treatment of those residents who live east of Camino Alto.

Thank you for your consideration of these comments.

Paula McGrath

From: Peggy Mathers
To: Patrick Kelly
Subject: Re: [External] Where Are The Story Poles?
Date: Sunday, January 22, 2023 9:53:29 AM
Attachments: Snoopy Final2 SMALL.png

We want to see the story poles for this project so we can make our own assessment. Do not ignore this part of our community rights.

Peggy Mathers
46 Eucalyptus Knoll
Mill Valley CA 94941
(415) 720-2735

pjmathers@comcast.net

"We are waves from the same sea,
Leaves from the same tree,
And flowers from the same garden.
- Seneca the Younger ~65 AD



On Jan 21, 2023, at 8:18 PM, jillinz@gmail.com wrote:

pkelly@cityofmillvalley.org

From: Ray Taylor
To: Patrick Kelly
Subject: [External] #1 Hamilton
Date: Saturday, January 21, 2023 11:02:43 AM

Hi ~ I've just learned that the city does not plan to erect story poles for this project. I object ~ it seems more and more that this inappropriate project is being shortcutted. I noticed the story poles at the 575 E. Blithdale proposed project - why not at 1 Hamilton?

Ray Taylor
6027 Shelter Bay Ave.
Mill Valley, CA 94941

From: Reg
To: Patrick Kelly
Subject: [External] Story poles
Date: Saturday, January 21, 2023 11:03:03 AM

Hi
I live close to the project planned at 1 Hamilton and wish to see story poles placed. Other projects around town have placed poles so I do not see why 1 Hamilton is not doing so too! It's very important for the city to be transparent on the projects that affect the surrounding areas.
Thank you
Regina Garcia

Sent from my iPhone

From: Rod Eshelman
To: Patrick Kelly
Subject: [External] Story poles on One Hamilton
Date: Saturday, January 21, 2023 12:10:38 PM

Please require story poles for the project. There is no way to gauge the impact of the project without them.

Rod Eshelman
80 Millay Place
Mill Valley, Ca. 94941
1-415-867-5502 (cell)
rod45@comcast.net

From: Roger Hefty
To: Patrick Kelly
Subject: [External] 1 Hamilton
Date: Sunday, January 22, 2023 8:18:28 AM

Good Morning Mr. Kelly,

Can you please tell me when story poles will be placed at the 1 Hamilton site or if they will not be installed why? I think it would be a disservice to the community and surrounding neighborhood if the poles were not put up.

There was a new residential home on Longfellow planned above our home on Shelley and they, i'm sure, we're required to put up the poles so we could see how it looked from our vantage point. Same consideration should be made to 1 Hamilton.

I look forward to your response.

Sincerely,

Roger Hefty
37 Shelley Dr
Sent from my iPad

From: sheilahabib@comcast.net
To: Patrick Kelly
Subject: [External] story poles, please
Date: Saturday, January 21, 2023 12:09:18 PM

Hello Mr Kelly,

Will you be placing story poles at the Hamilton street proposed site for new housing?

It would be helpful to me, and others, to have these poles.

Thank you for your consideration!

sheila

From:	Stephanie Breitbard
To:	Patrick Kelly
Cc:	Danielle Staude; Jim Wickham - Mill Valley mail; Urban Carmel; Max Perrey; City Clerk
Subject:	[External] Please put up story poles at 1 Hamilton
Date:	Sunday, January 22, 2023 12:30:52 PM

Mayor, Planning Department and City Council,

Numerous requests for story poles at 1 Hamilton were made at the joint meeting of City Council and Planning Department. EAH stated that story poles at this proposed height are costly and rarely done. EAH believes their renderings are sufficient to indicate scale and height. I respectfully disagree. Most people can't translate 2-dimensional renderings into 3-dimensional impact. Without story poles, the public cannot provide meaningful comments to the City on the draft EIR with regard to the building height, bulk/mass, and visual impact of the project.

Why did the City require story poles for Richardson Terrace—a 25-unit project at 575 E. Blithedale— but not for 1 Hamilton? Erecting story poles is standard practice and consistent with the City's Residential Design guidelines. They absolutely should be required for a project the size of 1 Hamilton. It seems the E. Blithedale project requires complete phases of review, while short cuts are sufficient for 1 Hamilton. The City again assumes our neighborhood doesn't warrant equal consideration.

Best regards,

Stephanie Breitbard
Cell: 415-577-8007
www.sbfinearts.com
Instagram: @simonbreitbardfinearts
SF Gallery address: 843 Mongomery Street
Menlo Park Gallery address: 779 Santa Cruz Ave.

SIMON BREITBARD
FINE ARTS

From: Sue
To: Patrick Kelly
Subject: [External] Story Poles Too Expensive at One Hamilton?
Date: Sunday, January 22, 2023 8:40:10 AM

Dear Mr. Kelly:
Your department indicated it would be too expensive and time consuming to put the story poles in place at 1 Hamilton. Why is this the case there and not at other locations? (Longfellow residences, Miller Avenue condo site, Blithedale Richardson site to name a few)?

Within the last several years the City found the funds to resurface Kipling and paint the surface with multiple bike direction signs. After living on Shelley and using Kipling as entry and exit over 24 years, I can count on one hand seeing bicycles on this stretch of Kipling. We have not seen any bikes after these signs were painted. This is likely due to the very steep grade. This again brings into question the data you are using for your planning decisions.

Given the proposed size of the 1 Hamilton development, story poles seem to be a no brainer if the city is serious about preventing poor unintended consequences.

Sue Hefty

Sent from my iPad

From: susan letteer
To: Patrick Kelly
Subject: [External] I ask for story poles at proposed Hauke Park development
Date: Saturday, January 21, 2023 11:33:03 AM

From: Tom Conneely
To: Patrick Kelly
Subject: [External] One Hamilton
Date: Saturday, January 21, 2023 2:44:28 PM

Please erect story poles for this proposed project!! It will make the scope of the proposal clear.
Thank you.
Thomas Conneely
163 Kipling

Get Outlook for iOS

From: Toni Brayer
To: Patrick Kelly
Subject: [External] Story Poles for 1 Hamilton Mill Valley
Date: Saturday, January 21, 2023 1:03:15 PM

Dear Mr.Kelly,
We are requesting that story Poles be erected and placed at 1 Hamilton project as is required by the City's own Residential Design handbook. There is no reason to avoid story poles at this site except in a discriminatory way against the East side neighborhood.
Please feel free to contact me if you need further information.

Sincerely,
Toni Brayer
Craig Patterson
Alexander Patterson
Lisa Brayer
Kira Costa

From: Wayne Buder
To: Patrick Kelly
Subject: [External] Story Poles
Date: Saturday, January 21, 2023 3:22:03 PM

Hi Patrick:

I hope this finds you well. I live in Enchanted Knolls just above the Police/Fire Station and was curious as to why story poles aren't being erected
as part of the upcoming EIR evaluation for the proposed 1 Hamilton Project but were just required by the City for the 25-unit project on East Blthedale.

Please respond with your explanation/rationale at your earliest convenience.

Thank you.

Wayne Buder
60 Keats Drive

Nine oral comments were received at the EIR Scoping Meeting on January 12. A summary of each comment is provided in the table below.

ORAL COMMENTS AT 1/12 SCOPING MEETING	
Elizabeth O'Donnell	The commenter expresses concern for environmental hazards related to asbestos due to project construction. The commenter says that the BAAQMD will require consideration of the whole 11 acres of the project parcel, rather than the 1.8 acres of the project site. The commenter is particularly concerned for the effects of asbestos on children that play at Hauke Park, which is directly across the street from the project site. The commenter requests that an air quality report be included in the EIR.
Teresa Rea	The commenter is concerned about transportation impacts arising from the project, particularly about emergency evacuation via Hamilton Drive. The commenter references previous project plans that include a roundabout, which the commenter believes would inhibit residents from evacuating via Hamilton Drive. The commenter also states that the average daily trips generated by 40 or more housing units should warrant Hamilton Drive being open at all times as a two-way street.
Nona Dennis	The commenter is representing the Marin Conservation League. The commenter is concerned that the NOP fails to address hydrology, except in terms of runoff from the site. The commenter references three areas in which hydrology is addressed in the General Plan-natural environment, hazards of tsunami risk, and climate change. The commenter requests that a discussion of hydrology be included in the IS checklist and be compared to policies related to hydrology in the General Plan. The commenter asks for a discussion of hydrology-related issues aside from site runoff.
Gary Batroff	The commenter emphasizes the importance of constructing story poles to fully understand the aesthetic impact of the project. The commenter also requests that specific meeting dates be shared with the public so they can make plans around those dates.
Paula McGrath	The commenter endorses Gary Batroff's comments and requests that story poles be constructed on the project site to understand the full impact to aesthetics.

Bob Pendoley	The commenter represents the Marin Environmental Housing Collaborative. The commenter expresses support for the project.
Marta Villela	The commenter endorses Bob Pendoley's comment and encourages the City to move forward with the project.
Tiko	The commenter asks how people will evacuate the area in flood scenarios with only two access roads to the project site. The commenter requests that an evaluation of emergency access routes be included in the EIR. The commenter would also like the City to set aside a certain number of the housing units generated by the project for essential service workers.
Dennis Klein	The commenter represents the Mill Valley Affordable Housing Committee. The commenter expresses support for the project.

APPENDIX C

AIR QUALITY ANALYSIS REPORT

OneHamilton Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	OneHamilton
Construction Start Date	1/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.90
Precipitation (days)	34.8
Location	37.897454, -122.522534
County	Marin
City	Mill Valley
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	932
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.14

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Apartments Mid Rise	50.0	Dwelling Unit	2.00	42,200	0.00	0.00	120	Housing site
General Office Building	1.60	1000sqft	0.00	1,600	0.00	—	—	Housing site
Enclosed Parking Structure	64.0	Space	0.00	22,200	0.00	—	—	Housing site
Parking Lot	90.0	Space	0.81	0.00	0.00	—	—	Public Safety Building (PSB) site

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.69	1.41	11.1	13.9	0.02	0.41	0.45	0.85	0.38	0.11	0.48	—	2,857	2,857	0.12	0.07	2.26	2,882
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.05	62.2	35.9	27.1	0.11	0.90	10.9	11.8	0.76	4.44	5.20	—	16,730	16,730	1.95	2.27	0.78	17,456
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.12	1.71	7.56	8.99	0.02	0.27	0.48	0.76	0.25	0.14	0.39	—	2,057	2,057	0.11	0.08	0.83	2,085
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.20	0.31	1.38	1.64	< 0.005	0.05	0.09	0.14	0.05	0.03	0.07	—	341	341	0.02	0.01	0.14	345

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.69	1.41	11.1	13.9	0.02	0.41	0.45	0.85	0.38	0.11	0.48	—	2,857	2,857	0.12	0.07	2.26	2,882
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.05	1.90	35.9	27.1	0.11	0.90	10.9	11.8	0.76	4.44	5.20	—	16,730	16,730	1.95	2.27	0.78	17,456
2026	0.85	62.2	5.92	8.68	0.01	0.25	0.12	0.37	0.23	0.03	0.26	—	1,362	1,362	0.05	0.02	0.01	1,368
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.12	0.91	7.56	8.99	0.02	0.27	0.48	0.76	0.25	0.14	0.39	—	2,057	2,057	0.11	0.08	0.83	2,085
2026	0.01	1.71	0.05	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	< 0.005	11.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.20	0.17	1.38	1.64	< 0.005	0.05	0.09	0.14	0.05	0.03	0.07	—	341	341	0.02	0.01	0.14	345
2026	< 0.005	0.31	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.82	1.82	< 0.005	< 0.005	< 0.005	1.83

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.94	2.92	1.02	13.5	0.02	0.03	2.13	2.16	0.03	0.54	0.57	24.2	2,659	2,684	2.57	0.10	7.76	2,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.45	2.45	1.14	9.50	0.02	0.03	2.13	2.16	0.03	0.54	0.57	24.2	2,523	2,548	2.59	0.11	0.50	2,645
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	2.56	1.05	10.5	0.02	0.03	2.01	2.04	0.03	0.51	0.53	24.2	2,409	2,433	2.58	0.10	3.34	2,530
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.29	0.47	0.19	1.91	< 0.005	0.01	0.37	0.37	< 0.005	0.09	0.10	4.00	399	403	0.43	0.02	0.55	419

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48	1.38	0.83	9.56	0.02	0.01	2.13	2.15	0.01	0.54	0.55	—	2,280	2,280	0.10	0.09	7.45	2,316
Area	0.45	1.53	0.04	3.87	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.8	11.8	< 0.005	< 0.005	—	11.9
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	361	361	0.04	< 0.005	—	363
Water	—	—	—	—	—	—	—	—	—	—	—	3.44	6.50	9.94	0.35	0.01	—	21.3
Waste	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	1.94	2.92	1.02	13.5	0.02	0.03	2.13	2.16	0.03	0.54	0.57	24.2	2,659	2,684	2.57	0.10	7.76	2,785
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.44	1.33	0.98	9.43	0.02	0.01	2.13	2.15	0.01	0.54	0.55	—	2,156	2,156	0.12	0.10	0.19	2,188
Area	0.00	1.11	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	361	361	0.04	< 0.005	—	363
Water	—	—	—	—	—	—	—	—	—	—	—	3.44	6.50	9.94	0.35	0.01	—	21.3
Waste	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.5

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	1.45	2.45	1.14	9.50	0.02	0.03	2.13	2.16	0.03	0.54	0.57	24.2	2,523	2,548	2.59	0.11	0.50	2,645
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.33	1.24	0.88	8.50	0.02	0.01	2.01	2.02	0.01	0.51	0.52	—	2,036	2,036	0.11	0.09	3.03	2,067
Area	0.22	1.32	0.02	1.91	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	5.84	5.84	< 0.005	< 0.005	—	5.86
Energy	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	361	361	0.04	< 0.005	—	363
Water	—	—	—	—	—	—	—	—	—	—	—	3.44	6.50	9.94	0.35	0.01	—	21.3
Waste	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Total	1.57	2.56	1.05	10.5	0.02	0.03	2.01	2.04	0.03	0.51	0.53	24.2	2,409	2,433	2.58	0.10	3.34	2,530
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.24	0.23	0.16	1.55	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	337	337	0.02	0.01	0.50	342
Area	0.04	0.24	< 0.005	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.97	0.97	< 0.005	< 0.005	—	0.97
Energy	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	59.7	59.7	0.01	< 0.005	—	60.1
Water	—	—	—	—	—	—	—	—	—	—	—	0.57	1.08	1.65	0.06	< 0.005	—	3.53
Waste	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.34	0.00	—	12.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
Total	0.29	0.47	0.19	1.91	< 0.005	0.01	0.37	0.37	< 0.005	0.09	0.10	4.00	399	403	0.43	0.02	0.55	419

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.42	1.19	10.9	11.0	0.03	0.47	—	0.47	0.43	—	0.43	—	2,717	2,717	0.11	0.02	—	2,726
Dust From Material Movement	—	—	—	—	—	—	1.59	1.59	—	0.17	0.17	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	2.65	2.65	—	0.40	0.40	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.3	22.3	< 0.005	< 0.005	—	22.4
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.70	3.70	< 0.005	< 0.005	—	3.71
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Demolitio	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.26	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.3	60.3	< 0.005	< 0.005	0.01	61.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.34	0.05	3.35	1.87	0.01	0.04	0.56	0.60	0.03	0.15	0.18	—	2,176	2,176	0.28	0.34	0.12	2,286
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.9	17.9	< 0.005	< 0.005	0.02	18.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.96	2.96	< 0.005	< 0.005	< 0.005	3.11

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.23	7.23	—	3.45	3.45	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.23	0.24	< 0.005	0.01	—	0.01	0.01	—	0.01	—	40.4	40.4	< 0.005	< 0.005	—	40.5
Dust From Material Movement	—	—	—	—	—	—	0.12	0.12	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.68	6.68	< 0.005	< 0.005	—	6.70
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.35	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	80.4	80.4	< 0.005	< 0.005	0.01	81.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	2.21	0.35	21.8	12.2	0.09	0.26	3.63	3.89	0.17	0.97	1.14	—	14,195	14,195	1.85	2.25	0.77	14,912
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.33	1.33	< 0.005	< 0.005	< 0.005	1.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.35	0.20	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	233	233	0.03	0.04	0.21	245
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.06	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	38.6	38.6	0.01	0.01	0.04	40.6

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.49	1.24	10.6	11.9	0.02	0.40	—	0.40	0.37	—	0.37	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.49	1.24	10.6	11.9	0.02	0.40	—	0.40	0.37	—	0.37	—	2,201	2,201	0.09	0.02	—	2,209
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.90	0.75	6.39	7.15	0.01	0.24	—	0.24	0.22	—	0.22	—	1,327	1,327	0.05	0.01	—	1,331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.17	1.30	< 0.005	0.04	—	0.04	0.04	—	0.04	—	220	220	0.01	< 0.005	—	220
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.17	0.11	1.79	0.00	0.00	0.38	0.38	0.00	0.09	0.09	—	395	395	0.01	0.01	1.60	401
Vendor	0.04	0.01	0.37	0.21	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	260	260	0.02	0.04	0.66	272
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.16	0.14	1.61	0.00	0.00	0.38	0.38	0.00	0.09	0.09	—	369	369	0.01	0.02	0.04	374
Vendor	0.03	0.01	0.39	0.22	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	260	260	0.02	0.04	0.02	272
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.08	0.94	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	223	223	0.01	0.01	0.42	226
Vendor	0.02	0.01	0.23	0.13	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	157	157	0.01	0.02	0.17	164

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.9	36.9	< 0.005	< 0.005	0.07	37.5
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	26.0	26.0	< 0.005	< 0.005	0.03	27.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.70	6.13	8.21	0.01	0.27	—	0.27	0.25	—	0.25	—	1,244	1,244	0.05	0.01	—	1,248
Paving	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.7	31.7	< 0.005	< 0.005	—	31.8
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.24	5.24	< 0.005	< 0.005	—	5.26

Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.53	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.01	122
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.08	3.08	< 0.005	< 0.005	0.01	3.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.51	0.51	< 0.005	< 0.005	< 0.005	0.52
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.88	8.19	0.01	0.25	—	0.25	0.23	—	0.23	—	1,244	1,244	0.05	0.01	—	1,248
Paving	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.87	4.87	< 0.005	< 0.005	—	4.88
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.81	0.81	< 0.005	< 0.005	—	0.81
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.04	0.49	0.00	0.00	0.12	0.12	0.00	0.03	0.03	—	118	118	< 0.005	0.01	0.01	120
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.47	0.47	< 0.005	< 0.005	< 0.005	0.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	62.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	—	1.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	—	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.30	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	72.3	72.3	< 0.005	< 0.005	0.01	73.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.99	1.99	< 0.005	< 0.005	< 0.005	2.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.42	1.33	0.79	9.11	0.02	0.01	2.03	2.04	0.01	0.51	0.53	—	2,169	2,169	0.10	0.08	7.09	2,202
General Office Building	0.06	0.06	0.04	0.45	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	112	112	< 0.005	< 0.005	0.37	113
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.48	1.38	0.83	9.56	0.02	0.01	2.13	2.15	0.01	0.54	0.55	—	2,280	2,280	0.10	0.09	7.45	2,316
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.38	1.28	0.94	9.00	0.02	0.01	2.03	2.04	0.01	0.51	0.53	—	2,051	2,051	0.11	0.09	0.18	2,081
General Office Building	0.06	0.05	0.05	0.43	< 0.005	< 0.005	0.11	0.11	< 0.005	0.03	0.03	—	106	106	0.01	< 0.005	0.01	107

Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	1.44	1.33	0.98	9.43	0.02	0.01	2.13	2.15	0.01	0.54	0.55	—	2,156	2,156	0.12	0.10	0.19	2,188
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.24	0.22	0.15	1.49	< 0.005	< 0.005	0.35	0.35	< 0.005	0.09	0.09	—	324	324	0.02	0.01	0.48	329
General Office Building	0.01	0.01	0.01	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	13.3	13.3	< 0.005	< 0.005	0.02	13.5
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.24	0.23	0.16	1.55	< 0.005	< 0.005	0.37	0.37	< 0.005	0.09	0.10	—	337	337	0.02	0.01	0.50	342

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	89.2	89.2	0.01	< 0.005	—	90.1

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	18.8	18.8	< 0.005	< 0.005	—	19.0
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	43.4	43.4	0.01	< 0.005	—	43.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	169	169	0.03	< 0.005	—	170
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	89.2	89.2	0.01	< 0.005	—	90.1
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	18.8	18.8	< 0.005	< 0.005	—	19.0
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	43.4	43.4	0.01	< 0.005	—	43.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	17.3	17.3	< 0.005	< 0.005	—	17.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	169	169	0.03	< 0.005	—	170
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	14.8	14.8	< 0.005	< 0.005	—	14.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	3.12	3.12	< 0.005	< 0.005	—	3.15
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	—	7.19	7.19	< 0.005	< 0.005	—	7.26

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.86	2.86	< 0.005	< 0.005	—	2.89
Total	—	—	—	—	—	—	—	—	—	—	—	—	27.9	27.9	< 0.005	< 0.005	—	28.2

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	180	180	0.02	< 0.005	—	180
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.0
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	192	192	0.02	< 0.005	—	192
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.02	0.01	0.14	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	180	180	0.02	< 0.005	—	180
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.0

Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.01	0.15	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	192	192	0.02	< 0.005	—	192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	29.8	29.8	< 0.005	< 0.005	—	29.9
General Office Building	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.98	1.98	< 0.005	< 0.005	—	1.98
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	31.8	31.8	< 0.005	< 0.005	—	31.9

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.42	0.04	3.87	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.9
Total	0.45	1.53	0.04	3.87	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	11.8	11.8	< 0.005	< 0.005	—	11.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	1.11	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	—	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	0.04	< 0.005	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.97	0.97	< 0.005	< 0.005	—	0.97
Total	0.04	0.24	< 0.005	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.97	0.97	< 0.005	< 0.005	—	0.97

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.90	5.47	8.36	0.30	0.01	—	17.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.54	1.03	1.57	0.06	< 0.005	—	3.38
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.44	6.50	9.94	0.35	0.01	—	21.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	2.90	5.47	8.36	0.30	0.01	—	17.9
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.54	1.03	1.57	0.06	< 0.005	—	3.38
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.44	6.50	9.94	0.35	0.01	—	21.3

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.48	0.91	1.38	0.05	< 0.005	—	2.97
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.09	0.17	0.26	0.01	< 0.005	—	0.56
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.57	1.08	1.65	0.06	< 0.005	—	3.53

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.80	0.00	0.80	0.08	0.00	—	2.81
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	19.9	0.00	19.9	1.99	0.00	—	69.7
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.80	0.00	0.80	0.08	0.00	—	2.81
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	20.7	0.00	20.7	2.07	0.00	—	72.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3.30	0.00	3.30	0.33	0.00	—	11.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.13	0.00	0.13	0.01	0.00	—	0.46
Enclosed Parking Structure	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.43	0.00	3.43	0.34	0.00	—	12.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.30	0.30
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.30	0.30
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2025	2/3/2025	5.00	3.00	—
Grading	Grading	2/4/2025	2/12/2025	5.00	6.00	—
Building Construction	Building Construction	2/13/2025	12/18/2025	5.00	220	—
Paving	Paving	12/19/2025	1/2/2026	5.00	10.0	—
Architectural Coating	Architectural Coating	1/3/2026	1/17/2026	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45

Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	29.3	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	191	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	45.8	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	9.25	8.40	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	15.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	9.17	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	85,455	28,485	2,400	800	2,117

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Site Preparation	—	—	4.50	351	—
Grading	—	9,184	4.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.81

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Apartments Mid Rise	—	0%
General Office Building	0.00	0%
Enclosed Parking Structure	0.00	100%
Parking Lot	0.81	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Apartments Mid Rise	396	358	298	137,396	2,886	2,605	2,168	1,001,204
General Office Building	15.6	3.54	1.12	4,306	150	34.0	10.8	41,408
Enclosed Parking Structure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Apartments Mid Rise	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	100
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
85455	28,485	2,400	800	2,117

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Apartments Mid Rise	159,640	204	0.0330	0.0040	561,555
General Office Building	33,721	204	0.0330	0.0040	37,299
Enclosed Parking Structure	77,732	204	0.0330	0.0040	0.00
Parking Lot	30,908	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	1,511,100	0.00
General Office Building	284,374	0.00
Enclosed Parking Structure	0.00	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	37.0	—
General Office Building	1.49	—
Enclosed Parking Structure	0.00	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Information provided by the applicant. Lot acreage rounded up to 2 to generate a construction equipment list for multi-story buildings. Building square footage for residential land use includes residential area (40,000 sq ft) and common area (2,200 sq ft). Enclosed parking structure building square footage was calculated based on the total building area of 66,000 sq ft (66000 - 40000 - 2200 - 1600 = 22200 sq ft). CalEEMod default was used to general the lot acreage for PSB site parking spaces.

Construction: Construction Phases	The CalEEMod default demolition phase was removed. Haul trips associated with demolishing the existing parking lot were modeled in the site preparation phase.
Construction: Dust From Material Movement	Project-specific information provided by the applicant.
Construction: Demolition	Asphalt demo assumption: (Area of pavement_existing parking lot)(Depth of pavement)(Density asphalt) = (19.4 KSF)(0.25 ft)(0.0725 tons/ft^3) = 351 tons. Existing parking lot area estimated using google earth.
Operations: Hearths	The project does not include fireplaces or wood stoves.
Operations: Vehicle Data	Trip generation rates asscoiated with residential land use were adjusted based on the 1 Hamilton Drive Transportation Impact Assessment prepared by Parisi Transportation Consulting.

Summary of ISCST3 Model Parameters, Assumptions, and Results for DPM and PM2.5 Emissions from Construction

ISCST3 Model Parameters and Assumptions			
Source Type	**Units**	**Value**	**Notes**
Area Source: Off-Road Equipment Exhaust (DPM)			
Average Hours/Work Day	hours/day	11.00	Monday to Friday: 7 am to 6 pm
DPM Emission Rate	gram/second	0.00245	Exhaust PM10 from off-road equipment. Scaling factor used to convert result from ISCST3 (Assumed 1 gram/second emission rate in the ISCST3 model)
Release Height	meters	5.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.4	USEPA, 2022
Area Source: On-Site Fugitive PM2.5			
Fugitive PM2.5 Emission Rate	gram/second	0.0011	Fugitive PM2.5 from on-site construction activities
Release Height	meters	0.0	SMAQMD, 2015
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015
ISCST3 Model Results			
Sensitive Receptor	**Pollutant**	**Annual Average Concentration**	**Notes**
MEIR	DPM ($\mu g/m^3$)	0.0357	Nearest residential receptor
	$PM_{2.5}$ ($\mu g/m^3$)	0.0594	Nearest residential receptor

Notes:

DPM = diesel particulate matter

PM10 = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

PM2.5 = particulate matter with aerodynamic resistance diameters equal to or less than 2.5 microns

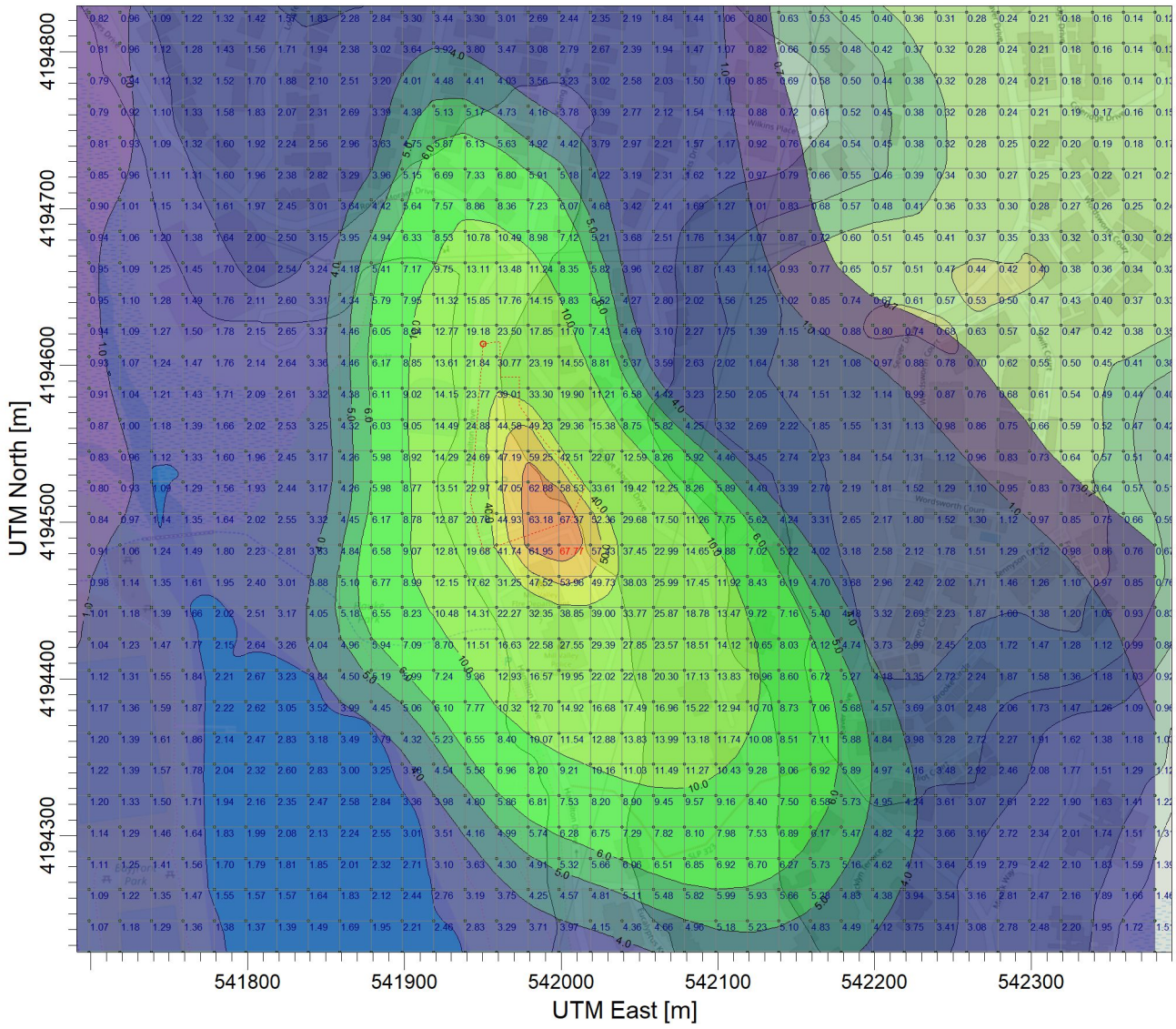
$\mu g/m^3$ = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. *Guide to Air Quality Assessment in Sacramento County* . June.

U.S. Environmental Protection Agency (USEPA), 2022. User's Guide for the AMS/EPA Regulatory Model (AERMOD).

PROJECT TITLE: One Hamilton Drive Project

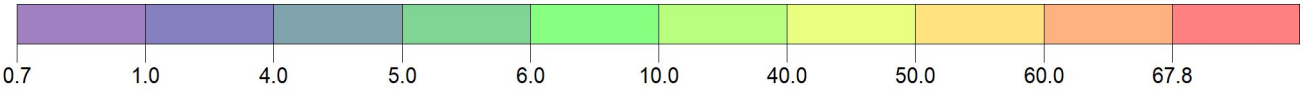
One Hamilton Drive Project_Construction Exhaust



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

ug/m^3

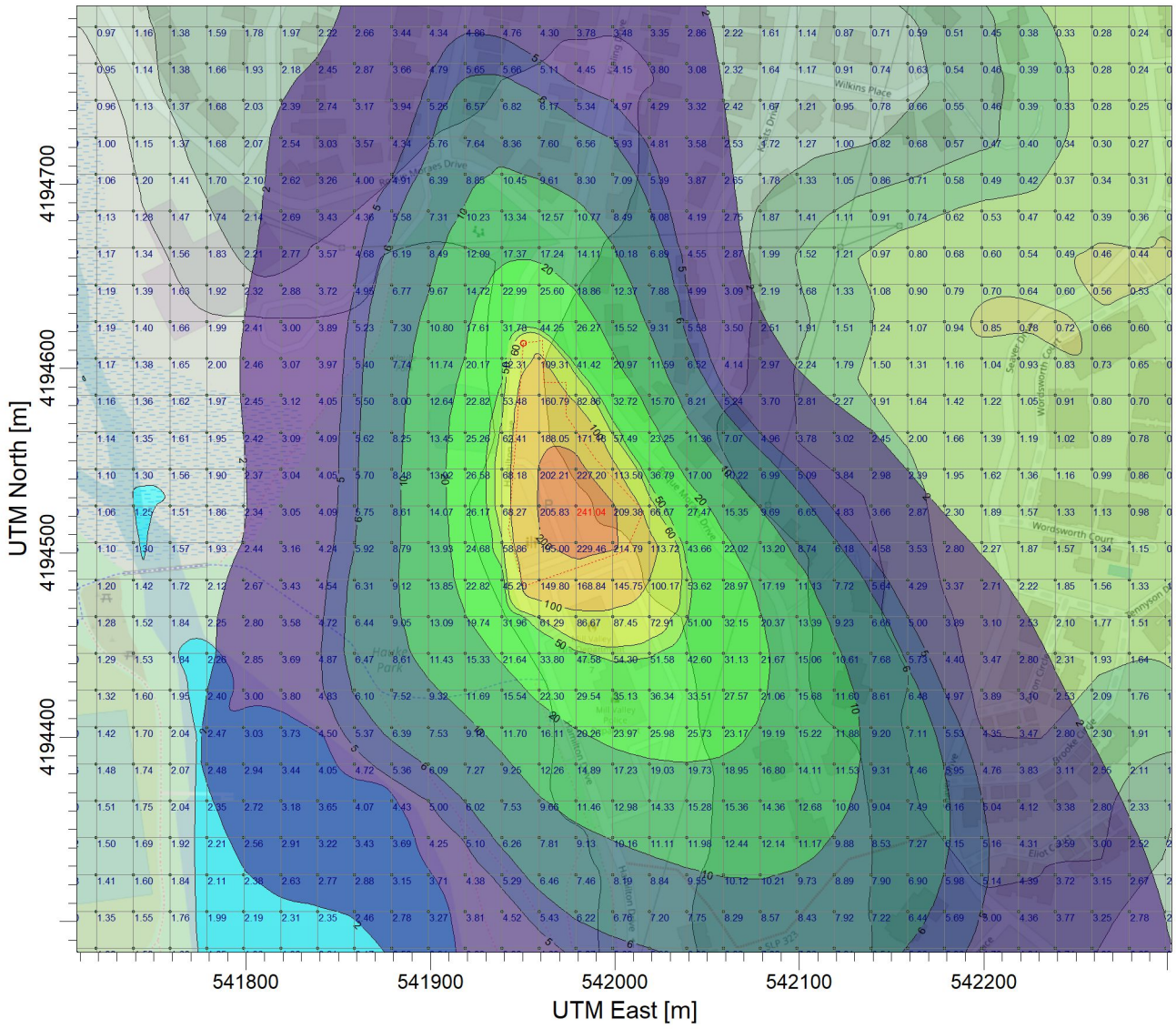
Max: 67.8 [ug/m^3] at (541998.75, 4194485.50)



COMMENTS:	SOURCES: **1**	COMPANY NAME: Baseline Env **Baseline Environmental Consulting**	
	RECEPTORS: **1600**		
	OUTPUT TYPE: **Concentration**	SCALE: 1:4,388 0 0.1 km	
	MAX: **67.8 ug/m^3**		PROJECT NO.:21202-08 **21202-08**

PROJECT TITLE: 4260 Arch Dr

One Hamilton Drive Project_Construction Dust



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 241 [ug/m^3] at (541978.75, 4194525.50)

2 5 6 10 20 50 60 100 200 241

COMMENTS:	SOURCES: **1**	COMPANY NAME: Baseline Env **Baseline Environmental Consulting**	
	RECEPTORS: **1600**		
	OUTPUT TYPE: **Concentration**	SCALE: 1:3,731 0 0.1 km	
	MAX: **241 ug/m^3**		PROJECT NO.:23215-00 **21202-08**

Summary of Health Risk Assessment at the Maximally Exposed Individual Resident			
Health Risk Assessment Parameters and Results			
Inhalation Cancer Risk Assessment for DPM	**Units**	**0-2 Year Infant**	**Notes**
DPM Concentration (C)	$\mu g/m^3$	0.036	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	1090	95th percentile under age of 2 (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF_D)	$mg\text{-}m^3/\mu g\text{-}L$	0.000001	Conversion of µg to mg and L to m^3
Dose (D)	mg/kg/day	0.000037	$C*DBR*A*EF*CF_D$ (OEHHA, 2015)
Cancer Potency Factor (CPF)	$(mg/kg/day)^{-1}$	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	1.75	Based on total construction period of 21 months
Averaging Time (AT)	years	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	m^3/L	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	8.7	D*CPF*ASF*ED/AT*FAH*CF (OEHHA, 2015)
Hazard Index for DPM	**Units**	**Value**	**Notes**
Chronic REL	$\mu g/m^3$	5.0	OEHHA, 2015
Chronic Hazard Index for DPM	unitless	0.0071	At MEIR location

Notes:

DPM = diesel particulate matter

REL = reference exposure level

$\mu g/m^3$ = micrograms per cubic meter

L/kg-day = liters per kilogram-day

m^3/L = cubic meters per liter

$(mg/kg/day)^{-1}$ = 1/milligrams per kilograms per day

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February.*

APPENDIX D

DRAFT ASBESTOS DUST MITIGATION PLAN

ASBESTOS DUST MITIGATION PLAN
MULTI-FAMILY HOUSING PROJECT
1 HAMILTON DRIVE
MILL VALLEY, CALIFORNIA 94941

Project No. 01323021
August 8, 2023
Revised August 15, 2023

Prepared for:
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Appendix B – Final Regulation Order – Asbestos Airborne Toxic Control Measure for Construction Grading, Quarrying, and Surface Mining Operations, CCR Title 17, Section 93105

ASBESTOS DUST MITIGATION PLAN
MULTI-FAMILY HOUSING PROJECT
1 HAMILTON DRIVE
MILL VALLEY, CALIFORNIA 94941

1.0 INTRODUCTION

On behalf of RWA, Inc., (Client), Krazan-VEIR has prepared this Asbestos Dust Mitigation Plan (ADMP) for the above referenced property (subject site). The subject site is located within a geologic area known to contain a group of silicate minerals that occur as asbestiform fibers or naturally-occurring asbestos (NOA). Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. Asbestos is a naturally-occurring mineral that is commonly found in serpentinites, ultramafic rocks and some mafic rocks, which exist primarily within the northern two-thirds of the State of California.

The following ADMP was prepared based on a reported finding of NOA in the form of chrysotile in a soil sample collected from the subject site on January 3, 2023 by the Bay Area Air Quality Management District (BAAQMD). Due to the known presence of NOA and size of the proposed development, the project developer must submit an Asbestos Dust Mitigation Plan Application and Asbestos Dust Mitigation Plan (ADMP) to the BAAQMD for review and approval. A copy of the ADMP Application is provided in Appendix A.

Due to the reported presence of asbestiform fibers on the subject site, the developer shall not engage in any construction or grading operation on the subject site until an ADMP has been approved by the BAAQMD. Provisions of the ADMP will be implemented at the beginning and maintained throughout the duration of construction activity and/or grading that may have the potential to disturb NOA at the subject site. The ADMP will be submitted by the general contractor to the BAAQMD for approval.

2.0 SUBJECT SITE LOCATION AND DESCRIPTION

The subject site is located on the south corner of Roque Moraes and Hamilton Drives in the City of Mill Valley, Marin County, California (Figure 1). The subject site is rectangular in shape, is associated with a street address of 1 Hamilton Drive, Mill Valley, California 94941 and consists of 3.67 acres. The proposed development will consist of a 1.75-acre multi-family residential development identified as the “Housing Site” with proposed improvements to the remaining portion of the subject site property identified as the “Public Safety Building” (PSB) portion of the subject site (Figure 2).

The intersection of Roque Moraes and Hamilton Drives and residential development are located to the north of the subject site; Roque Moraes Drive, vacant land, a solar array, and residential developments are located to the east of the subject site; vacant land, Bayfront Meadow Park and residential developments are located to the south of the subject site; and municipal buildings, Hamilton Drive, Hauke Park and Bayfront Meadow Park are located west of the subject site (Figure 2).

Presently, the northern portion of the subject site or "Housing Site" consists of an asphaltic concrete paved parking lot, EV charging station, and public restroom facilities with the remainder covered with weed/grass growth and scattered medium to large trees. The southern portion of the subject site or PSB consists of asphaltic concrete parking lots, two (2) out buildings, a car port, and landscaped areas. The northeastern portion of the subject site slopes moderately toward the west with approximately 60 feet of vertical relief and the remainder of the subject site is relatively level with no major changes in grade.

3.0 PROJECT DESCRIPTION

The proposed housing development will consist of a 66,000-square-foot four (4)-story structure with up to 50 family rental units consists of one (1), two (2) and three (3) bedrooms. The four (4)-story structure will be constructed in the current location of a parking lot, EV charging station and restroom facilities and extend into the hillside to the east. The parking lot, EV charging station and restroom facilities are planned to be relocated to the PSB portion of the subject site. Additionally, the proposed development will also consist of 64 parking spaces, utility rooms, management and services office, bike room, and lobby.

The developer for the project site is Ecumenical Association for Housing (EAH) Housing located at 22 Pelican Way, San Rafael, California 94901, 415-295-8886. The contact for EAH Housing is Ms. Bianca Neumann, Bianca.Neumann@EAHhousing.org. The property owner is the City of Mill Valley, 26 Corte Madera, Mill Valley, California 94941, 415-388-4033, planning@cityofmillvalley.org.

4.0 PURPOSE

This ADMP specifically identifies the best management practices (BMPs) that will be implemented to reduce air particulate emissions resulting from soil disturbance or excavation associated with demolition, grading, utility work, construction of subject site infrastructure, and foundation construction. This ADMP is prepared and submitted with the understanding that it can be modified to accommodate actual subject site conditions as they arise and will be implemented in conjunction with the project's Site-Specific Health and Safety Plan (HASP). This ADMP also includes monitoring and reporting requirements.

5.0 GEOLOGIC SETTING

The subject site is located within the central portion of the Coast Range Geomorphic Province, a seismically active region on the western margin of the North American plate which consists of the northwest-southeast trending Coast Range mountains and valleys, sub-parallel to the San Andreas Fault (California Geological Survey, 2002). The subject site is underlain by the Franciscan Complex, an assemblage of metamorphosed

and deformed rocks which formed an accretionary wedge as marine sediments were scraped from the oceanic crust subducting beneath the North American plate (California Department of Conservation, 2014). The Franciscan Complex consists primarily of greywacke sandstones, mudstones and conglomerates which have experienced low-grade metamorphism but also lesser amounts of greenstone, ribbon chert, pillow basalt, limestone, serpentinite, and a variety of high-grade metamorphic rocks such as blueschist, amphibolite and eclogite.

The Franciscan Complex is typically highly fractured and deformed which causes these rocks to be intermixed on a local scale forming a mélange. Mélange zones in the Franciscan Complex usually have a block in matrix appearance with higher grade metamorphic blocks (blueschist, amphibolite and eclogite) embedded within the mélange matrix which is typically mudstone or serpentinite. The Franciscan Complex rocks formed approximately 80 to 200 million years ago as the Farallon tectonic plate was subducted beneath the North American plate.

The Pickleweed Inlet is located adjacent to the west of the subject site. The inlet consists of deposits of water-saturated, unconsolidated silty clay, known locally as Young bay mud and may partially underly the westernmost portion of the subject site. Young bay mud consists of water-saturated estuarine deposits less than 10,000 years old and form the current margins along the San Francisco Bay and its tidal marshes (United States Geological Survey, 1978).

6.0 REGULATORY REQUIREMENTS

This ADMP has been prepared pursuant to Title 17 of the California Code of Regulations (17 CCR) Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations (ATCM). The ATCM states that the ADMP, and the dust mitigation measures contained therein, apply to "any construction, grading...operation on any property [where]...[a]ny portion of the area to be disturbed is located in a geographic ultramafic rock unit." The terms "Construction," "Grading," "Construction or Grading Operation" and "Construction or Grading Activity" are defined in the ATCM to mean "any surface disturbance conducted with powered equipment or any related activity, including, but not limited to, all surface and subsurface cuts and fills, excavation, trenching, stockpiling, bulldozing, and landfills". [California Code of Regulations, Title 17, § 93105, Subdivision (i)(12)]. A copy of the ATCM *Final Regulation Order* is provided in Appendix B.

The ATCM includes, among other things, the requirement for submission of an ADMP for BAAQMD approval prior to grading activities. The ATCM also includes specific practices to be implemented during construction. Contractors selected to perform construction will be responsible for obtaining applicable permits and complying with permit conditions as described in the project specifications.

The dust control measures set forth in this ADMP are intended to achieve a goal of no visible dust emissions associated with soil disturbance, movement, or excavation of soil, to the extent required by the applicable regulations identified above.

Neither EAH Housing nor any of its contractors, subcontractors, representatives, or agents, shall engage in any construction or grading activity anywhere on the subject site, or in conjunction with a work site related

offsite utility or trenching project, unless the provisions of this ADMP, including without limitation the mitigation measures presented in Section 9.0 and the air monitoring measures presented in Section 11.0 are implemented at the beginning and maintained throughout the duration of the construction or grading activities.

7.0 SCOPE OF WORK

Generally speaking, the scope of work will include:

- Demolition of the existing asphaltic concrete parking lot, EV charging station and restroom facilities;
- Mass excavation and grading operations;
- Construction of a four (4)-story multifamily residential development with associated underground parking supported on conventional foundations or drilled piers; and
- Infrastructure improvements (underground utilities, sidewalks, streets, curb and gutters; retaining walls, restroom facilities, EV charging station).

For each of these activities, this ADMP will define minimum mitigation measures to be employed if earth disturbing activities are occurring. These mitigation measures are described in greater detail in Section 9.0.

8.0 POTENTIAL SOURCES OF DUST EMISSIONS

Soil disturbance and excavation activities, by their nature will produce dust, which may or may not contain asbestiform fibers. Subject site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. The following on-site work activities have the potential to cause dust emissions:

- Demolition activities — Destroying or dismantling existing asphaltic concrete parking lots and roadways, as well as any underground utilities within the limits of the proposed redevelopment;
- Construction Traffic — Movement of construction equipment and/or materials around the subject site on unpaved travel routes or on dirt-covered paved surfaces. Vehicular traffic on paved or unpaved roads and parking lots;
- Site Preparation and Foundation Work — Mass grading, placement and compaction of fill soils, excavation of footings and foundations, installation of shoring and backfilling operations;
- Trenching and Road Construction Activities — Excavation of trenches for the installation of underground utilities and retaining walls;
- Material Stockpiles — Stockpiles of excavated soil from trenching activities or stockpiles of fill material and excesses soils generated during grading activities;
- Cleanup and Final Site Grading — Backfilling, grading, and re-vegetating of the excavated areas; and

- Any other "Construction," "Grading," "Construction or Grading Operation" or "Construction or Grading Activity" as defined in California Code of Regulations, Title 17, § 93105, subdivision (i)(12).

9.0 DUST MITIGATION MEASURES

This section describes minimum mitigation measures that must be employed at the subject site when earth disturbing activities are taking place. If these minimum mitigation measures are found to be insufficient, additional contingency measures, outlined in Section 9.9, must be implemented.

9.1 Track-Out Dust Prevention and Control Measures

Track-out dust results when vehicles leave the subject site with residual dirt or dust on the tires or undercarriage of the vehicle. This residual dirt or dust becomes deposited on the paved road surfaces leaving the subject site and can later be stirred up as airborne dust by subsequent vehicular traffic. To control offsite migration of on-site soils, the following control measures will be implemented:

- Removal of any visible soils from a paved public roadway at any location where vehicles exit the subject site. This shall be accomplished using wet sweeping or a HEPA filter equipped vacuum device at the end of the work day or at least once per day;
- Installation of one (1) or more of the following track-out prevention measures:
    - a gravel pad designed using good engineering practices to clean the tires of exiting vehicles;
    - a tire shaker;
    - an automated wheel wash system and rinsate capture system; and/or
    - Wheel wash stations at areas where vehicles exit onto paved public roads from unpaved roads.
- Inspection and cleaning of vehicle/equipment surfaces that can collect soil (e.g., bumpers, fenders, wheel wells, etcetera) prior to leaving the subject site.

9.2 Active Soil Stockpiles

A soil storage pile is considered active if material is added to or removed from a soil storage pile within seven (7) calendar days. To control fugitive dust emissions from active soil storage piles one (1) or more of the following control measures will be used:

- Adequately moisture conditioning the exposed soils with water to satisfy requirements in Section (h)(5) of the ATCM; and/or
- Use of a temporary cover (plastic sheeting, tarps, etcetera).

9.3 Inactive Surface Areas and Soil Stockpiles

Dust emissions from excavations, other exposed soil-disturbed areas and/or soil stockpiles that will remain inactive for more than seven (7) calendar days shall be controlled by one (1) or more of the following control measures:

- Adequately moisture conditioning the soils with water at a frequency necessary to control fugitive dust emissions to satisfy requirements in Section (h)(5) of the ATCM;
- Establishing and maintenance of a surface crust to satisfy requirements in Section (h)(6) of the ATCM;
- Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations;
- Covering with tarps or vegetation;
- Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile; and/or
- Installation of wind barriers across open areas.

To prevent the general public from accessing soil storage piles, security fencing will be erected and maintained around where the soil stockpiles are located.

9.4 Dust Mitigation for Roads, Parking Lots, and Staging Area(s)

9.4.1 Dust Mitigation Measures for Unpaved Roads, Parking Lots, and Staging Areas

To control fugitive dust emissions from construction traffic traveling on unpaved surfaces, the following mitigation measures shall be used.

- No vehicle/equipment will exceed 15 miles per hour (mph) on unpaved surfaces. Visible speed limit signs will be posted at subject site entrances.
- One (1) or more of the following:
    - Watering on-site soils every two (2) hours of active operations or sufficiently often to keep the area adequately moisture conditioned to prevent fugitive dust emissions;
    - Applying chemical dust suppressants consistent with the manufacturer's directions; and/or
    - Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel.

Implementation of erosion control measures identified in the projects Storm Water Pollution Prevention Plan (SWPPP), to be provided separately but implemented concurrently, will help control fugitive dust emissions within the subject site, as well as on public roadways, staging areas and parking areas.

9.4.2 Dust Mitigation Measures for Paved Public Roads

The following mitigation measures shall be used to control fugitive dust emissions from construction traffic traveling on paved public roads:

- No vehicle of any type will be allowed to exit unpaved portions of the subject site except through treated subject site exits (for a description of these subject site exits, please refer to Section 9.1); and
- Construction areas adjacent to and above grade from any paved public roadway will be treated with BMPs, as specified in the project's SWPPP.

The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit visible dust emissions. *Use of blower devices is expressly forbidden.*

9.5 Dust Mitigation for Earth Moving Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or disturbance to control dust emissions.

To control fugitive dust emissions generated from earth moving activities the following methods shall be used:

- Pre-wetting the ground to the depth of anticipated cuts. A dedicated water source (e.g., water truck and fire hose) will be used at each point of excavation to ensure that adequate moisture is present to minimize dust generation. This water source will be directed both at the point of excavation and the point of drop off into an awaiting dump truck or an existing soil storage pile, as appropriate;
- Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures; and
- Application of water prior to any land clearing.

9.6 Controls for Offsite Transport

Any material generated from activities conducted within the subject site and which material is to be off hauled must be done so with vehicles/equipment that are maintained such that:

- No spillage can occur from holes or other openings in cargo compartments;
- The loads are adequately moisture conditioned and either:
    - Covered with a tarp; or
    - Loaded onto the trucks such that the material does not touch the front, back or sides of the cargo compartment at any point less than twelve (12) inches from the top and that no point of the load extends above the top of the cargo compartment.

Trucks carrying loose soil or sand will be covered before they leave the subject site. If concrete and/or asphalt are to be off hauled, reasonable effort will be made to remove excess soil adhered to the material prior to off haul.

9.7 Post-Construction Stabilization of Disturbed Areas

Upon completion of the project, disturbed surfaces shall be stabilized using one (1) or more of the following methods:

- Establishment of vegetative cover;
- Placement of at least three (3) inches of non-asbestos-containing fill soil (i.e., soil that contains less than 0.25% asbestiform fibers by unit weight);
- Placement of hardscape (e.g., concrete, asphaltic concrete, brick, building foundation, etcetera); and/or
- Any other measure deemed sufficient to prevent wind speeds of 10 mph or greater from causing visible dust emissions.

9.8 Off-Site Transportation

If surplus soil and/or rock is to be off hauled, it will be analyzed for asbestos content to gain acceptance into an appropriate disposal facility prior to transportation. If surplus soil/rock is scheduled for off haul and disposal, the following waste management methods, at a minimum, will be used when handling, transporting and documenting off hauled soil/rock:

- Ensure the material is always adequately moisture conditioned during handling and loading;
- Adhere to requirements of BAAQMD Regulation 11, Rule 2, Section 608 for marking of vehicles used to transport asbestos-containing waste, if present;
- Maintain waste shipment records as specified in BAAQMD Regulation 11, Rule 2, Section 502;
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery;
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste; and
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

9.9 Contingency Dust Control Measures

In the event the above measures do not control/suppress fugitive dust emissions from construction activities, one (1) or more of the following activities will be considered and implemented until the condition stabilizes and as based on air monitoring level criteria described in Section 11.1.7:

- Any designated on-site roadways will be watered more frequently as necessary to control windblown dust and dust generated by vehicle/equipment traffic when in use by the contractor;
- Streets adjacent to the subject site location will be swept as necessary to remove accumulated dust and soil. Only wet sweeping methods or a HEPA filter equipped vacuum device will be used. Dry rotary sweeping methods are not acceptable;
- Water may also be applied to paved roads leading between areas of the subject site, as required;
- Vehicle/equipment travel will be reduced to the maximum extent practicable;
- Construction employees will park personal vehicles on paved surfaces;
- The construction schedule will be prioritized to the extent possible to install permanent cap over potentially asbestos containing soil by placement of concrete road base and curb/gutter;
- Imported clean aggregate base rock may be used for placement of the final 6 to 12 inches of necessary fill to raise the grade to final subgrade elevation and provide a cover over potentially asbestos containing soil (subject to approval of the project's structural & geotechnical engineer);
- Paved public roads will be washed at the end of each work day;
- Additional water trucks will be utilized to aid in wetting paved public roads and subject site roads as needed, throughout the day;
- Installation of a misting system may be used up to as much as 24-hours per day as needed to aid in soil moisture conditioning efforts after construction activity has ceased each day;
- Minimizing drop heights into dump trucks and/or trailers;
- Periodic watering of haul routes from the point of excavation to the drop-off point regardless of whether the route is paved, unpaved or within or outside the defined subject site;
- A dedicated laborer will be assigned to each point of excavation to sweep, shovel or otherwise push soil inadvertently dropped on adjacent paved roads within the subject site; and/or
- Wet sweeping methods or a HEPA filter equipped vacuum device will be utilized at and around points of active excavation and/or backfill occurring on paved streets to prevent soil from collecting on paved surfaces. This measure will be employed to help control transport of sediment onto paved public streets. *Dry rotary sweeping methods are not acceptable*.

If soil compaction will not take place immediately following clearing and grubbing, the surface soils will be stabilized with dust palliative and water to form a crust on the soil surface.

Graded areas will be stabilized with chemical stabilizers within five (5) working days of verification of final grading completion. All unpaved, inactive portions of the subject site will be seeded and watered to maintain a grass cover if they are to remain inactive for long periods of time.

All clearing, grading, earthmoving, and excavating activities will be halted during periods of sustained strong winds (hourly average wind speeds of 25 mph or greater).

The areas subject to excavation, grading or other construction activity may be limited at any time.

In the event blasting is required, the blasting activities will be designed to reduce the potential for fugitive dust emissions. Guidance from the BAAQMD staff report will be followed which may include covering the blast area with wet soil. The amount of soil used will be based on best engineering judgment taking into consideration the amount of the charge, the size of the blast area, and the proximity to receptors and other structures.

Asbestos emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Regulation 11, Rule 2, Section 303, as described in a separate plan.

10.0 LAND USES AND POTENTIAL SENSITIVE RECEPTORS WITHIN THE VICINITY OF THE SUBJECT SITE

Please refer to Figure 3 for referenced locations.

Based on review of Google Earth™ and a reconnaissance of the area around the subject site, no sensitive receptors, such as hospitals, healthcare facilities, day care centers, and senior/assisted living centers were identified within a quarter mile of the subject site. However, single-family residential developments are located to the north, east and south of the subject site, two (2) public parks are located to the south and west of the subject site, and Mill Valley Middle School is located to the west of the subject site.

The primary sensitive receptors include the nearby residents and people utilizing the two (2) public parks. The Mill Valley Middle School is located approximately 1,000 feet downwind from the subject site and potential impacts from airborne asbestos related to subject site activities is unlikely.

11.0 AIR MONITORING

This section describes the air monitoring protocol to be used at the subject site in accordance with the ATCM. Also presented are those specific actions that must be taken by EAH Housing if the level of airborne asbestos is detected at or above project action levels.

Airborne asbestos monitoring is required when earth disturbing activities are active. The ATCM may allow for a decrease in frequency and possible cessation of airborne asbestos monitoring but only after consultation with, and approval by, BAAQMD staff. When the project ceases to disturb soil, air monitoring may also cease, but only with the proper notifications and approvals by BAAQMD.

No airborne asbestos monitoring is required when the subject site is shut down, no work is being conducted and no vehicles are being driven on unpaved surfaces. This is the presumed condition on weekends and holidays. If work is planned for the weekend or on holidays, EAH Housing will notify BAAQMD of this plan at least 48 hours prior to the scheduled work. This notification will occur via email correspondence.

11.1 Airborne Dust Monitoring Program

This section describes the details of the airborne asbestos dust monitoring program. Subject site activities have the potential to impact individuals living in the residential developments to the north, east and south

of the subject site and individuals using the two (2) public parks to the south and west of the subject site (Figure 3).

Section 11.1.2 identifies that the airborne asbestos dust monitoring network will consist of five (5) high volume air sampling instruments that are stationed around the perimeter of the subject site. Section 11.1.4 presents protocol for operating the monitoring stations in a manner that addresses conditions when earthwork is occurring. If air monitoring stations detect levels of airborne asbestos above the action level, onsite work will be suspended until such time that the reported asbestos levels have declined below action levels.

11.1.1 Air Sampling Equipment

Sampling at all airborne asbestos monitoring stations will be conducted using battery-operated heavy-duty vacuum pumps. Either model SKC 1532 and/or Model BGI 100 or an equivalent model vacuum pump will be used for each of the monitoring stations. The battery will be a marine grade deep cycle 12-volt battery, or equivalent. A battery charging station will be set up at a secure location on the subject site to ensure adequately charged batteries are always available for vacuum pump operation. Selected equipment will be of the type that is used extensively in air sampling for asbestos.

The sampling train will consist of the following; pump, a flow regulator/dampener, a lockable air flow adjustment valve, tygon tubing and filter cassette assembly. The cassette will be attached to a tripod, or equivalent, to ensure the filter cassette maintains a constant elevation of four (4) feet above ground surface. The filter cassettes will have a 25-millimeter open-face cowl and will consist of a mixed cellulose ester (MCE) filter with a 0.45-micron pore size.

Each of the pumps, battery packs, sampling trains and cassettes will be inspected regularly to ensure proper operation. To prevent vandalism, sampling equipment will be placed in locked boxes and, if possible, behind locked fences. In the event air monitors are found to not be operating properly, as soon as practicable BAAQMD staff will be notified of the location, monitor name, time discovered, plan of action, and estimated time needed to complete repairs.

11.1.2 Location of Airborne Asbestos Sampling Devices

Airborne asbestos sampling equipment will be located within areas to avoid sheltered or dead air spaces and areas where particle trapping may occur and placed in areas clear of physical obstructions. According to data collected at the San Francisco International Airport, the prevailing wind direction for the region is west-northwest with a mean speed of approximately 10 mph (Western Regional Climate Center, 2002).

Based on the prevailing wind direction and the location of residential developments to the east of the subject site, three (3) asbestos air monitoring stations are proposed along the eastern border of the subject site and due to the location of the public parks to the west of the subject site, three (3) asbestos air monitoring stations are proposed along the western border of the subject site (Figure 4).

Construction activities may require temporary relocation of airborne asbestos monitors within the vicinity of the locations shown on Figure 4. Should an air monitor(s) be in direct conflict with construction

activities, it may be moved up to 50 feet from its location shown on Figure 4 without notification. Once the construction activities within the conflicting area(s) are complete, the airborne asbestos monitor(s) will be placed back in their originally approved location.

11.1.3 Modifications to Airborne Asbestos Monitoring Program

As new areas within the subject site become active and as other areas are stabilized with one (1) of the three (3) methods presented in Section 9.7, it may be necessary to move airborne asbestos monitoring stations to ensure that adequate coverage of active work areas are maintained. If one (1) or more air monitors must be moved to maintain coverage or if a new air monitoring network is proposed, the BAAQMD will be notified at least seven (7) days in advance of the proposed move or proposed addition. Air monitors must not be moved more than 50 feet without first obtaining approval from the BAAQMD. Other instances that could call for a modification to the airborne asbestos monitoring program may consist of new analytical methodologies, further reduction or possible cessation of air monitoring. In any instance, BAAQMD staff must first approve the modification(s) before implementation in the field.

The notification to the BAAQMD must be in writing and includes the following minimum information:

- The reason(s) for relocating the air monitor(s);
- If necessary, the reason(s) for the new monitoring network;
- A description of new air monitoring location(s);
- A site plan depicting the current and proposed air monitoring locations;
- A site plan depicting current and future areas to be disturbed;
- A description of any other proposed changes to air monitoring protocol; and/or
- Any other information that will help BAAQMD staff in determining whether the proposal can be approved.

Once the air monitoring program modification is approved by BAAQMD, the necessary adjustments may be made in the field and updated records and communication will be stored with this ADMP on the subject site.

11.1.4 Air Monitoring/Sampling Duration and Frequency

Each high-volume air monitoring station, when in operation, will consist of a continuous 24-hour air sampling period from approximately 3:30 PM to 3:30 PM the next working day. During holidays and weekends in which no earth disturbing activities occur, air monitoring will not be conducted.

At the time of sample collection and set up for the next monitoring run, a field technician will record in a field notebook the sample ID number, the sample location, the date and time the pump was activated, the date and time the pump was deactivated, the flow rate at the start of sampling, the flow rate at the end of sampling, the calculated average flow rate, and the calculated total volume of air pumped during the

sampling run. All data will be transcribed onto the chain-of-custody form that will remain with the samples until they are delivered to the analytical laboratory.

A rotameter will be used to calibrate the flow rate both before and after sample collection. The rotameter will be attached to the end of the sampling train to check the flow rate before the prior day's cassette is removed. This is accomplished by placing a specialized cover over the cowl that allows a rotameter to be attached to the cover. The field technician will read the flow rate and record the reading. After the reading is recorded, the sample cassette is removed, labeled and placed in a sealable plastic bag. Once complete, a new cassette is fitted onto the end of the tygon tubing, the cover placed over the cowl, the rotameter attached to check the flow rate at the start of sampling. If an adjustment is necessary, the technician will turn the regulator until the desired flow rate is achieved. The desired flow rate should be between 2.5 and 2.7 liters per minute (l/min).

At the conclusion of set up at all air monitoring locations, the samples will be promptly delivered to a California accredited analytical laboratory for analysis. All samples will be accompanied by the chain-of-custody filled out for that day's sampling.

11.1.5 Analytical Method and Procedure

All asbestos air samples will be analyzed by transmission electron microscopy (TEM) per the United States Environmental Protection Agency, Asbestos Hazard Emergency Act (AHERA) criteria pursuant to Title 17 of the California Code of Regulations (17 CCR) Section 93105. The following exceptions are required by the ATCM and will be included:

- The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and
- All asbestos structures with an aspect ratio greater than three (3) to one (1) (3:1) shall be counted irrespective of length.

For purposes of consistency, the asbestos data will be reported in structures per cubic meter (s/m^3).

11.1.6 Reporting and Data Availability

All air monitoring station results will be distributed to all project stakeholders via daily email correspondence regardless of the reported presence or absence of asbestiform fibers. The email distributions for air monitoring results will include BAAQMD staff, EAH Housing development staff and general contractors working on behalf of EAH Housing.

A cumulative database of all air monitoring results and any on subject site wind monitoring data results from project inception to the present will be updated and maintained in the project files. The cumulative air monitoring data will be updated on a monthly basis and the wind data updated on a weekly basis. These data compilations can be made available to BAAQMD upon request.

11.1.7 Air Monitoring Triggered Dust Mitigation Measures

In the event that air monitoring results indicate levels equal to or above 16,000 s/m³ from any BAAQMD-approved air monitor, EAH Housing shall notify the BAAQMD as soon as practical of the air monitoring results indicating: project name, sampler identification, air monitor station location and identification, actual TEM structures per cubic meter, the date the sample was collected, and the date analysis was reported. Additionally, all earth disturbing activity within the monitoring network in which the level of airborne asbestos was detected at or above 16,000 s/m^3 will be suspended until dust is abated and the restart criteria is achieved.

11.2 Fugitive Dust Monitoring Program

Fugitive dust monitoring will be conducted by visual means throughout the duration of construction and earthwork. Daily visual monitoring during all earth disturbing activities is the primary responsibility of the contractor. If the not visible dust goal is exceeded regarding dust generation at the point of earth disturbance, the contractor must follow the processes outlined in Section 9.0 to rectify the operation causing the problem.

11.2.1 Visible Dust Monitoring During Site Activities

This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section applies to active construction when equipment and personnel are working/driving on the subject site and performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) any EAH Housing representative, supervisor, contractor, subcontractor, or consultant with responsibility for monitoring the permitted activity.

11.2.2 Visible Dust Crossing the Property Boundary

In the event visible dust from soil disturbance or excavation activities is observed crossing the property boundary (Hamilton Road to the north and west, Roque Moraes Drive to the north and east, and the existing southern entrance to the police building and fire station to the south), the specific source creating the emissions will be immediately stopped and a more aggressive application of the existing mitigation measures described in Section 9.0 will be implemented. Once the mitigation measures have been applied, observations will be conducted to verify that the mitigation measures were successful.

11.2.3 Onsite Visible Dust

In the event visible dust from soil disturbance or excavation activities is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

- A more aggressive application of the existing mitigation measures described in Section 9.0 or additional methods of dust suppression will be directed to the specific source of emissions within 60 minutes of the initial observation.
- If, despite these more aggressive and/or additional measures, the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of emissions will be temporarily shut down until the implemented dust control mitigation is effective or, due to changed conditions, no longer necessary.

11.2.4 Windblown Visible Dust During Inactive Periods

The standards in this subsection apply on weekends, holidays or any other times when no equipment and personnel are performing work activities on the subject site. In the event of windblown visible dust plumes from soils originating on the subject site, mitigation measures described in Section 9.0 will be directed by the contractor within less than four (4) hours of making the initial observation. Mitigation measures will be applied until the visible dust plumes originating from the subject site are minimized or eliminated. Any observations of visible dust originating from the subject site during inactive periods should be reported to a designated EAH Housing representative capable of being contacted during periods of inactivity on the subject site.

12.0 REFERENCES

Bay Area Air Quality Management District, Bay Area Air Quality Management District | California Air Resources Board

California Department of Conservation, Naturally-Occurring Asbestos in California, Naturally-Occurring Asbestos in California

California Geological Survey. December 2002. *California Geomorphic Provinces (Note 36).*

California Department of Conservation. DOC Maps Data Viewer, https://maps.conservation.ca.gov

Title 17 of the California Code of Regulations (17 CCR) Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations, July 2001

United States Geological Survey. 1978. https://pubs.er.usgs.gov/publication/mf976

Western Regional Climate Center. 2002. wrcc.dri.edu/climate/comp_table_show.php

13.0 CLOSING

We appreciate the opportunity to be of service to WRA, Inc. If you have any questions or require additional information, please contact the undersigned at (559) 348-2200.

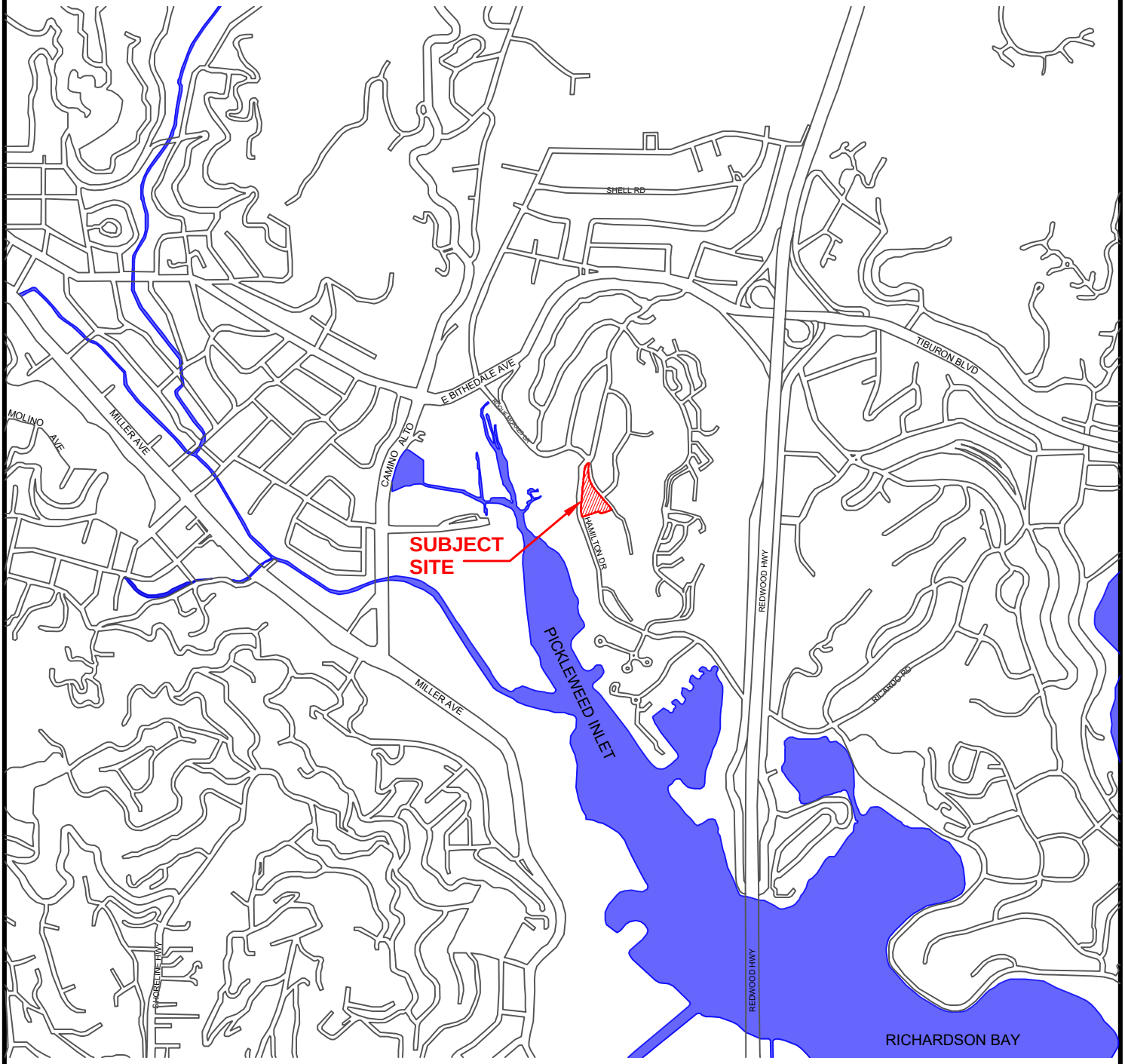


Respectfully submitted,
Krazan-VEIR

Martin Groth, P.G. 8477
Division Manager

MG:jb

Figures



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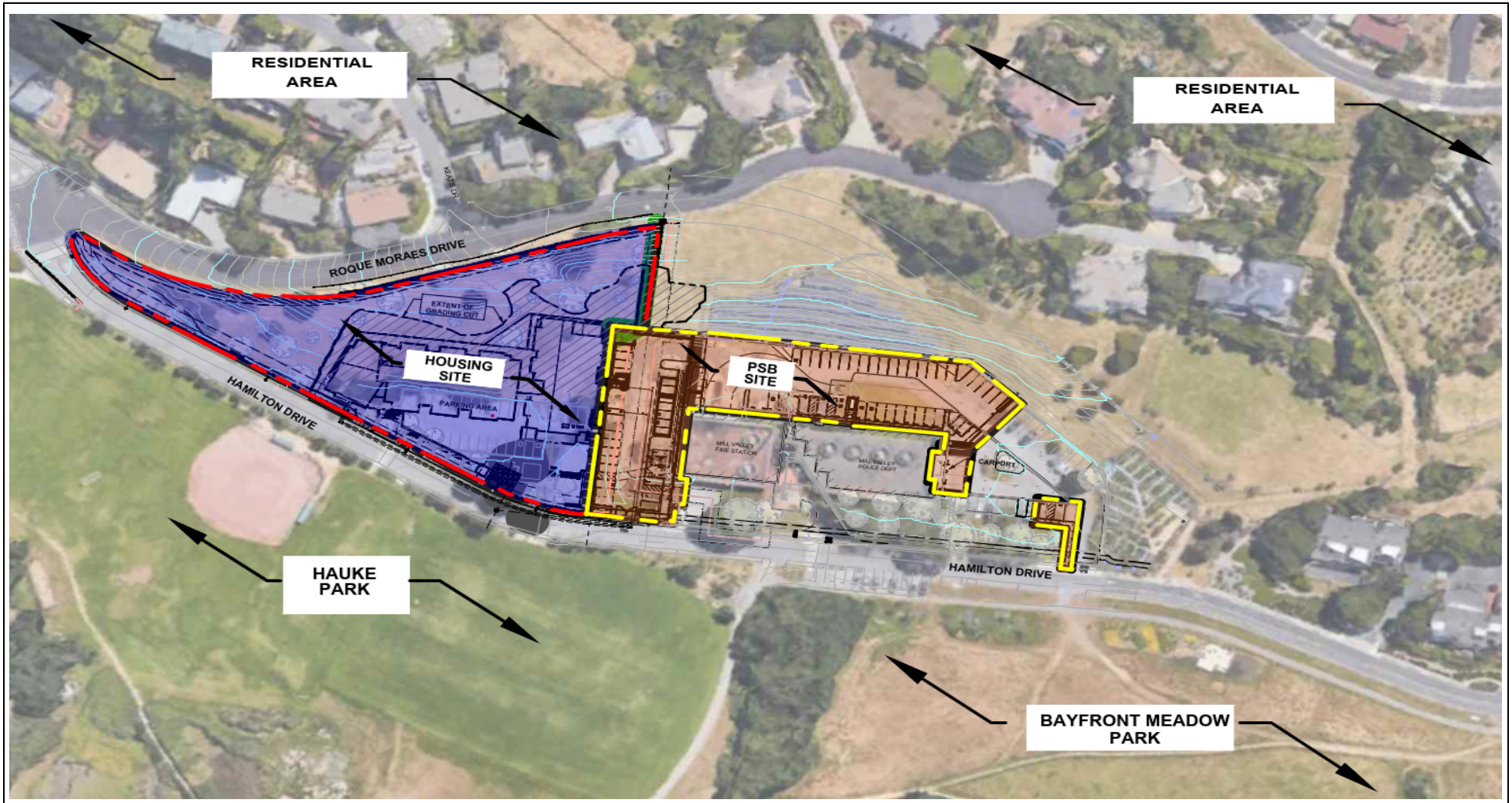
SCALE IN FEET (±)
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

VICINITY MAP

MULTI-FAMILY HOUSING PROJECT
1 HAMILTON DRIVE
MILL VALLEY, CA 94941

Scale:	Date:
AS SHOWN	JUL. 2023
Drawn by:	Approved by:
A. G.	M. G.
Project No.	Figure No.
013-23021	1

Krazan-VEIR
PHASE I ENVIRONMENTAL SITE ASSESSMENTS • PHASE II ENVIRONMENTAL SITE ASSESSMENTS • SITE REMEDIATION



EXPLANATION

HOUSING SITE SITE BOUNDARY

PUBLIC SAFETY BUILDINGS (PSB) SITE BOUNDARY

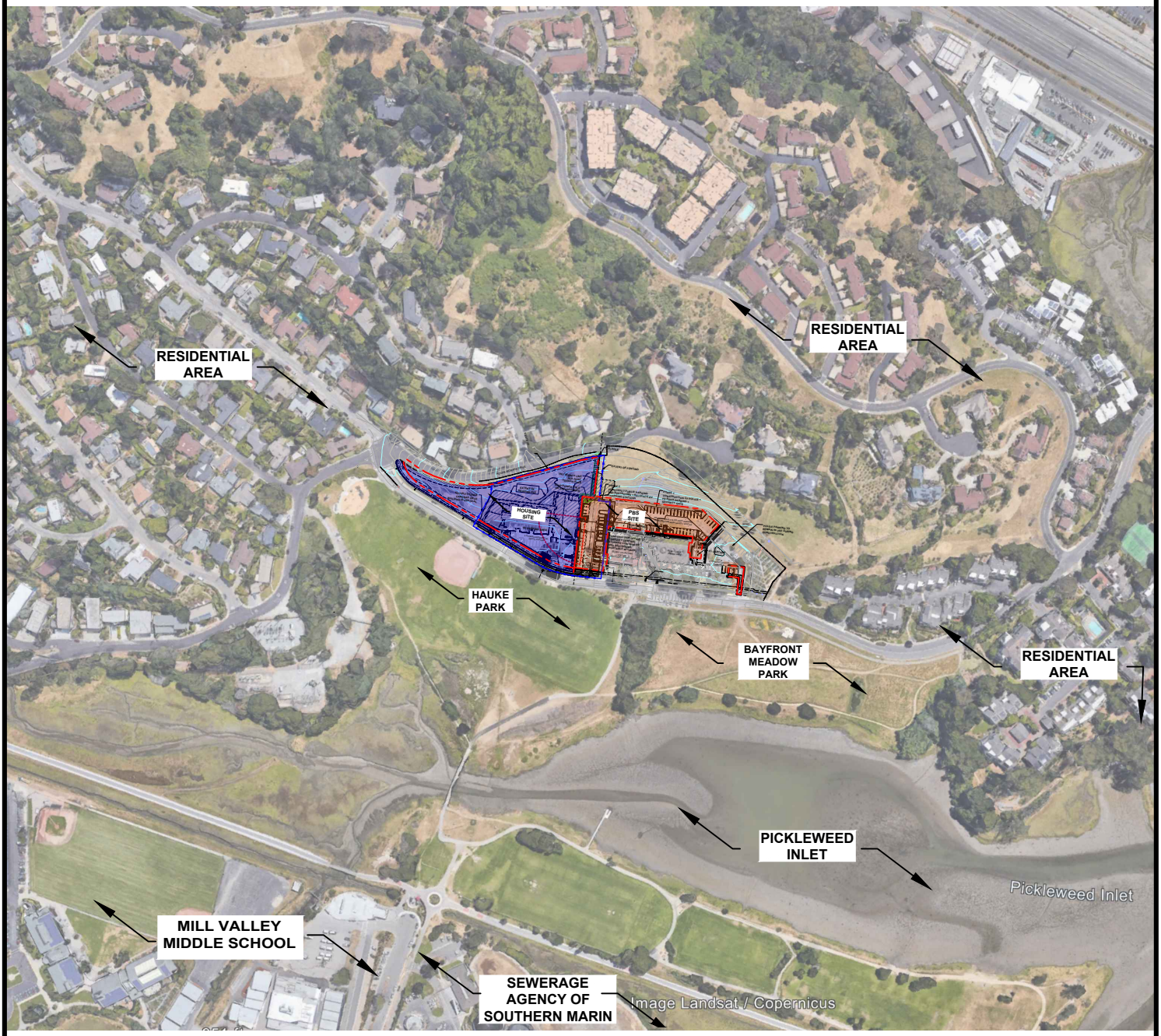
0 140 280

SCALE IN FEET (±)
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

PROJECT SITE PLAN	Scale: AS SHOWN	Date: Aug 2023
PROPOSED MULTI-FAMILY HOUSING PROJECT 1 HAMILTON DRIVE MILL VALLEY, CA 94941	Drawn By: JB	Approved by: MG
	Project No. 01323021	Figure No. 2

Krazan-VEIR

PHASE I ENVIRONMENTAL SITE ASSESSMENTS • PHASE II ENVIRONMENTAL SITE ASSESSMENTS • SITE REMEDIATION



0 400 800

SCALE IN FEET (±)
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

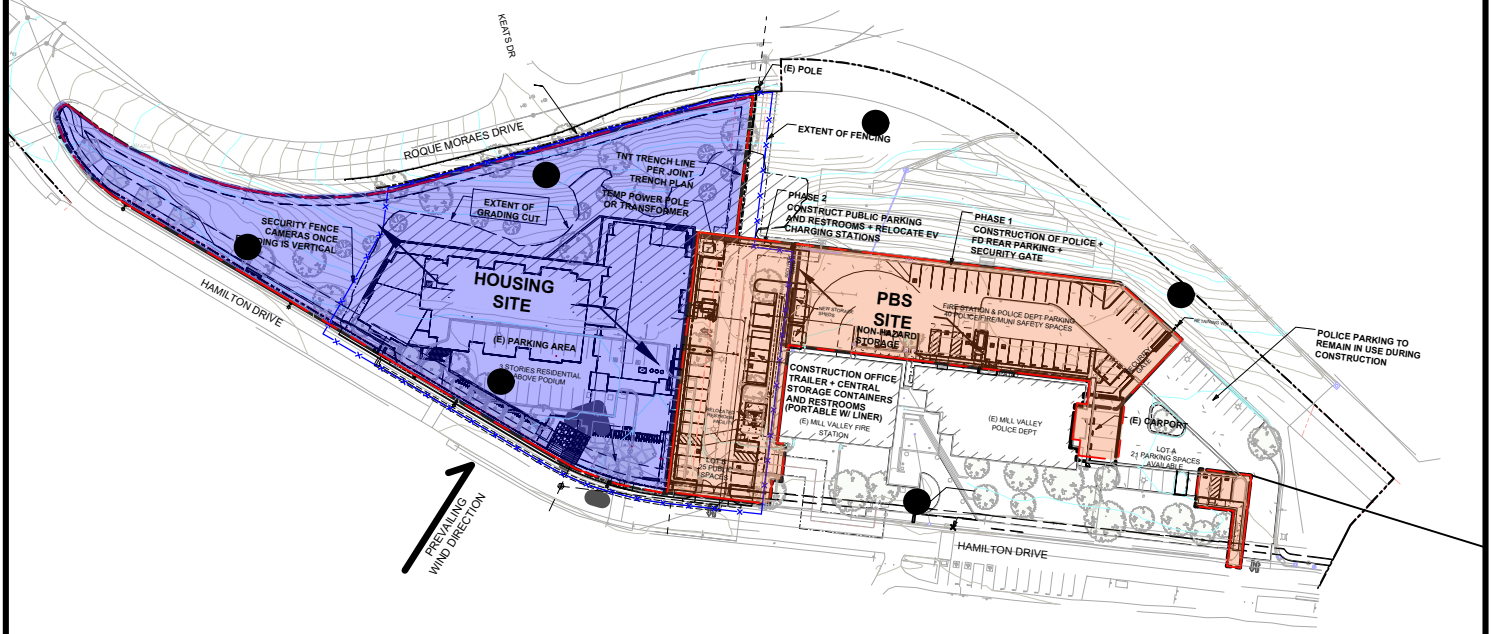
SURROUNDING SITE USES SITE PLAN

PROPOSED MULTI-FAMILY HOUSING PROJECT
1 HAMILTON DRIVE
MILL VALLEY, CA 94941

Scale:	Date:
AS SHOWN	AUG. 2023
Drawn by:	Approved by:
A. G.	M. G.
Project No.	Figure No.
013-23021	3

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PHASE I ENVIRONMENTAL SITE ASSESSMENTS • PHASE II ENVIRONMENTAL SITE ASSESSMENTS • SITE REMEDIATION



EXPLANATION

● PROPOSED AIR MONITORING STATION

0 150 300

SCALE IN FEET (±)
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

PROPOSED ASBESTOS AIR MONITORING STATION SITE PLAN

PROPOSED MULTI-FAMILY HOUSING PROJECT
1 HAMILTON DRIVE
MILL VALLEY, CA 94941

Scale:	Date:
AS SHOWN	AUG. 2023
Drawn by:	Approved by:
A. G.	M. G.
Project No.	Figure No.
013-23021	4

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PHASE I ENVIRONMENTAL SITE ASSESSMENTS • PHASE II ENVIRONMENTAL SITE ASSESSMENTS • SITE REMEDIATION

Appendix A

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
375 Beale Street, Suite 600
San Francisco, California 94105
(415) 771-6000

For District Use Only	
Date Rec'd	
File #	

ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR

CONSTRUCTION AND GRADING OPERATIONS

§ 93105, Title 17, California Code of Regulations

ASBESTOS DUST MITIGATION PLAN APPLICATION

1. Company and Project Information

Company Name and Address		Project Location	
Name		Location	
Address		Address	
City/State	Zip	City/State	Zip
Contact		Start Date	
Phone	E-mail	Estimated Completion Date	

The following information is requested to assist in the evaluation of your Asbestos Dust Mitigation Plan. Omission of this information may result in a delay of the completion of the evaluation and approval of the plan. Please provide the information requested below; place a checkmark in front of each of the categories that apply.

2. Detailed Project Information

Type of Project: (Check all that applies)

- ☐ Road or Railway Construction
- ☐ Road Maintenance
- ☐ Housing Development
- ☐ Commercial Property Development
- ☐ Trenching / Utilities Work
- ☐ Other (please describe)

_____

3. Detailed Site Information

Areas and Facilities within a quarter mile (400 meters) of the Project: (Check all that applies)

- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Rural
- ☐ Hospital / Nursing Home
- ☐ School
- ☐ Park / Playground
- ☐ Other (please describe)

_____

Press here to clear form

ASBESTOS DUST MITIGATION PLAN APPLICATION

BAY AREA AIR QUALITY MANAGEMENT DISTRICT 375 Beale Street, Ste. 600, San Francisco, CA 94105

4. Additional Information

The following information MUST be included:

Map(s) clearly indicating:

- ☐ Property lines / boundaries
- ☐ Rights of way / easements
- ☐ Areas to be cleared or graded
- ☐ Trenching areas
- ☐ Excavation sites
- ☐ Storage areas / piles
- ☐ Track-out control
- ☐ Staging areas for removal
- ☐ Truck routes
- ☐ On-site parking lots

If available, please attach the following information:

- ☐ Geologic Information
- ☐ Topographical Maps
- ☐ Meteorological Data

CONSTRUCTION AND GRADING OPERATIONS CHECKLIST FOR PROJECTS GREATER THAN AN ACRE

ELEMENTS THAT MUST BE INCLUDED:

Each of the following sources of dust emissions MUST be addressed in the Asbestos Dust Mitigation Plan:

- ☐ Track-out onto the paved public road;
- ☐ Active storage piles;
- ☐ Inactive disturbed surface areas and storage piles;
- ☐ Traffic on unpaved on-site roads;
- ☐ Earthmoving activities;
- ☐ Off-site transport of materials; and
- ☐ Post-project stabilization of disturbed soil surfaces.

ASBESTOS AIR MONITORING PLANS:

If required by the District, complete an Asbestos Air Monitoring Plan for District approval.

An air monitoring plan **MAY BE** required if one or more of the following lies within a quarter mile (400 meters) of any boundary of an area to be disturbed:

- ☐ Residence;
- ☐ School / Daycare center;
- ☐ Industrial Facility
- ☐ Business;
- ☐ Park / Playground;
- ☐ Hospital / Nursing Home

Development of an Asbestos Air Monitoring Plan does not constitute a requirement to implement air monitoring.

However, if the District would like to determine the effectiveness of the application of the dust mitigation measures listed in your dust mitigation plan, the plan would be required to be implemented within one business day of notification from the District.

5. Track-out onto the paved public road

Please mark the box preceding each measure that will be implemented:

THIS MEASURE MUST BE ADDRESSED:

- ☐ Any visible track-out on a paved public road at any location where vehicles exit the work site **MUST** be removed; Removal **MUST** be done using wet sweeping or a HEPA filter-equipped vacuum device at the end of the work day or at least one time per day.

AND installation of <u>one or more of the following track-out prevention measures:</u>

- ☐ A gravel pad designed using good engineering practices to clean the tires of exiting vehicles
- ☐ A tire shaker
- ☐ A wheel wash system
- ☐ Pavement extending for not less than fifty (50) consecutive feet from the intersection with the paved public road
- ☐ Any other measure(s) as effective as the measures listed above: (Briefly describe below)

6. Active Storage Piles

THIS MEASURE MUST BE ADDRESSED:

- ☐ Keep active storage piles adequately wet or covered with tarps.

7. Inactive Areas and Storage Piles

Please mark the box preceding each measure that will be implemented:

Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days shall include **<u>one or more of the following:</u>**

- ☐ Keep the surface adequately wet;
- ☐ Establish and maintain of surface crusting sufficient to satisfy the test in subsection 93105(h)(6);
- ☐ Apply chemical dust suppressants or chemical stabilizers according to the manufacturer's recommendations;
- ☐ Cover with tarp(s) or vegetative cover;
- ☐ Install wind barriers of fifty percent (50%) porosity around three (3) sides of a storage pile;
- ☐ Install wind barriers across open areas;
- ☐ Any other measure(s) deemed as effective as the measures listed above. (Briefly describe below)

8. Traffic on On-Site Unpaved Roads, Parking Lots, and Staging Areas

Please mark the box preceding each measure that will be implemented:

THIS MEASURE MUST BE ADDRESSED:

- ☐ A maximum vehicle speed limit of fifteen (15) miles per hour or less;

AND <u>one or more of the following:</u>

- ☐ Water every two hours of active operations or sufficiently often to keep the area adequately wetted;
- ☐ Apply chemical dust suppressants consistent with manufacturer's directions;
- ☐ Install wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile;
- ☐ Maintain a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
- ☐ Any other measure(s) deemed as effective as the measures listed above. (Briefly describe below)

9. Earthmoving Activities

Please mark the box preceding each measure that will be implemented:

Control for earthmoving activities must include **<u>one or more of the following:</u>**

- ☐ Pre-wet the ground to the depth of anticipated cuts;
- ☐ Suspend grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures;
- ☐ Apply water prior to any land clearing; or
- ☐ Any other measure(s) deemed as effective as the measures listed above. (Briefly describe below)

10. Off-Site Transport

Please mark the box preceding each measure that will be implemented:

THIS MEASURE MUST BE ADDRESSED:

The owner or operator must ensure that no trucks are allowed to transport excavated material off-site unless:

- ☐ Maintain trucks such that no spillage can occur from holes or other openings in cargo compartments; **AND**
- ☐ Loads are adequately wet;

AND Either of the following measures:

- ☐ Cover with tarps; or
- ☐ Load such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

11. Post Construction Stabilization of Disturbed Areas

Please mark the box preceding each measure that will be implemented:

Upon completion of the project, disturbed surfaces shall be stabilized using **one or more of the following:**

- ☐ Establish a vegetative cover;
- ☐ Place at least three (3.0) inches of non-asbestos-containing material;
- ☐ Paving; or
- ☐ Any other measure deemed sufficient to prevent wind speeds of ten (10) miles per hour or greater from causing visible dust emissions. (Briefly describe below)

Appendix B

FINAL REGULATION ORDER

ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS

CALIFORNIA CODE OF REGULATIONS
TITLE 17, SECTION 93105

FINAL REGULATION ORDER

ASBESTOS AIRBORNE TOXIC CONTROL MEASURE FOR CONSTRUCTION, GRADING, QUARRYING, AND SURFACE MINING OPERATIONS

Section 93105. Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

(a) Effective Date.

(1) No later than 120 days after the approval of this section by the Office of Administrative Law, each air pollution control and air quality management district must:

(A) Implement and enforce the requirements of this section; or

(B) Propose their own asbestos airborne toxic control measure as provided in Health & Safety Code section 39666(d).

(2) *Pre-existing Operations*: The owner/operator of any project in which the construction, grading, quarrying, or surface mining operation started before the effective date of this section shall comply with this section by:

(A) The date the district begins implementing and enforcing this section as required in subsection (a)(1)(A); or

(B) The compliance date specified in the airborne toxic control measure adopted by the district as required in subsection (a)(1)(B).

(b) Applicability. Unless one of the specific exemptions specified in subsection (c) applies, this section shall apply to any construction, grading, quarrying, or surface mining operation on any property that meets any of the following criteria:

(1) Any portion of the area to be disturbed is located in a geographic ultramafic rock unit; or

(2) Any portion of the area to be disturbed has naturally-occurring asbestos, serpentine, or ultramafic rock as determined by the owner/operator, or the Air Pollution Control Officer (APCO); or

(3) Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the owner/operator, a registered geologist, or the APCO in the area to be disturbed after the start of any construction, grading, quarrying, or surface mining operation.

(c) General Exemptions.

(1) *Geologic Evaluation*: The APCO may provide an exemption from this section for any property that meets the criterion in subsection (b)(1) if a registered geologist has conducted a geologic evaluation of the property and determined that no serpentine or ultramafic rock is likely to be found in the area to be disturbed. Before an exemption can be granted, the owner/operator must provide a copy of a report detailing the geologic evaluation to the APCO for his or her consideration.

(A) At a minimum, the geologic evaluation must include:

1. A general description of the property and the proposed use;

2. A detailed site characterization which may include:
   i. A physical site inspection;
   ii. Offsite geologic evaluation of adjacent property;
   iii. Evaluation of existing geological maps and studies of the site and surrounding area;
   iv. Development of geologic maps of the site and vicinity;
   v. Identification and description of geologic units, rock and soil types, and features that could be related to the presence of ultramafic rocks, serpentine, or asbestos mineralization; and
   vi. A subsurface investigation to evaluate the nature and extent of geologic materials in the subsurface where vertical excavation is planned; methods of subsurface investigation may include, but are not limited to borings, test pits, trenching, and geophysical surveys;

3. A classification of rock types found must conform to the nomenclature based on the International Union of Geological Science system;

4. A description of the sampling procedures used;

5. A description of the analytical procedures used, which may include mineralogical analyses, petrographic analyses, chemical analyses, or analyses for asbestos content;

6. An archive of collected rock samples for third party examination; and

7. A geologic evaluation report documenting observations, methods, data, and findings; the format and content of the report should follow the Guidelines for Engineering Geologic

Reports issued by the State Board of Registration for Geologists and Geophysicists.

(B) The district may request any additional tests or other information needed to evaluate an application for exemption.

(C) The district shall grant or deny a request for an exemption within 90 days of the receipt of a complete application.

(D) If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(E) *Expiration of the Geologic Exemption:* If the owner/operator discovers any naturally-occurring asbestos, serpentine, or ultramafic rock in the area to be disturbed after the exemption is granted, then:

1. The owner/operator must comply with the requirements of this section;

2. The owner/operator must report the discovery of the naturally-occurring asbestos, serpentine, or ultramafic rock to the APCO no later than the next business day; and

3. The exemption under subsection (c)(1) shall expire and cease to be effective.

(2) If a method is developed to accurately demonstrate that property located in a geographic ultramafic rock unit has no detectable asbestos in the area to be disturbed, then the ARB Executive Officer shall propose to the Board for adoption a regulatory amendment allowing the method to be utilized, as appropriate, to obtain an exemption from the requirements specified in this section.

(3) *Agriculture and Timber Harvesting*: This section shall not apply to agricultural operations or timber harvesting except for construction of roads and buildings. Construction of roads is subject to the requirements of subsection (e) if the road is part of a construction or grading operation, quarry, or surface mine, and is subject to the requirements of subsection (d) if the road is not part of a construction or grading operation, quarry, or surface mine.

(4) *Homeowners and Tenants*: Individuals engaged in covered activities on residential property they own or occupy are exempt from subsections (e)(1) and (e)(3)(A).

(5) *Sand and Gravel Operations*: The APCO may provide an exemption for crushing, screening and conveying equipment, stockpiles, and off-site material transport at a sand and gravel operation if the operation processes only materials from an alluvial deposit.

(A) The district shall grant or deny a request for an exemption within ninety (90) days of the receipt of a complete application.

(B) If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(d) Requirements for Road Construction and Maintenance. These requirements shall apply to roads that are not part of a construction or grading project, quarry, or surface mine.

(1) No person shall conduct any road construction or maintenance activities that disturb any area that meets any criterion listed in subsections (b)(1) or (b)(2) unless all of the following conditions are met.

(A) The APCO is notified in writing at least fourteen (14) days before the beginning of the activity or in accordance with a procedure approved by the district.

(B) All the following dust control measures are implemented during any road construction or maintenance activity:

1. Unpaved areas subject to vehicle traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos;

2. The speed of any vehicles and equipment traveling across unpaved areas must be no more than fifteen (15) miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust that is visible crossing the project boundaries;

3. Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept adequately wetted, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos*;* and

4. Activities must be conducted so that no track-out from any road construction project is visible on any paved roadway open to the public*.*

(C) Equipment and operations must not cause the emission of any dust that is visible crossing the project boundaries.

(2) No person shall conduct any road construction or maintenance activity that disturbs the ground surface in an area that meets the criteria in subsection (b)(3) unless:

(A) The APCO is notified no later than the next business day of the discovery that the area meets the criteria in subsection (b)(3); and

(B) The requirements of subsections (d)(1)(B) through (d)(1)(C), are implemented within twenty-four (24) hours of the discovery.

(3) *Exemptions from the Requirements for Road Construction and Maintenance.* The following exemptions may apply in addition to the applicable general exemptions specified in subsection (c).

(A) *Emergency Road Repairs:* Subsection (d)(1)(A) shall not apply when construction of a road or firebreak, or a road repair is necessary due to a landslide, flood, or other emergency or to mitigate a condition that constitutes an imminent hazard to the public. The owner/operator shall notify the APCO no later than the next business day of the action taken and the condition establishing the applicability of this subsection.

(B) *Remote locations:* The APCO may provide an exemption from the requirements of subsection (d) for any activity which will occur at a remote location.

1. The district shall grant or deny a request for an exemption within ninety (90) days of the receipt of a complete application.

2. If the request for an exemption is denied, the APCO shall provide written reasons for the denial.

(e) Requirements for Construction and Grading Operations.

(1) *Areas of one acre or less meeting the criteria in subsections (b)(1) or (b)(2)*: No person shall engage in any construction or grading operation on property where the area to be disturbed is **one (1.0) acre or less** unless all of the following dust mitigation measures are initiated at the start and maintained throughout the duration of the construction or grading activity:

(A) Construction vehicle speed at the work site must be limited to fifteen (15) miles per hour or less;

(B) Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line;

(C) Areas to be graded or excavated must be kept adequately wetted to prevent visible emissions from crossing the property line;

(D) Storage piles must be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile;

(E) Equipment must be washed down before moving from the property onto a paved public road; and

(F) Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

(2) *Areas greater than one acre meeting the criteria in subsections (b)(1) or (b)(2)*: No person shall engage in any construction or grading operation on property where the area to be disturbed is **greater than one (1.0) acre** unless:

(A) An Asbestos Dust Mitigation Plan for the operation has been:

1. Submitted to and approved by the district before the start of any construction or grading activity; and

2. The provisions of that dust mitigation plan are implemented at the beginning and maintained throughout the duration of the construction or grading activity; and

(B) For a project started before the effective date of this section for which an asbestos dust mitigation plan was submitted at least sixty (60) days before the effective date, and for which the district has not yet approved the asbestos dust mitigation plan:

1. The measures in subsection (e)(1) must be implemented and maintained until the district-approved asbestos dust mitigation plan is implemented; and

2. The provisions of the district-approved asbestos dust mitigation plan must be implemented within fourteen (14)

days of district approval of the plan and maintained throughout the remainder of the construction or grading activity.

(3) *Property that meets the criteria in subsection (b)(3)*: No person shall engage in any construction or grading operation unless the following requirements are met:

(A) The owner/operator notifies the district of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock no later than the next business day;

(B) The dust mitigation measures in subsection (e)(1) are implemented within twenty-four (24) hours after determining that the property meets the criteria in subsection (b)(3); and

(C) For operations in which the area to be disturbed is **one (1.0) acre or less**, the dust mitigation measures in subsection (e)(1) are maintained throughout the duration of the construction or grading activity; or

(D) For operations in which the area to be disturbed is **greater than one (1.0) acre**, the owner/operator must:

1. Submit an asbestos dust mitigation plan to the district within fourteen (14) days of the discovery of naturally-occurring asbestos, serpentine, or ultramafic rock;

2. Maintain the dust mitigation measures in subsection (e)(1) until the provisions of the district-approved asbestos dust mitigation plan are implemented;

3. Implement the provisions of the district-approved asbestos dust mitigation plan within fourteen (14) days of district approval of the plan; and

4. Maintain the provisions of the district-approved asbestos dust mitigation plan throughout the remainder of the construction or grading activity.

(4) *Asbestos Dust Mitigation Plans*: An Asbestos Dust Mitigation Plan must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line, and must include one or more provisions addressing **each** of the following topics.

(A) Track-out prevention and control measures which shall include:

1. Removal of any visible track-out from a paved public road at any location where vehicles exit the work site; this shall be accomplished using wet sweeping or a HEPA filter equipped vacuum device at the end of the work day or at least one time per day; and

2. Installation of one or more of the following track-out prevention measures:
   i. A gravel pad designed using good engineering practices to clean the tires of exiting vehicles;
   ii. A tire shaker;
   iii. A wheel wash system;
   iv. Pavement extending for not less than fifty (50) consecutive feet from the intersection with the paved public road; or
   v. Any other measure as effective as the measures listed above.

(B) Keeping active storage piles adequately wetted or covered with tarps.

(C) Control for disturbed surface areas and storage piles that will remain inactive for more than seven (7) days, which shall include one or more of the following:

1. Keep the surface adequately wetted;

2. Establishment and maintenance of surface crusting sufficient to satisfy the test in subsection (h)(6);

3. Application of chemical dust suppressants or chemical stabilizers according to the manufacturers' recommendations;

4. Covering with tarp(s) or vegetative cover;

5. Installation of wind barriers of fifty (50) percent porosity around three (3) sides of a storage pile;

6. Installation of wind barriers across open areas; or

7. Any other measure as effective as the measures listed above.

(D) Control for traffic on on-site unpaved roads, parking lots, and staging areas which shall include:

1. A maximum vehicle speed limit of fifteen (15) miles per hour or less; and

2. One or more of the following:
   i. Watering every two hours of active operations or sufficiently often to keep the area adequately wetted;
   ii. Applying chemical dust suppressants consistent with manufacturer's directions;
   iii. Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
   iv. Any other measure as effective as the measures listed above.

(E) Control for earthmoving activities which shall include one or more of the following:

1. Pre-wetting the ground to the depth of anticipated cuts;

2. Suspending grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures;

3. Application of water prior to any land clearing; or

4. Any other measure as effective as the measures listed above.

(F) *Control for off-site transport*. The owner/operator shall ensure that no trucks are allowed to transport excavated material off-site unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and

2. Loads are adequately wetted and either:
   i. Covered with tarps; or
   ii. Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

(G) *Post construction stabilization of disturbed areas*. Upon completion of the project, disturbed surfaces shall be stabilized using one or more of the following methods:

1. Establishment of a vegetative cover;

2. Placement of at least three (3.0) inches of non-asbestos-containing material;

3. Paving;

4. Any other measure deemed sufficient to prevent wind speeds of ten (10) miles per hour or greater from causing visible dust emissions.

(H) *Air monitoring for asbestos (if required by the APCO).*

1. If required by the district APCO, the plan must include an air-monitoring component.

2. The air monitoring component shall specify the following:
   i. Type of air sampling device(s);
   ii. Siting of air sampling device(s);
   iii. Sampling duration and frequency; and
   iv. Analytical method.

(I) *Frequency of reporting*: The plan shall state how often the items specified in subsection (e)(5)(B), and any other items identified in the plan, will be reported to the district.

(5) *Recordkeeping and Reporting Requirements*.

(A) *Recordkeeping Requirements:* The owner/operator shall maintain all of the following records for at least seven (7) years following the completion of the construction project:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation for any geologic evaluation conducted on the property for the purposes of obtaining an exemption, except the archive of collected samples which may be discarded at the expiration of the exemption or one (1) year after the exemption is granted whichever is less; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:
    i. The asbestos bulk sampling was conducted by the owner/operator to document the applicability of or compliance with this section, or
    ii. The asbestos bulk sampling was done at the request of the district APCO.

(B) *Reporting Requirements:* The owner/operator of any grading or construction operation subject to this section shall submit the following to the District:

1. The results of any air monitoring conducted at the request of the APCO; and

2. The results of any asbestos bulk sampling that meets any of the following conditions:
    i. Asbestos bulk sampling conducted by the owner/operator to document applicability of or compliance with this section; or
    ii. Asbestos bulk sampling done at the request of the APCO.

(f) Requirements for Quarrying and Surface Mining Operations.

(1) No person shall engage in any quarrying or surface mining operation that meets the criteria of subsections (b)(1) or (b)(2) unless an Asbestos Dust Mitigation Plan for the operation has been submitted to and approved by the District and the fugitive dust mitigation measures specified in the Plan are implemented and maintained throughout the duration of any quarrying or surface mining operation except,

(A) *Pre-existing Operations*: The owner or operator of any quarrying or surface mining operation that was in operation before the date this section is implemented as determined pursuant to subsection (a) that has not obtained district approval of the asbestos dust mitigation plan may continue operating if all the following conditions are met:

1. The owner/operator has submitted an asbestos dust mitigation plan to the district at least sixty (60) days prior to the date specified in subsection (a);

2. The owner/operator implements all of the dust mitigation measures specified in subsections (f)(2)(B) and (f)(2)(C) by the effective date specified in subsection (a) and maintains

them until the provisions of an approved asbestos dust mitigation plan are implemented; and

3. The owner/operator implements the provisions of the asbestos dust mitigation plan within fourteen (14) days following district approval of the plan.

(B) *Mineral exploration activities*: Mineral exploration activities as defined in the California Public Resources Code section 2714(d) in an area meeting any of the conditions of subsection (b) are not required to submit an asbestos dust mitigation plan but shall instead implement and maintain the following measures throughout the duration of the activity:

1. Limit vehicle speeds on the site to fifteen (15) miles per hour or less;

2. Apply sufficient water during any ground disturbance to prevent visible dust from crossing the property line;

3. Keep disturbed areas and storage piles adequately wetted until they are permanently stabilized;

4. Install a track-out prevention device designed to prevent track-out onto any paved public road;

5. Clean up any visible track-out at the end of the workday or at a minimum within twenty-four (24) hours; and

6. Cover, treat with a chemical dust suppressant, or otherwise stabilize any disturbed areas when operations cease for more than seven (7) days.

(2) The owner/operator of any quarry or surface mine that meets any of the criteria in subsection (b)(3) shall:

(A) Notify the APCO no later than the next business day of the discovery.

(B) Implement all the following measures within twenty-four (24) hours following the discovery:

1. Keep stock and working piles adequately wetted during the addition and removal of material;

2. Keep on-site unpaved roads, parking lots, and staging areas stabilized using one of the following measures:
   i. Adequately wetted; or
   ii. Controlled using dust palliatives or suppressants; or
   iii. paving; or
   iv. Covered to a depth of three (3) inches with gravel that contains less than 0.25 percent asbestos as determined using an approved asbestos bulk test method;

3. Keep exposed areas and inactive stockpiles that are prone to mechanical or wind disturbances:
   i. Adequately wetted; or
   ii. Controlled using dust palliatives or suppressants, paving, wind berms or breaks; or
   iii. Covered with tarps or material that contains less than 0.25 percent asbestos as determined using an approved asbestos bulk test method;

4. Ensure that materials to be quarried, excavated, or graded are adequately wetted;

5. Ensure that all loads are adequately wetted before and during truck loading operations;

6. Ensure that all trucks transporting materials off-site meet the conditions of either paragraph i or paragraph ii at the time the truck leaves the site:
   i. Loads are adequately wetted and covered with tarps; or
   ii. Loads are adequately wetted and the material does not touch the front back or sides of the cargo compartment at any point less than six (6) inches from the top and no point of the load extends above the top of the cargo compartment; and

7. Limit vehicle speeds within the quarry or surface mining operation to fifteen (15) miles per hour or less.

(C) Implement all of the following measures within fourteen (14) days of the determination that the operation meets any of the criteria in subsection (b)(3).

~~1.~~ Measures to ensure that material being excavated, crushed, screened, loaded, transferred or conveyed does not result in any dust that is visible crossing the property line.

2. Measures to ensure that no grinding mill, screening operation, or transfer point on a belt conveyor discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are:
   i. Fifty percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(2)(C)2.i. or ten (10) percent opacity.

3. Measures to ensure that no crusher discharges into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour which are:
   i. Seventy-five percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(C)3.i. or fifteen (15) percent opacity.

4. Measures for material handling sufficient to meet the requirements of subsections (f)(2)(C)1. through (f)(2)(C)3. Such measures may include the following:
   i. Installation and operation of spraybars on all conveyors; and
   ii. Installation of shrouds at all drop points.

5. Track-out control and prevention measures which shall include:
   i. Installation of a gravel pad, grizzly, tire washing system, or paving at least fifty (50) feet of the access road, and
   ii. Cleaning any visible track-out off the paved public road using wet sweeping or a HEPA filter equipped vacuum device at the end of each workday.

6. Stabilization of all on-site roads, parking lots, and staging areas open to the public by one of the following methods:
   i. Pave with asphalt or concrete, or
   ii. Treat with a chemical dust suppressant applied according to manufacturers directions, or
   iii. Maintain a gravel cover that has a depth of at least three (3) inches and contains less than 0.25 percent asbestos

as determined using an approved asbestos bulk test method.

(D) Submit an Asbestos Dust Mitigation Plan to the District within fourteen (14) days and maintain the measures specified in subsections (f)(2)(B) and (f)(2)(C) until the asbestos dust mitigation measures in the district-approved Asbestos Dust Mitigation Plan are implemented.

(3) An Asbestos Dust Mitigation Plan required by subsections (f)(1) and (f)(2)(D) must include sections which address each of the following topics.

(A) A Fugitive Dust Mitigation Component which shall, at a minimum, include the measures specified in subsections (f)(2)(B) and (f)(2)(C), unless the APCO determines that it is appropriate to add, omit, or modify these measures depending on site-specific parameters. The plan shall also require that:

1. Equipment and operations do not emit dust that is visible crossing the property line;

2. Crushers do not discharge into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour, which is:
   i. Seventy-five percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(A)2.i. or fifteen (15) percent opacity; and

3. Grinding mills, screening operations, and transfer points on belt conveyors do not discharge into the air any visible emissions other than uncombined water vapor, for a period aggregating more than three minutes in any one hour, which is:
   i. Fifty percent as dark or darker in shade as that designated as number one on the Ringlemann Chart, as published by the United States Bureau of Mines; or
   ii. Of such opacity as to obscure an observers view to a degree equal to or greater than smoke as described in subsection (f)(3)(A)3.i. or ten (10) percent opacity.

(B) *Air monitoring for asbestos (if required by the APCO).*

1. If required by the district APCO, the plan must include an air monitoring component.

2. The air monitoring component shall specify the following:
   i. Type of air sampling device(s);
   ii. Siting of air sampling device(s);
   iii. Sampling duration and frequency; and
   iv. Analytical method.

(C) *Frequency of reporting*. The plan shall state how often the items specified in subsection (f)(5)(B), and any other items identified in the plan, will be reported to the district.

(4) Upon petition by the owner/operator the APCO may approve the use of requirements or restrictions established under other regulatory programs to meet the requirements of subsection (f) under the following conditions:

(A) The requirements or restrictions are equivalent to or more stringent than the requirements of subsection (f); and

(B) The requirements or restrictions are enforceable by the APCO.

(5) *Recordkeeping and Reporting Requirements*: The owner/operator of a surface mining or quarrying operation subject to this section must comply with the following recordkeeping and reporting requirements.

(A) *Recordkeeping Requirements:* The owner/operator shall maintain all of the following records for at least seven (7) years:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation for any geologic evaluation conducted on the property for the purpose of obtaining an exemption except, the archive of collected rock samples which may be discarded at the expiration of the exemption or one (1) year after the district granted or denied the exemption, whichever comes first; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:

i. The asbestos bulk sampling was conducted by the owner/operator to document the applicability of, or compliance with this section; or
ii. The asbestos bulk sampling was done at the request of the district APCO.

(B) *Reporting Requirements:* The owner/operator shall submit the following to the District:

1. The results of any air monitoring conducted at the request of the APCO;

2. The documentation of any geologic evaluation conducted on the property in question; and

3. The results of any asbestos bulk sampling that meets any of the following conditions:
   i. Asbestos bulk sampling conducted by the owner/operator to document applicability of or compliance with this section; or
   ii. Asbestos bulk sampling done at the request of the district APCO.

(g) Air Monitoring for Asbestos. Pursuant to the requirements of Health and Safety Code section 41511:

(1) Air monitoring may be required by the district APCO.

(2) The APCO may revise the asbestos dust mitigation plan on the basis of the results of the air monitoring.

(h) Test Methods.

(1) *Ultramafic Rock*: The ultramafic rock composition of any material shall be determined using standard analysis techniques including, but not limited to, color index assessment, microscopic examination, petrographic analysis or rock thin sections, or chemical analysis techniques, such as X-ray fluorescence spectrometry or inductively coupled plasma analysis.

(2) *Bulk Sampling Methods*: ARB Test Method 435, or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board, shall be used to determine the asbestos content of a bulk sample. For the purposes of determining compliance with this section, references in ARB Test Method 435 to "serpentine aggregate" shall mean “gravel” or other “bulk materials” to be tested for asbestos content.

(3) *Analysis of Air Samples*: Analysis of all air samples shall follow the analytical method specified by the United States Environmental Protection Agency, Asbestos Hazard Emergency Response Act (AHERA) criteria for asbestos (40 CFR, Part 763 Subpart E, Appendix A, adopted October 30, 1987), with the following exceptions:

(A) The analytical sensitivity shall be 0.001 structures per cubic centimeter (0.001 s/cc); and

(B) All asbestos structures with an aspect ratio greater than three to one (3 to1) shall be counted irrespective of length.

(4) The results of the analysis of air samples shall be reported as transmission electron microscopy (TEM) asbestos structures per cubic centimeter (s/cc).

(5) *Adequately Wetted*: Field determination of "adequately wetted" shall be as follows:

(A) If the district-approved asbestos dust mitigation plan has specified a percent moisture content for specific materials the determination shall be as specified in the district-approved asbestos dust mitigation plan; or

(B) If no moisture threshold is specified in a district-approved asbestos dust mitigation plan, a sample of at least one (1) quart in volume shall be taken from the top three (3) inches of a road, or bare area or from the surface of a stockpile. The sample shall be poured out from a height of four (4) feet onto a clean hard surface. The material shall be considered to be adequately wetted if there is no observable dust emitted when the material is dropped.

(6) *Surface Crusting*: "Measurement of the stability of surface crusting on horizontal surfaces" shall be as follows:

(A) Where a visible crust exists, drop a steel ball with a diameter of 15.9 millimeters (0.625 inches) and a mass ranging from 16 to 17 grams from a distance of 30 centimeters (one foot) directly above (at a 90 degree angle perpendicular to) the ground surface. If blowsand (thin deposits of loose grains covering less than 50 percent of the surface that have not originated from the surface being tested) is present, clear the blowsand from the surfaces to be tested before dropping the steel ball.

(B) A sufficient crust is determined to exist if, when the ball is dropped according to subsection (h)(6)(A), the ball does not sink into the surface so that it is partially or fully surrounded by loose grains and, upon removing the ball, the surface on which it was dropped has not been pulverized so that loose grains are visible.

(C) Drop the ball three times each in three representative test areas within a survey area measuring 1 foot by 1 foot that represents a random portion of the surface being evaluated. The test area shall be deemed to have passed if at least two of the three times the ball was dropped, the results met the criteria in subsection (h)(6)(B). If all three test areas pass, the area shall be deemed to be "sufficiently crusted".

(i) Definitions. For the purposes of this section, the following definitions shall apply:

(1) "Access road" means any road extending from a public thoroughfare onto the property of a construction project, quarry, or surface mining operation.

(2) "Adequately wetted" means sufficiently moistened with water to minimize the release of particulate matter into the ambient air as determined by the test method(s) in subsection (h)(5).

(3) "Agricultural operation" means activities necessary for the growing and harvesting of crops or raising of fowl or animals.

(4) "APCO" means the executive officer, air pollution control officer, or the designee of the executive officer or air pollution control officer of any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(5) "Approved asbestos bulk test method" means ARB Test Method 435 or an alternative asbestos bulk test method approved in writing by the Executive Officer of the California Air Resources Board.

(6) "ARB" means the California Air Resources Board.

(7) "ARB Test Method 435" means the test method specified in title 17, California Code of Regulations, section 94147.

(8) "Asbestos" means asbestiforms of the following minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebeckite), amosite (fibrous cummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite.

(9) "Asbestos-containing material" means any material that has an asbestos content of 0.25 percent or greater.

(10) "Asbestos Dust Mitigation Plan" means a detailed written document specifying measures that would be implemented to minimize the emissions of asbestos-laden dust.

(11) "Carry-out" or "track-out" means any bulk material that adheres to and agglomerates on the exterior surfaces of motor vehicles, haul trucks, and/or equipment, including tires, and that has fallen or been deposited onto a paved public roadway.

(12) "Construction," "grading," "construction or grading operation" and "construction or grading activity" mean any surface disturbance conducted with powered equipment or any related activity, including, but not limited to, all surface and subsurface cuts and fills, excavation, trenching, stockpiling, bulldozing, and landfills.

(13) "District" means any air pollution control or air quality management district created or continued in existence pursuant to Part 3 (commencing with section 40000), Division 26, Health and Safety Code.

(14) "Geographic ultramafic rock unit" means a geographic area that is designated as an ultramafic rock unit or ultrabasic rock unit, including the unit boundary line, on any of the maps referenced in Appendix A.

(15) "Geologic evaluation" means an evaluation of a property to determine the presence of various types of rocks, including ultramafic rock, serpentinite, or other metamorphic derivatives of ultramafic rock.

(16) "Gravel pad" means a layer of gravel, rock, or crushed rock which is at least one inch or larger in diameter and less than five (5) percent silt content, maintained at the point of intersection of a paved public roadway and a work site entrance to dislodge mud, dirt, and debris from tires of motor vehicles and haul trucks prior to leaving a worksite.

(17) "Grizzly" means a device used to dislodge mud, dirt, and debris from the tires and undercarriage of motor vehicles and haul trucks prior to leaving the work site.

(18) "HEPA filter" means a High Efficiency Particulate Air filter used to remove particles less than one (1) micron in aerodynamic diameter and operates at removal efficiencies of 99.9 percent or greater.

(19) "Naturally-occurring asbestos" means asbestos that has not been processed in an asbestos mill.

(20) "Owner/operator" or "person" includes, but is not limited to:

(A) An individual, trust, firm, joint stock company, business concern, partnership, limited liability company, association, or corporation including, but not limited to, a government corporation;

(B) Any city, county, district, commission, the state or any department, agency, or political subdivision thereof, any interstate body, and the federal government or any department or agency thereof to the extent permitted by law; or

(C) A project proponent and any of its contractors or subcontractors.

(21) “Paving” means creating a cover consisting of portland cement, asphalt concrete, or chip seal.

(22) “Project Boundaries” means the right-of-way and any construction easements adjacent to and necessary for the purposes of a specific road construction project or maintenance activity.

(23) "Property" means any real property including, but not limited to, any contiguous parcel or parcels of land and anything attached to, or erected on it.

(24) "Quarrying" means the act of obtaining stone from the earth by means of cutting, digging, excavating, or blasting and includes processes used to convert the excavated material into commercial products.

(25) "Registered geologist" means an individual that is currently licensed as a geologist with the State of California, Department of Consumer Affairs, Board of Geology and Geophysicists.

(26) "Remote location" means any location that is at least one (1.0) mile from the location of a receptor. "Receptor" includes, but is not limited to, any hospital, school, day care center, work site, business, residence, and permanent campground. The distance to the nearest receptor is to be measured from the outermost limit of the area to be disturbed or road surface, whichever is closer.

(27) “Road Construction and Maintenance” means the activities undertaken to build roads, highways, railroads, bridges, culverts, drains and other works incidental to road or highway construction, and maintenance activities that involve grading or excavation. Road Construction and Maintenance does

not include the construction of rest stops, maintenance buildings, or parking lots. These excluded activities are subject to the requirements of subsection (e).

(28) "Road surface" means the traveled way of a road and any shoulder which may extend up ten (10) feet from the edge of the traveled way.

(29) "Sand and Gravel Operation" means any facility operating in alluvial deposits.

(30) "Serpentine" means any form of the following hydrous magnesium silicate minerals: antigorite, lizardite, and chrysotile.

(31) "Serpentinite" means a rock consisting almost entirely of serpentine, although small amounts of other minerals such as magnetite, chromite, talc, brucite, and tremolite-actinolite may also be present. "Serpentinite" is a metamorphic derivative of the ultramafic rocks, peridotite, pyroxenite, or dunite.

(32) "Surface mining" means all, or any part of, the process involved in the mining of minerals on mined lands by removing overburden and mining directly from the mineral deposit, open-pit mining of minerals naturally exposed, mining by the auger method, dredging and quarrying, or surface work incident to an underground mine. "Surface mining" includes, but is not limited to, in place distillation or retorting or leaching, the production and disposal of mining waste, prospecting and exploratory activities or any activity subject to regulation under the Surface Mining and Reclamation Act of 1975, Public Resources Code section 2700 et seq.

(33) "Ultrabasic rock" means ultramafic rock.

(34) "Ultramafic rock" means an igneous rock composed of 90 percent or greater of one or a combination of the following iron/magnesium-rich, dark-colored silicate minerals: olivine, pyroxene, or more rarely amphibole. For the purposes of this section, "ultramafic rock" includes the following rock types: dunite, pyroxenite, and peridotite; and their metamorphic derivatives.

(35) "Visible emissions" means any particulate matter that is visually detectable without the aid of instruments other than corrective lenses.

NOTE: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41511, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41511, Health and Safety Code.

APPENDIX A

California Department of Conservation
Division of Mines and Geology

AVAILABLE GEOLOGIC MAPS FOR CALIFORNIA

GEOLOGIC ATLASES OF CALIFORNIA Scale 1:250,000

GEOLOGIC ATLAS OF CALIFORNIA: ALTURAS
Compiled by Gay, T.E. and others, 1958

GEOLOGIC ATLAS OF CALIFORNIA: BAKERSFIELD
Compiled by Smith, A.R., 1964 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: DEATH VALLEY
Compiled by Streitz, R.L. and Stinson, M.C., 1974 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: FRESNO
Compiled by Matthews, R.A. and Burnett, J.L., 1965 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: KINGMAN
Compiled by Jennings, C.W., 1961

GEOLOGIC ATLAS OF CALIFORNIA: LONG BEACH
Compiled by Jennings, C.W., 1962 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: LOS ANGELES
Compiled by Jennings, C.W. and Strand, R.G., 1969 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: MARIPOSA
Compiled by Strand, R.G., 1967 (reprinted 1991)

GEOLOGIC ATLAS OF CALIFORNIA: NEEDLES
Compiled by Bishop, C.C., 1963 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: REDDING
Compiled by Strand, R.G., 1962

GEOLOGIC ATLAS OF CALIFORNIA: SALTON SEA
Compiled by Jennings, C.W., 1967 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SAN LUIS OBISPO
Compiled by Jennings, C.W., 1958 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SAN DIEGO - EL CENTRO
Compiled by Strand, R.G., 1962 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA ANA
Compiled by Rogers, T.H., (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA CRUZ
Compiled by Jennings, C.W. and Strand, R.G., 1958 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: SANTA MARIA
Compiled by Jennings, C.W., 1959 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: TRONA
Compiled by Jennings, C.W., 1962

GEOLOGIC ATLAS OF CALIFORNIA: UKIAH
Compiled by Jennings, C.W. and Strand, R.G., 1960 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: WALKER LAKE
Compiled by Koenig, J.B., 1963 (reprinted 1992)

GEOLOGIC ATLAS OF CALIFORNIA: WESTWOOD
Compiled by Lyndon, P.A. and others, 1960

REGIONAL GEOLOGIC MAP SERIES Scale 1:250,000

GEOLOGIC MAP OF THE CHICO QUADRANGLE
(set of five sheets)
By Saucedo, G.J. and Wagner, D.L., 1992

GEOLOGIC MAP OF THE SACRAMENTO QUADRANGLE
(set of four sheets)
Compiled by Wagner, D.L. and others, 1981

GEOLOGIC MAP OF THE SANTA ROSA QUADRANGLE
(set of five sheets)
Compiled by Wagner, D.L. and Bortugno, E.J. (reprinted 1999)

GEOLOGIC MAP OF THE SAN BERNARDINO QUADRANGLE
(set of five sheets)
Compiled by Bortugno, E.J. and Spittler, T.E. (reprinted 1998)

GEOLOGIC MAP OF THE WEED QUADRANGLE
(set of four sheets)
By Wagner, D.L. and Saucedo, G.J., 1987

GEOLOGIC MAP OF THE SAN FRANCISCO-SAN JOSE QUADRANGLE
(set of five sheets)
By Wagner, D.L., Bortugno, E.J. and McJunkin, R.D., 1990
Color-coded faults

LOCAL GEOLOGIC MAPS

AREAS MORE LIKELY TO CONTAIN NATURALLY-OCCURRING ASBESTOS IN WESTERN EL DORADO COUNTY, CALIFORNIA
By Ron Churchill, March 2000
Scale 1:100,000

SERPINTINITE SURVEY OF LAKE COUNTY, CALIFORNIA – MAP A, ULTRAMAFIC, ULTRABASIC, AND SERPENTINE ROCK AND SOILS OF LAKE COUNTY,
Adopted: March 2, 1992
Scale: 1:100,000

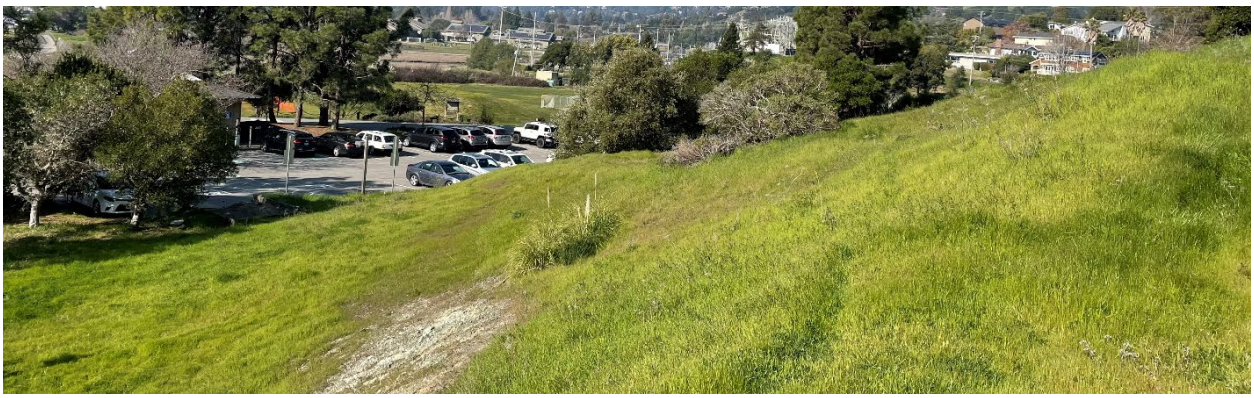
APPENDIX E

BIOLOGICAL RESOURCES TECHNICAL REPORT

Biological Technical Resources Report

1 Hamilton Drive Project

Mill Valley, Marin County, California









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WRA#320021-1

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List of Acronyms

APN	Accessor's Parcel Number
BRTR	Biological Resources Technical Report
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of Mill Valley
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Code	Mill Valley Municipal Code
County	County of Marin
Corps	U.S. Army Corps of Engineers
CPRC	California Public Resources Code
CSRL	California Soils Resource Lab
CWA	Clean Water Act
DBH	Diameter at Breast Height
EFH	Essential Fish Habitat
ESA	Federal Endangered Species Act
EV	Electric Vehicle
Inventory	California Native Plant Society Rare Plant Inventory
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation & Management Act
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NETR	National Environmental Title Research
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPPA	California Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
O-A	Open Area
OHWM	Ordinary High Water Mark
PSB	Public Safety Building
Rank	California Rare Plant Ranks
RHA	Rivers and Harbors Act
RM-B	Multi-family Residential Bayfront
RWQCB	San Francisco Bay Regional Water Quality Control Board
SFEI	San Francisco Estuary Institute
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

This Biological Resources Technical Report evaluates existing biological resources, potential impacts, and mitigation measures for the proposed 1 Hamilton Drive Affordable Housing Development project (Project). The Project is on the eastern portion of a parcel located at 1 Hamilton Drive (APN 030-250-01) in the City of Mill Valley (City), Marin County (County), California (Project Site; Figures 1-2). The Project includes the development of affordable multi-family rental housing, and associated infrastructure to meet the City's affordable housing needs. In addition, the Project plans to relocate existing restroom facilities, electric vehicle charging stations, and public parking from the proposed building site to the adjacent public safety building property.

1.1 Overview and Purpose

This report provides an assessment of biological resources within the Project Site and immediately surrounding area. The purpose of the assessment was to develop and gather information on sensitive land cover types and special-status plant and wildlife species to support an evaluation of the Project under the California Environmental Quality Act (CEQA). This report describes the results of multiple site visits, which assessed the Project Site for (1) the presence of sensitive land cover types, special-status plant species, and special-status wildlife species, and (2) the potential for the site to support special-status plant and wildlife species. In addition, this assessment includes the results of arborist surveys and a delineation of potential waters of the U.S. and State conducted by WRA. Based on the results of this assessment, potential impacts to sensitive land cover types and special-status species resulting from the proposed Project were evaluated. If the Project has the potential to result in significant impacts to these biological resources, measures to avoid, minimize, or mitigate for those significant impacts are described.

Focused studies (i.e. protocol-level rare plant surveys and wetland delineations) were conducted in addition to the general biological assessment and will be referred to throughout this report. These surveys shall support regulatory permit applications and inform mitigation measures included in this report. This assessment is based on information available at the time of the study and on-site conditions that were observed on the dates the site was visited. Conclusions are based on currently available information used in combination with the professional judgement of the biologists completing this study.

1.2 Project Description

The proposed Project includes the creation of a new ground lease with the affordable housing developer, EAH Housing, to define the boundaries of the housing site, approximately 1.75 acres in size, on the northeastern portion of a City-owned parcel, known as "1 Hamilton Drive." This site would be rezoned from O-A (Open Area) to RM-B (Multi-family Residential Bayfront), allowing for the development of affordable multi-family rental housing on the property (also referred to as "housing site", "housing development site"). The Project includes the development of up to 50 affordable rental housing units, approximately 64 residential parking spaces, and private outdoor spaces on the housing site. The project also includes the replacement of the existing 38 public parking spaces, one electric vehicle (EV) charging station with two ports, and restroom facilities currently located on the housing site to the adjacent Public Safety Building (PSB) parking lot (also referred to as "PSB site", "PSB parking lot"). The relocation of these facilities would be accomplished by reconfiguring the adjacent PSB parking lot to provide

secured private parking and storage for public safety employees, approximately 50 public parking spaces, public restrooms, and an EV charging station. The total area of the project site (housing site plus the PSB site) is approximately 3.67 acres.

Table 1: Summary of Biological Resources Evaluation

CEQA Assessment Category[1] IV – Biological Resources	Biological Resources Considered	Relevant Laws & Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
Question A. **Special-status Species**	Special-status Plants Special-status Wildlife Designated Critical Habitat	Federal Endangered Species Act CA Endangered Species Act CA Native Plant Protection Act Migratory Bird Treaty Act Bald & Golden Eagle Protection Act	U.S. Fish & Wildlife Service National Marine Fisheries Service CA Department of Fish & Wildlife	Potentially significant impacts were identified and mitigation measures are included that reduce those impacts to a level that is less than significant. **See Section 7.1 for more information.**
Question B. **Sensitive natural communities & riparian habitat**	Sensitive Natural Communities Streams, Lakes & Riparian Habitat	CA Fish & Game Code Oak Woodland Conservation Act Porter-Cologne Act Clean Water Act	CA Department of Fish & Wildlife U.S. Army Corps of Engineers U.S. Environmental Protection Agency State Water Resources Control Board Regional Water Quality Control Board	No potentially significant impacts were identified. **See Section 7.2 for more information.**
Question C. **State and federally protected wetlands**	Wetlands Unvegetated surface waters	Clean Water Act: Sections 404/401 Rivers & Harbors Act: Section 10 Porter-Cologne Act	U.S. Army Corps of Engineers U.S. Environmental Protection Agency State Water Resources Control Board Regional Water Quality Control Board	No potentially significant impacts were identified. **See Section 7.3 for more information**

[1] *CEQA Questions have been summarized here, see Section 6.2 for details.*
[2] *As given in this report, see Section 5.0 subheadings.*

Table 1: Summary of Biological Resources Evaluation

CEQA Assessment Category[1] IV – Biological Resources	Biological Resources Considered	Relevant Laws & Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
Question D. **Fish & Wildlife corridors**	Essential Fish Habitat Wildlife Corridors	CA Fish & Game Code Magnuson-Stevens Fishery Conservation & Management Act	CA Department of Fish and Wildlife National Marine Fisheries Service	No potentially significant impacts were identified. **See Section 7.4 for more information**
Question E. **Local policies**	Protected Trees Coastal zone resources Other biological protections	Local Tree Ordinance General Plan (e.g. Stream & Wetland Setbacks) Local ordinances	Local and regional agencies CA Coastal Commission San Francisco Bay Conservation and Development Commission	Potentially significant impacts were identified and mitigation measures are included that reduce those impacts to a level that is less than significant. **See Section 7.5 for more information**
Question F. **Local, state, federal conservation plans**	Habitat Conservation Plans Natural Community Conservation Plans	Federal Endangered Species Act Natural Community Conservation Planning Act	U.S. Fish and Wildlife Service CA Department of Fish and Wildlife	No potentially significant impacts were identified. **See Section 7.6 for more information**

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts. Table 1 above shows the correlation between these regulations and each Biological Resources question in the Environmental Checklist Form (Appendix G) of the CEQA guidelines.

2.1 Federal and State Regulatory Setting

2.1.1 Vegetation and Aquatic Communities

CEQA provides protections for particular vegetation types defined as sensitive by the California Department of Fish and Wildlife (CDFW) and aquatic features protected by laws and regulations administered by the U.S Army Corps of Engineers (Corps), State Water Resources Control Board (SWRCB), and Regional Water Quality Control Boards (RWQCB). The laws and regulations that provide protection for these resources are summarized below.

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

Waters of the United States, Including Wetlands: The Corps regulates “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands that are hydrologically connected with these navigable features (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark (OHWM) identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the Corps under Section 404 of the CWA.

The Corps also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S. Code [USC] 403). Section 10 of the RHA

requires Corps approval and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

Waters of the State, Including Wetlands: The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB and nine RWQCB protect waters within this broad regulatory scope through many different regulatory programs. Waters of the State in the context of a CEQA Biological Resources evaluation include wetlands and other surface waters protected by the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). The SWRCB and RWQCB issue permits for the discharge of fill material into surface waters through the State Water Quality Certification Program, which fulfills requirements of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Clean Water Act permit are also required to obtain a Water Quality Certification. If a project does not require a federal permit but does involve discharge of dredge or fill material into surface waters of the State, the SWRCB and RWQCB may issue a permit in the form of Waste Discharge Requirements.

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

2.1.2 Special-status Species

Endangered and Threatened Plants, Fish, and Wildlife. Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species' designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of endangered and threatened plant and animal species (referred to as "listed species"). "Proposed" or "candidate" species are those that are being considered for listing and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to

take of any listed species. “Take” under the ESA is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance, and impacts to habitat for listed species. Actions that may result in take of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features “essential to the conservation of the species.” Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (CFGC 2050 et seq.) prohibits the take of any plant and animal species that the CFGC determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to candidate species that are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species. This category includes specific plant and wildlife species that are designated in the CFGC as protected even if not listed under CESA or ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGC. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of "take" is the same under the California Fish and Game Code and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 “rare” or “endangered” plant species, and prevents “take”, with few exceptions, of these species. CDFW may authorize take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America’s eagle species [bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)] that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Essential Fish Habitat. The Magnuson-Stevens Fishery Conservation and Management Act provides for conservation and management of fishery resources in the U.S., administered by NMFS. This Act establishes a national program intended to prevent overfishing, rebuild overfished stocks, ensure conservation, and facilitate long-term protection through the establishment of Essential Fish Habitat (EFH). EFH consists of aquatic areas that contain habitat essential to the long-term survival and health of fisheries, which may include the water column, certain bottom types, vegetation (e.g., eelgrass (*Zostera* spp.)), or complex structures such as oyster beds. Any federal agency that authorizes, funds, or undertakes action that may adversely affect EFH is required to consult with NMFS.

Species of Special Concern, Movement Corridors, and Other Special-status Species under CEQA. To address additional species protections afforded under CEQA, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Rare Plant Inventory (Inventory; CNPS 2023) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some with a Rank of 3 or 4, are also considered special-status plant species and must be considered under CEQA. Some Rank 3 and Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Local Plans and Policies

Mill Valley 2040 General Plan (General Plan)
The General Plan contains goals and policies pertaining to the following biological resources categories:

- Wetlands, stream corridors, riparian zones, and marshlands (Policy NE.2-5, Policy NE.2-7)
- Native trees and vegetation communities (Policy NE.2-8)
- Plant species (Policy NE.2-4)
- Wildlife species (Policy NE.2-4)
- Wildlife movement corridors (Policy NE.2-4)

City of Mill Valley Tree Ordinance (Tree Ordinance)
Chapter 12.04 of the Mill Valley Municipal Code (Code) regulates the protection of certain trees on public properties within the City limits, and defines "Public Trees and Shrubs" as follows:

> *"All trees or shrubs located or to be planted on any park, playground, or other property owned or controlled by the City, or upon any public street, parkway, alley, sidewalk, or highway within the public right-of-way."*

Section 12.04.040, which applies to trees or shrubs on property owned or controlled by the City, states that any person who desires to plant, remove, replace, trim, brace, or in any manner alter Public Trees and Shrubs, shall file an application for a permit with the Parks Superintendent of the City, except for Heritage Trees, which shall be filed in accordance with **Chapter 20.67** of this Code. Furthermore, the application shall be accompanied by the appropriate filing fee as established by resolution of the City Council. The Parks Superintendent shall be notified 48 hours in advance of commencement of work.

The Municipal Code defines "Heritage Trees" as any of the following:

- tanbark oak (*Lithocarpus densiflorus*): 65 inch circumference/approx. 20 inch DBH;
- oak (*Quercus* [Spp.]): 75 inch circumference/approx. 24 inch DBH;
- madrone (*Arbutus mensiezii*): 75 inch circumference/approx. 24 inch DBH;
- coast redwood (*Sequoia sempervirens*): 95 inch circumference/approx. 30 inch DBH
- Any other tree designated by resolution of the City Council following a noticed public hearing, because of its unusual size, age or other specific significance to the community.

A "Protected Tree" shall mean any tree for which a tree removal permit is required by this chapter or a tree that is required to be preserved as part of a development review approval.

Section 20.67.120, which applies to trees on privately owned properties and projects requiring approval under Title 20, the Zoning Ordinance, states that conditions of approval may be attached to any tree removal permit, as deemed necessary, to accomplish the purposes of this chapter. These conditions shall include, but not be limited to, the following replanting requirements:

- Heritage trees shall be replaced based on the following formula: For each six inches or fraction thereof of the diameter of the removed tree, three trees of the same genus and species (or another native species, if approved by the review body), shall be planted on the project site."
- Non-heritage trees approved for removal and associated with a development permit shall have a minimum replanting ratio of 1:1.

<u>Mill Valley Municipal Code, Chapter 6.16: Injuring Wild Birds and Animals.</u>
Chapter 6.16 provides protection to both listed and unlisted birds and other wildlife species. Under this section of Municipal Code, it is unlawful to "shoot, trap, or in any way intentionally destroy or injure any wild birds and/or animals, with the exception of mice, rats, gophers, and moles, within the limits of the City of Mill Valley."

3.0 ASSESSMENT METHODOLOGY

On February 4, 2022, WRA, Inc. (WRA) biologists completed an initial field review to document: (1) land cover types (e.g., vegetation communities, aquatic resources), (2) existing conditions and to determine if such provide suitable habitat for any special-status plant or wildlife species, (3) if and what type of aquatic land cover types (e.g., wetlands) are present, and (4) if special-status species are present[3]. Following the initial site visit, WRA conducted two formal wetland delineations within the Project Site on March 8, 2022, and June 14, 2023, as well as a focused protocol-level rare plant survey on July 14, 2023, to further support the determinations made in this assessment. The methods and results of these surveys are discussed in greater detail below.

In addition, WRA biologists reviewed literature resources and performed database searches to assess the potential for sensitive land cover types and special-status species, including:

- San Rafael 7.5-minute U.S. Geological Survey (USGS) quadrangle (USGS 2021)
- Contemporary aerial photographs (Google Earth 2023)
- Historical aerial photographs (NETR 2023)
- National Wetlands Inventory (USFWS 2023a)
- California Aquatic Resources Inventory (SFEI 2017)
- California Natural Community List (CDFW 2023a)
- California Natural Diversity Database (CNDDB; CDFW 2023b)
- Biogeographic Information and Observation System (BIOS; CDFW 2023c)
- CNPS Inventory (CNPS 2023)
- Consortium of California Herbaria (CCH1 2023, CCH2 2023)
- USFWS Information for Planning and Consultation (USFWS 2023b)
- eBird Online Database (Cornell Lab of Ornithology 2023)
- California Bird Species of Special Concern in California (Shuford and Gardali 2008)
- California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016)
- A Field Guide to Western Reptiles and Amphibians (Stebbins 2003)
- A Manual of California Vegetation, Online Edition (CNPS 2023)
- Preliminary Descriptions of the Terrestrial Natural Communities (Holland 1986)
- Database searches (i.e., CNDDB, CNPS) for special-status species focused on the San Rafael and eight surrounding USGS 7.5-minute quadrangles.

[3] Due to the timing of the assessment, it may or may not constitute protocol-level species surveys; see Section 5.2 if the site assessment would constitute a formal or protocol-level species survey.

3.1 Vegetation Communities and Other Land Cover Types

During the site visits, WRA evaluated the species composition and area occupied by distinct vegetation communities, aquatic communities, and other land cover types. Mapping of these classifications utilized a combination of aerial imagery and ground surveys. In most instances, communities are characterized and mapped based on distinct shifts in plant assemblage (vegetation) and follow the California Natural Community List (CDFW 2023a) and A Manual of California Vegetation, Online Edition (CNPS 2023). These resources cannot anticipate every component of every potential vegetation assemblage in California, and so in some cases, it is necessary to identify other appropriate vegetative classifications based on best professional judgment of WRA biologists. When undescribed variants are used, it is noted in the description. Vegetation alliances (natural communities) with a CDFW Rank of 1 through 3 (globally critically imperiled [S1/G1], imperiled [S2/G2], or vulnerable [S3/G3]) (CDFW 2023a), were evaluated as sensitive as part of this evaluation.

Following the initial site visit on February 4, 2022, WRA conducted two formal wetland delineations on March 8, 2022, and June 14, 2023. The site was reviewed for the presence of wetlands and other aquatic resources according to the methods described in the Corps Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). Areas meeting these indicators were mapped as aquatic resources and categorized using the vegetation community classification methods described above.

3.2 Special-status Species

3.2.1 General Assessment

Potential occurrence of special-status species within the Project Site was evaluated by first determining which special-status species occur in the vicinity of the Project Site through a literature and database review as described above. The presence of suitable habitat for special-status species was evaluated during the site visits based on physical and biological conditions of the site, as well as the professional expertise of the investigating biologists. The potential for each special-status species to occur within the Project Site was then determined according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Unlikely.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- **Present.** Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site in the recent past.

If a more thorough assessment was deemed necessary, a targeted or protocol-level assessment or survey was conducted or recommended as a future study. If a special-status species was observed during the site visit, its presence was recorded and discussed below in Section 5.2. If designated critical habitat is present for a species, the extent of critical habitat present and an evaluation of critical habitat elements is provided as part of the species discussions below.

3.2.2 Special-status Plants

WRA conducted a protocol-level rare plant survey within the Project Site on July 14, 2023, following the protocol for plant surveys described in recommended resource agency guidelines (CNPS 2001, CDFW 2018, and USFWS 1996). The survey date corresponded with the period of time when late-blooming species with potential to occur in the Study Area were evident and identifiable. The survey was conducted by a botanist with experience identifying California and Marin County flora. All plants were identified using the Jepson eFlora (Jepson Flora Project 2023) to the lowest taxonomic level necessary to determine whether or not they were rare. The survey was floristic in nature, with all observed species recorded and included on a species list (Appendix B). The survey was conducted by visually surveying all habitat suitable for moderate to high-potential plant species determined during the database search prior to the site visits (included in Appendix C, Special-Status Species Potential Table).

3.3 Wildlife Corridors and Native Wildlife Nursery Sites

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (CDFW 2023c). Additionally, aerial imagery (Google Earth 2023) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Project Site. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

The potential presence of native wildlife nursery sites is also evaluated as part of assessment. Examples of native wildlife nursery sites include nesting sites for native bird species (particularly colonial nesting sites), marine mammal pupping sites, and colonial roosting sites for other species (such as for monarch butterfly [*Danaus plexippus*]).

4.0 ECOLOGICAL SETTING

The 3.67-acre Project Site occurs within an approximately 13-acre parcel (APN 030-250-01) that is bisected by Hamilton Drive. The Project Site occurs on the eastern portion of the parcel and consists of the housing development site and portions of the public safety building (PSB) site, as depicted in Figure 3. The housing development site is a triangular shape bounded by Hamilton Drive to the west and northwest, Roque Moraes Drive to the east and northeast, and the PSB site to the south. The PSB site is bounded by the proposed housing development site to the north, residential properties to the east and south, and Hamilton Drive to the west. A solar panel array and community garden are located on the east and south sides of the PSB. The western portion of the 1 Hamilton Drive parcel, across from the Project Site, is considered Baylands, and includes Hauke Park and Bayfront Park. Hauke Park includes a baseball diamond and soccer fields.

This assessment included all areas affected by the Project and the immediate vicinity, as relevant. Additional details of the local setting are provided below.

4.1 Soils and Topography

The Project Site is relatively flat along the border of Hamilton Drive; however, east of the existing public parking lot, the Project Site is characterized by a moderately steep hillside. The location of the proposed housing development rises from an elevation of 15 feet above sea level at its lowest point to approximately 80 feet at its highest point along Roque Moraes Drive.

According to the California Soil Resource Lab (CSRL), the Project Site is underlain by one soil mapping unit: Saurin-Urban land-Bonnydoon complex, 30 to 50 percent slopes (CSRL 2023). The parent soil series of all the Project Site's mapping units are summarized below[4].

Saurin-Urban land-Bonnydoon complex, 30 to 50 percent slopes: This soil type is a combination of three different series: the Saurin series, Urban land series, and Bonnydoon series. The Saurin series consists of moderately deep, well drained soils formed from sandstone and shale that occur on slopes of 2 to 75 percent grade. The Urban land series consists of non-native fill imported to the area for development. The Bonnydoon series consists of shallow, excessively drained soils formed from sandstone and shale that occur on slopes of 5 to 85 percent grade (CSRL 2023).

Although it is not mentioned in the formal description of the mapped soil type, serpentine substrate is present in the Project Site (USGS 2023).

4.2 Climate and Hydrology

The Project Site is located in the southeastern portion of Mill Valley. The average monthly maximum temperature in the area is 70.5 degrees Fahrenheit, while the average monthly

[4] CSRL (2023) soil mapping is derived from U.S. Department of Agriculture (USDA) soil surveys. These surveys are predictive in nature, and while some ground-truthing took place during the production of the surveys, much of the soil maps was not field-verified. The soil boring data included in the Project's Geotechnical Engineering Investigation examined depths much deeper than typical USDA soils surveys and thus presents a more detailed analysis of the soil profile at the Project Site.

minimum temperature is 45 degrees Fahrenheit. Predominantly, precipitation falls as rainfall between November and March with an annual average precipitation of 37 inches.

The local watershed is Arroyo Corte Madera Del Presidio-Frontal San Francisco Bay Estuaries (HUC 12: 180500020903) and the regional watershed is San Pablo Bay (HUC 8: 18050002). There are no blue-line streams within the Project Site (USGS 2021). A Riverine feature is shown as being present in the southern portion of the Project Site in the NWI (USFWS 2023) and California Aquatic Resources Inventory (CARI; SFEI 2017). However, the data displayed in these resources is often coarsely mapped and not field-verified. Indeed, the location where the Riverine feature is mapped is fully developed and has been for decades (Google Earth 2023). The entirety of the Study Area was evaluated during the aquatic resource delineation site visits, and no riverine features are present. Detailed descriptions of aquatic resources are provided in Section 5.1 below.

4.3 Land Use

The northeastern portion of the Project Site is comprised of non-native annual grassland on a steep, south- and west-facing slope situated above a public parking lot and restroom for park users. The Project Site is otherwise developed and consists of the City's PSB and associated parking areas that serve the administrative offices of the City's Police Department and Fire Station 7. Immediately east is a ground mounted solar array and a small community garden occurs to the south. Land uses within the Project Site have remained unchanged since at least 1987 (Google Earth 2023). Detailed land cover type descriptions are included in Section 5.1 below.

5.0 ASSESSMENT RESULTS

5.1 Vegetation Communities and Other Land Cover

WRA observed three land use types within the Project Site: developed, non-native annual grassland, and seasonal wetland. Land cover types within the Project Site are illustrated in Appendix A – Figure 4. The non-sensitive land cover types in the Project Site include non-native grasslands, developed areas, and an artificial (non-jurisdictional) seasonal wetland. The only sensitive community includes one (jurisdictional) seasonal wetland.

Table 2: Vegetation Communities and Other Land Cover Types

COMMUNITY / LAND COVERS	SENSITIVE STATUS	RARITY RANKING	ACRES WITHIN PROJECT SITE
TERRESTRIAL / COMMUNITY LAND COVER			
Non-native annual grassland	Non-sensitive	N/A	1.54
Developed	Non-sensitive	N/A	2.12
AQUATIC RESOURCES			
Seasonal wetland	Sensitive	None	0.011
Artificial (non-jurisdictional) seasonal wetland	Non-sensitive	N/A	0.004

5.1.1 Terrestrial Land Cover

Developed Area (no vegetation alliance). CDFW Rank: None. This community comprises 2.12 acres of the Project Site and includes the public parking and restroom facilities, public safety buildings and associated parking, and landscaped areas. Trees and ornamental plants growing in these areas include pine trees (*Pinus* sp.), silver wattle (*Acacia dealbata*), pampas grass (*Cortaderia selloana*), firethorn (*Pyracantha* sp.), and several other landscaping trees.

Non-native annual grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance). CDFW Rank: None. This community comprises the northeastern portion of the Project Site (1.54 acres) and is characterized by a steep, south-facing slope. The non-native annual grassland is dominated by ruderal (weedy) species including wild oat (*Avena fatua*), slim oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), Harding grass (*Phalaris aquatica*), hairy vetch (*Vicia villosa* ssp. *villosa*), black mustard (*Brassica nigra*), salsify (*Tragopogon porrifolius*), Italian rye grass (*Festuca perennis*), annual blue grass (*Poa annua*), and brome fescue (*Festuca bromoides*). Other non-native herbaceous species observed in this community include sweet fennel (*Foeniculum vulgare*), mustard (*Brassica* sp.), wild radish (*Raphanus sativus*), crane's bill geranium (*Geranium molle*), hairy cat's ear (*Hypochaeris radicata*), broadleaf filaree (*Erodium botrys*), and California burclover (*Medicago polymorpha*), among others.

Purple needlegrass (*Stipa* pulchra) is present throughout much of this land cover type, but the absolute cover of this species is too low to map separately. Other native species occur at low

percent cover within this land cover type, such as common soaproot (*Chlorogalum pomeridianum* var. *pomeridianum*), harvest brodiaea (*Brodiaea elegans* ssp. *elegans*), bedstraw (*Galium aparine*), coyote brush (*Baccharis pilularis*), and coast live oak (*Quercus agrifolia*).

5.1.2 Aquatic Resources

Seasonal Wetlands (no alliance). CDFW Rank: Sensitive. Seasonal wetlands are areas that are inundated and/or saturated for part of the year, typically during the wet season (between October and March), and which are dominated by hydrophytic (wetland) vegetation cover. Within the Project Site, there are two small potential seasonal wetlands, totaling 0.015 acre (Attachment A - Figure 4). The northernmost seasonal wetland (0.011 acres) is a shallow depression located in the northern portion of the Project Site between the base of the hillslope to the east and Hamilton Drive to the west. In addition to direct precipitation and runoff, its hydrology is also supported by water seeping out of the adjacent hillslope. Dominant vegetation within this seasonal wetland included Italian ryegrass and fiddle dock (*Rumex pulcher*).

The southernmost seasonal wetland (0.004 acres) is a linear, shallow depression located just north of the parking lot and adjacent to Hamilton Drive. It captures direct precipitation and surface runoff, and when enough water is present, drains into a culvert under Hamilton Drive. The dominant vegetation within this seasonal wetland consisted of bristly ox-tongue (*Helminthotheca echioides*).

This feature did not satisfy the hydric soil criteria described in the Arid West Manual, and therefore does not meet the definition of a wetland. Furthermore, based on the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Resources Control Board, 2019), "Artificial wetlands are wetlands that result from human activity." This small 0.004-acre wetland is an artificial wetland that was constructed in uplands to convey stormwater runoff to a storm drain inlet. The hydrology is highly ephemeral, and since it does not meet the hydric soil criterion, this feature would not be considered a water of the U.S. or State and is not classified as sensitive.

5.2 Special-status Species

5.2.1 Special-status Plants

No special-status plant species were observed in the Project Site during the site assessment on February 4, 2022; during wetland delineation site visits on March 8, 2022, and June 14, 2023; and during a protocol-level special-status plant survey on July 14, 2023. Based upon a review of the resource databases listed in Section 3.0, 113 special-status plant species have been documented in the greater vicinity of the Project Site. Nine of these species have the potential to occur within the Project Site. The February 4, 2022, and March 8, 2023, site visits did not occur during periods of time when special-status plant species with potential to occur in the Project Site would have been evident and identifiable. The June 14, 2023, delineation site visit did not evaluate the entire Project Site. The July 14, 2023, protocol-level survey occurred during the period of time when the following four species would have been evident and identifiable:

- Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*)
- congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*)
- Marin western flax (*Hesperolinon congestum*)
- woolly-headed lessingia (*Lessingia hololeuca*)

Because those four species were not observed, they are assumed to absent from the Project Site. The remaining 104 species documented from the greater vicinity are unlikely or have no potential to occur for one or more of the following:

- Hydrologic conditions (e.g., tidal, riverine) necessary to support the special-status plant species are not present in the Project Site;
- Common associated plant species and natural communities are absent;
- Edaphic (soil) conditions (e.g., volcanic tuff, limestone) necessary to support the special-status plant species are not present in the Project Site;
- Unique pH conditions (e.g., alkali scalds, acidic bogs) necessary to support the special-status plant species are not present in the Project Site;
- The Project Site is geographically isolated (e.g. below elevation, coastal environ) from the documented range of the special-status plant species; and
- The Project Site is above/below the documented elevation range of the species.

Species with potential habitat within the Project Site (but not observed) are summarized below.

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

Brewer's milk-vetch (*Astragalus breweri*). Rank 4.2. Moderate Potential. Brewer's milk-vetch is an annual herb in the pea (Fabaceae) family that blooms from April through June. It typically occurs in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grasslands on serpentine or volcanic soils, sometimes in open gravelly locations, at elevations ranging from 2,700 to 2,190 feet (CNPS 2023). Known associated species include Oregon oak (*Quercus garryana*) (CCH2 2023). Brewer's milk-vetch has moderate potential to occur in the Project Areas due to presence of suitable grassland habitat on serpentine substrate.

Oakland star-tulip (*Calochortus umbellatus*). Rank 4.2. Moderate Potential. Oakland star-tulip is a perennial herb in the lily family (Liliaceae) that blooms from March to May. It typically occurs in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland, often on serpentine substrate, at elevations ranging from 330 to 2,300 feet (100 to 700 meters; CDFW 2023b, CNPS 2023). Known associated species include Sargent cypress (*Hesperocyparis sargentii*), musk brush (*Ceanothus jepsonii*), manzanita

(*Arctostaphylos* sp.), leather oak (*Quercus durata*), and chamise (*Adenostoma fasciculatum*) (CCH2 2023). Oakland star-tulip has moderate potential to occur in the Project Areas due to presence of suitable grassland habitat on serpentine substrate.

Tiburon buckwheat (*Eriogonum luteolum* var. *caninum*). Rank 1B.2. Moderate Potential. Not Observed. Tiburon buckwheat is an annual forb in the buckwheat family (Polygonaceae) that blooms from May to September. It typically occurs in chaparral, valley and foothill grassland, cismontane woodland, and coastal prairie habitat at elevations ranging from 0 to 2,275 feet (CDFW 2023b, CNPS 2023). This species has a serpentine affinity rank of strong indicator (SI) (Safford and Miller 2020). Known associated species include purple needlegrass (*Stipa pulchra*), squirrel tail (*Elymus elymoides*), California onion grass (*Melica californica*), blue-eyed grass (*Sisyrinchium bellum*), California poppy (*Eschscholzia californica*), woolly-headed lessingia (*Lessingia hololeuca*), and ocean spray (*Holodiscus discolor*) (CDFW 2023b). Tiburon buckwheat has moderate potential to occur in the Project Site due to the presence of serpentine substrate. However, a reference site at Ring Mountain was visited on July 14, 2023, and Tiburon buckwheat was observed to be in full bloom. This species was not observed in the Project Site during the subsequent survey on July 14, 2023, and it is assumed to be absent from the Project Site.

Congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). Rank 1B.2. Moderate Potential. Not Observed. Congested-headed hayfield tarplant is an annual herb in the sunflower family (Asteraceae) that blooms from April to November. It typically occurs in grassy areas and fallow fields in coastal scrub and valley and foothill grassland at elevations ranging from 65 to 1,835 feet (CDFW 2023b, CNPS 2023). Known associated species include coast live oak, white hyacinth (*Triteleia hyacinthina*), Italian rye grass (*Festuca perennis*), little rattlesnake grass (*Briza minor*), pennyroyal (*Mentha pulegium*), and spiny-fruited buttercup (*Ranunculus muricatus*) (CDFW 2023b). Congested-headed hayfield tarplant has moderate potential to occur in the Project Site due to the presence of potentially suitable grassland habitat and several native grassland species. There were no known nearby, accessible reference sites for this species prior to the July 14, 2023, survey. However, the survey occurred during the known blooming period for this taxon, and it was not observed. It is assumed to be absent from the Project Site.

Marin western flax (*Hesperolinon congestum*). Federal Threatened, State Threatened, Rank 1B.1. Moderate Potential. Not Observed. Marin western flax is an annual forb in the flax family (Linaceae) that germinates in early spring, blooms from April to July, and senesces by mid-summer. It typically occurs in serpentine grassland, scrub, or barrens in chaparral and valley and foothill grassland habitat at elevations ranging from 15 to 1,205 feet (CDFW 2023b, CNPS 2023). This species has a serpentine affinity rank of strict endemic (SE) (Safford and Miller 2020). Known associated species include leather oak, chamise, Mt. Tamalpais manzanita (*Arctostaphylos montana* ssp. *montana*), wicker stem buckwheat (*Eriogonum vimineum*), Tiburon buckwheat, pitted onion (*Allium lacunosum*), farewell to spring (*Clarkia amoena*), yellow mariposa lily (*Calochortus luteus*), hairy gumweed (*Grindelia hirsutula*), rancheria clover (*Trifolium albopurpureum*), sandwort (*Sabulina douglasii*), small-flower western flax (*Hesperolinon micranthum*), Marin County navarretia (*Navarretia rosulata*), purple needlegrass, California onion, and Torrey's onion grass (*Melica torreyana*) (CDFW 2023b). Marin western flax has moderate potential to occur in the Project Site due to the presence of potentially suitable grassland habitat on serpentine substrate. However, a reference site at Ring Mountain was visited on July 14, 2023, and Marin western flax was observed to be past peak bloom but still evident and identifiable. This species was not observed in the Project Site during the subsequent survey on July 14, 2023, and it is assumed to be absent from the Project Site.

Bristly leptosiphon (*Leptosiphon aureus*). Rank 4.2. Moderate Potential. Bristly leptosiphon is an annual forb in the phlox family (Polemoniaceae) that blooms from April to July. It typically occurs in chaparral, cismontane woodland, coastal prairie, and valley and foothill grassland habitat at elevations ranging from 175 to 4,875 feet (CNPS 2023). Known associated species include bird's-eyes (*Gilia tricolor*), true babystars (*Leptosiphon bicolor*), redstem filaree (*Erodium cicutarium*), purple needlegrass, European hair grass (*Aira caryophyllea*), foothill lotus, Spanish lotus (*Acmispon americanus*), and miniature lupine (CCH2 2023). Bristly leptosiphon has moderate potential to occur in the Project Site due to the presence of potentially suitable grassland habitat.

Woolly-headed lessingia (*Lessingia hololeuca*). Rank 3. Moderate Potential. Not Observed. Woolly-headed lessingia is an annual herb in the sunflower family (Asteraceae) that blooms June to October. It typically occurs on clay often derived from serpentine in broadleaf upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland at elevations ranging from 45 to 1,000 feet (CNPS 2023). Known associated species include California poppy, California gilia (*Gilia achilleifolia*), naked buckwheat (*Eriogonum nudum*), willow herb (*Epilobium brachycarpum*), and ruby chalice clarkia (*Clarkia rubicunda*) (CCH2 2023). Woolly-headed lessingia has moderate potential to occur in the Project Site due to the presence of potentially suitable grassland habitat on serpentine substrate. However, a reference site near Larkspur in Marin County was visited on July 13, 2023, and although woolly-headed lessingia was observed to have pre-bloom, vegetative-only phenology, it was still evident and identifiable. No species of *Lessingia* were observed in the Project Site during the subsequent survey on July 14, 2023, and it is assumed to be absent from the Project Site.

Two-fork clover (*Trifolium amoenum*). Federal Endangered. Rank 1B.1. Moderate Potential. Two-fork clover is an annual forb in the pea family (Fabaceae) that blooms from April to June. It typically occurs on open, sunny sites, in swales, on roadsides, and cliffs sometimes underlain by serpentine substrate in valley and foothill grassland and coastal bluff scrub habitat at elevations ranging from 15 to 1,365 feet (CDFW 2023b, CNPS 2023). This species has a serpentine affinity rank of weak indicator/indifferent (WI/IN) (Safford and Miller 2020). Known associated species slender oat grass (*Avena barbata*), Italian rye grass, California oat grass (*Danthonia californica*), California brome (*Bromus carinatus*), meadow barley (*Hordeum brachyantherum*), Italian thistle (*Carduus pycnocephalus*), and pale flax (*Linum bienne*). Two-fork clover has moderate potential to occur in the Project Site because of potentially suitable grassland habitat.

5.2.2 Special-status Wildlife

No special-status wildlife species were observed in the Project Site during the site visits. Forty-four (44) special-status wildlife species have been documented in CNDDB within the vicinity of the Project Site. All 44 were determined to have no potential, or are unlikely to occur within the Project Site or immediate vicinity due to one or more of the following reasons:

- The setting of the Project Site is within a suburban landscape, disconnected from suitable habitat;
- Aquatic habitats necessary to support special-status wildlife species (e.g., ponds, brackish waters, streams) are not present in the Project Site;

- Vegetation communities (e.g., tidal or freshwater marsh, oak woodlands, old-growth coniferous forest) that provide nesting and/or foraging resources necessary to support special-status wildlife species are not present in the Project Site;
- Structures or vegetation (e.g., caves, old-growth trees) necessary to provide nesting or cover habitat to support special-status wildlife species are not present in the Project Site; and
- The Project Site is outside of the species' documented range.

The absence of such habitat features eliminates components critical to the survival or movement of the special-status species known to occur in the vicinity. Additionally, given the Project Site's relative proximity to sensitive habitats associated with Richardson Bay, many species documented nearby are obligates to marine or tidal marsh habitats, including California Ridgway's rail (*Rallus obseletus obsetus*), California black rail (*Laterallus jamaicensis*), and salt-marsh harvest mouse (*Reithrodontomys raviventris).* The absence of suitable tidal marsh habitat within or in the immediate vicinity of the Project Site precludes these species from occurring within the Project Site.

5.3 Wildlife Corridors and Native Wildlife Nursery Sites

No native wildlife nursery sites are present within the Project Site.

Wildlife movement between suitable habitat areas can occur via open space areas lacking substantial barriers. The terms "landscape linkage" and "wildlife corridor" are often used when referring to these areas. The key to a functioning corridor or linkage is that it connects two larger habitat blocks, also referred to as core habitat areas (Beier and Loe 1992; Soulé and Terbough 1999). It is useful to think of a "landscape linkage" as being valuable in a regional planning context, a broad scale mapping of natural habitat that functions to join two larger habitat blocks. The term "wildlife corridor" is useful in the context of smaller, local area planning, where wildlife movement may be facilitated by specific local biological habitats or passages and/or may be restricted by barriers to movement. Above all, wildlife corridors must link two areas of core habitat and should not direct wildlife to developed areas or areas that are otherwise void of core habitat (Hilty et al. 2019).

The Project Site is not within a designated wildlife corridor depicted in the Essential Connectivity Areas dataset published by CDFW, which provides baseline data on landscape-scale corridor areas (CDFW 2023c). The Project Site occurs within a larger context of existing development and does not provide corridor linkage between core habitat areas. Furthermore, the Project Site is partially developed and is subject to a high degree of anthropogenic disturbance, which substantially reduces its value as a "stepping stone" corridor for avian or terrestrial species. Although common, urban-adapted species, including native birds, and mammals such as squirrels, raccoons or opossums, presumably utilize the Project Site for movement at a local scale, no true habitat corridors can be said to exist within the Project Site.

6.0 ANALYTICAL METHODOLOGY AND SIGNIFICANCE THRESHOLD CRITERIA

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

1. 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 U.S. Fish and Wildlife Service;
2. 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 CDFW or U.S. Fish and Wildlife Service;
3. 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;
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a "substantial adverse effect" is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small areas of existing biological communities may be considered less than significant if those impacts are speculative, beneficial, de minimis, and/or would not affect the resiliency of a local population.

7.0 IMPACTS AND MITIGATION EVALUATION

Using the CEQA analysis methodology outlined in Section 6.2 above, the following section describes potential significant impacts to sensitive resources within the Project Area as well as suggested mitigation measures which are expected to reduce impacts to less than significant.

7.1 Special-status Species

This section analyzes the Project's potential impacts and mitigation for special-status species in reference to the significance threshold outlined in CEQA Appendix G, Part IV (a):

> *Does the project have the potential to 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 U.S. Fish and Wildlife Service?*

Potential impacts and mitigation for potentially significant impacts are discussed below.

Special-Status Plants

The Project Site has potential to support the following nine (9) special-status plant species:

- bent-flowered fiddleneck
- Brewer's milk-vetch
- Oakland star-tulip
- Tiburon buckwheat
- congested-headed hayfield tarplant
- Marin western flax
- bristly leptosiphon
- woolly-headed lessingia
- two-fork clover

Four (4) of those species were not observed during the July 13, 2023, protocol-level plant survey and are assumed to be absent from the Project Site:

- Tiburon buckwheat
- congested-headed hayfield tarplant
- Marin western flax
- woolly-headed lessingia

If present, the remaining five special-status plant species may be directly impacted by Project activities, which would be considered a **potentially significant impact** under CEQA. If no special-status plant species are found, then the Project will not have any impacts to the species and no additional mitigation measures are necessary.

> **Impact BIO-1:** Disturbance of non-native annual grassland habitat within the Project Site may directly impact the following special-status plant species, if present:

- bent-flowered fiddleneck
- Brewer's milk-vetch
- Oakland star-tulip
- bristly leptosiphon
- two-fork clover

To reduce potential impacts to special-status plant species to a less-than-significant level, the following measure shall be implemented:

> **Mitigation Measure BIO-1a**: Pre-construction botanical surveys shall be conducted within the Project Site by a qualified biologist during the appropriate timeframe when plants with moderate potential to occur are evident and identifiable. One survey shall be conducted in mid-April, and one in mid-May. If observed, populations or individuals shall be flagged and fully avoided by a 10-foot no-disturbance buffer.
>
> **Mitigation Measure BIO-1b:** If special-status plants are present and impacts to those plant populations cannot be avoided, seed or other propagules shall be harvested from at least 50 percent of plants within areas of impact. Harvested seed or propagules shall be stored for reintroduction into the preserved portion of the Project Site.

Implementation of these mitigation measures will reduce potential impacts to special-status plants to a **less-than-significant** level.

Special-Status Wildlife

This assessment determined that all special-status wildlife species documented in the region either have no potential or are unlikely to occur within the Project Site or immediate vicinity, primarily due to the absence of suitable habitat. Therefore, **no impacts** to special-status wildlife species are anticipated as a result of the Project.

Native Nesting Birds and Special-status Birds

This assessment determined that no special-status bird species have potential to nest within the Project Site or in the immediate vicinity. However, non-special-status native birds (e.g., passerines) may nest on the ground, in trees, and in vegetation within and immediately surrounding the Project Site. The active nests of such birds are protected under the federal Migratory Bird Treaty Act (MBTA), as well as by California Fish and Game Code (CFGC). If construction begins during the avian nesting season (generally February 1 to August 31), nesting birds may be impacted directly through the removal of nest structures, or indirectly through localized disturbance sufficient to cause nest abandonment. Impacts to common native nesting birds would be considered a **potentially significant impact** under CEQA.

> **Potential Impact BIO-2**: Construction activities and vegetation removal associated with the Project could result in the destruction or abandonment of nests of non-special-status bird species protected under the MBTA and CFGC.

To reduce potential impacts to native nesting birds to a less-than-significant level, the following measure shall be implemented:

Mitigation Measure BIO-2: To the extent feasible, Project-related activities shall be avoided during the nesting bird season, generally defined as February 1 – August 31. If Project work must occur during the nesting bird season, pre-construction nesting bird surveys shall be conducted within 7 days of ground disturbance or tree/vegetation removal to avoid disturbance to active nests, eggs, and/or young of nesting birds. These surveys shall determine the presence or absence of active nests that may be affected by Project activities.

If an active nest is identified, a no disturbance buffer shall be established around the nest until all young have fledged or the nest otherwise becomes inactive (e.g., due to predation). Suggested buffer zone distances differ depending on species, location, baseline conditions, and placement of nest and shall be determined and implemented in the field by a qualified biologist.

Implementation of this mitigation measure will reduce potential impacts to native nesting birds to a **less-than-significant** level.
As discussed in Sections 5.2.2 and 5.3, the Project Site does not contain suitable habitat to support special-status wildlife species, nor will the Project impede the ability of common local wildlife to utilize the area. Common native birds have potential to nest within the Project Site, within vegetation and trees slated for removal. **Measure BIO-2** will ensure that the initiation of construction activities associated with the Project will not harm any active nests of birds protected by the MBTA and CFGC.

7.2 Sensitive Natural Communities and Land Cover Types

This section addresses the question:

> *b) Does the Project 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 CDFW or U.S. Fish and Wildlife Service;*

Two small potentially jurisdictional seasonal wetlands occur within the Project Site, comprising a total acreage of 0.015 acres. The northernmost seasonal wetland, the larger of the two (0.011 acres), will be fully avoided by the Project. The smaller, wetland feature to the south (0.004 acres) is an artificial wetland that does not meet the hydric soil criterion and would not be considered a water of the U.S. or State. Therefore, **no significant impacts** to sensitive natural communities will occur as a result of the proposed Project.

7.3 Aquatic Resources

This section analyzes the Project's potential impacts and mitigation for wetlands and other areas presumed or determined to be within the jurisdiction of the Corps or BCDC in reference to the significance threshold outlined in CEQA Appendix G, Part IV (c):

> *c) Does the Project have the potential to have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

As discussed above in Section 7.2, the northernmost seasonal wetland on the Project Site will be preserved by the Project. As such, the Project will not result in any impacts to jurisdictional waters of the U.S. or State. No other aquatic resources are present within the Project Site.

7.4 Wildlife Corridors and Native Wildlife Nursery Sites

This section analyzes the Project's potential impacts and mitigation for habitat corridors and linkages in reference to the significance threshold outlined in CEQA Appendix G, Part IV (d):

> *d) Does the Project have the potential to 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;*

As noted in Section 5.3, the Project Site is not within a designated wildlife corridor and no portions of the Project Site provide connectivity between areas of suitable habitat. For terrestrial species, all portions of the Project Site are within a greater context of urban development, and no aquatic habitat is present within or immediately adjacent to the Project Site. **No impacts** to migratory corridors will occur as a result of the Project.

7.5 Local Policies and Ordinances

This section analyzes the Project's potential impacts and mitigation based on conflicts with local policies and ordinances in reference to the significance threshold outlined in CEQA Appendix G, Part IV (e):

> *e) Does the Project have the potential to conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;*

The Project does not conflict with relevant local policies and ordinances examined in this analysis, as detailed below.

Mill Valley 2040 General Plan

As discussed in Section 7.2, the Project will not result in impacts to sensitive natural communities.

No impacts to special-status wildlife species or wildlife movement corridors are anticipated as a result of the Project. Impacts to any special-status plants with potential to occur within the Project Site will be minimized by **Mitigation Measure BIO-1.** Impacts to native trees will be mitigated in accordance with **Chapter 20.67** of the Mill Valley Tree Ordinance, as detailed below. Therefore, the **Project will comply with** the relevant policies contained within this Plan.

City of Mill Valley Tree Ordinance

On March 16, 2022 and May 3, 2023, WRA conducted an arborist survey at the Project Site to identify and document the presence of all trees as defined by Municipal Code **Chapter 12.04** and any "Heritage Tree" as defined by **Chapter 20.67**. Eighty-two (82) trees were identified within the Project, including 44 native trees, 38 ornamental trees, and two species that are listed as invasive species by the California Invasive Plant Council (Cal-IPC 2022). Of the trees identified in

the Project Site, 44 trees will be removed by the proposed development. Twenty (20) of the trees to be removed are native coast live oaks and 21 of the trees to be removed are ornamental trees, including one non-native multi-trunk "Heritage Tree, a multi-stemmed cork oak."

In accordance with **Section 20.67** of the Municipal Code, the Project has a complete Tree Disposition Plan, Vegetation Management Plan and Landscape Enlargement Plan (Van Meter Williams Pollack, LLP 2023, Pg. L0.1, L0.2, L1.1) to compensate for the trees to be removed. The landscape plans include planting a minimum of 44 native replacement trees, in addition to other native herbaceous plants.

The Project will obtain a tree removal permit from the City of Mill Valley for the removal of all trees per **Chapter 12.04.04** and "Heritage Trees" per **Chapter 20.67**. All measures required by the permit and conditions outlined in the Municipal Code will be adhered to. Mitigation for disturbance/removal of trees shall be implemented according to **Section 20.67.120** of the Municipal Code. The project's landscape plans propose the installation of new trees, shrubs, and other landscaping, consistent with the City's vegetation management requirements. The City will require implementation of the Project's landscape plan as a required condition of approval, which is typically considered sufficient mitigation for replacement of the trees removed to accommodate the project.

Mill Valley Municipal Code, Chapter 6.16: Injuring Wild Birds and Animals

As discussed in Sections 5.2.2 and 5.3, the Project Site does not contain suitable habitat to support special-status wildlife species, nor will the Project impede the ability of common local wildlife to utilize the area. Common native birds have potential to nest within the Project Site, within vegetation and trees slated for removal. **Measure BIO-2** will ensure that the initiation of construction activities associated with the Project will not harm any active nests of birds protected by the MBTA and CFGC.

7.6 Habitat Conservation Plans

This section analyzes the Project's potential impacts and mitigation based on conflicts with any adopted local, regional, and state habitat conservation plans in reference to the significance threshold outlined in CEQA Appendix G, Part IV (f):

> *f) Does the Project have the potential to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No such plan exists applicable to the Project Site. **As such, the Project will not have the potential to conflict with any HCPs.**

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APPENDIX B. SPECIES OBSERVED IN AND AROUND THE PROJECT SITE

Appendix B-1. Plant Species Observed within the Project Site

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL IPC Status[2]	Wetland Status[3]
Acacia dealbata	Silver wattle	non-native (invasive)	tree, shrub	-	Moderate	-
Acmispon americanus var. *americanus*	Spanish lotus	native	annual herb	-	-	UPL
Aesculus californica	Buckeye	native	tree	-	-	-
Agave americana	American century plant	non-native	shrub	-	-	-
Aira caryophyllea	Silvery hairgrass	non-native	annual grass	-	-	FACU
Ammi majus	Bishop's weed	non-native	annual, biennial herb	-	-	-
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	-	Moderate	-
Avena fatua	Wildoats	non-native (invasive)	annual grass	-	Moderate	-
Baccharis pilularis	Coyote brush	native	shrub	-	-	-
Brassica sp.	Mustard	non-native	annual herb	-	-	-
Briza minor	Little rattlesnake grass	non-native	annual grass	-	-	FAC
Brodiaea elegans ssp. *elegans*	Harvest brodiaea	native	perennial herb	-	-	FACU
Bromus catharticus	Rescue grass	non-native	annual, perennial grass	-	-	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	-	Moderate	-
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	-	Limited	FACU
Ceanothus thyrsiflorus	Blueblossom	native	tree, shrub	-	-	-
Cerastium glomeratum	Large mouse ears	non-native	annual herb	-	-	UPL
Chasmanthe sp.	African corn flag	non-native	perennial herb	-	-	-

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL IPC Status[2]	Wetland Status[3]
Chlorogalum pomeridianum var. *pomeridianum*	Common soaproot	native	perennial herb	-	-	-
Cirsium vulgare	Bullthistle	non-native (invasive)	perennial herb	-	Moderate	FACU
Convolvulus arvensis	Field bindweed	non-native	perennial herb, vine	-	-	-
Cortaderia jubata	Andean pampas grass	non-native (invasive)	perennial grass	-	High	FACU
Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-	-	FACW
Dactylis glomerata	Orchardgrass	non-native (invasive)	perennial grass	-	Limited	FACU
Elymus glaucus	Blue wildrye	native	perennial grass	-	-	FACU
Erodium botrys	Big heron bill	non-native	annual herb	-	-	FACU
Erodium moschatum	Whitestem filaree	non-native	annual herb	-	-	-
Euphorbia maculata	Spotted spurge	non-native	annual herb	-	-	UPL
Festuca bromoides	Brome fescue	non-native	annual grass	-	-	FACU
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-	Moderate	FACU
Festuca perennis	Italian rye grass	non-native (invasive)	annual, perennial grass	-	Moderate	FAC
Foeniculum vulgare	Fennel	non-native (invasive)	perennial herb	-	High	-
Galium aparine	Cleavers	native	annual herb	-	-	FACU
Genista monspessulana	French broom	non-native (invasive)	shrub	-	High	-
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	-	Limited	-

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL IPC Status[2]	Wetland Status[3]
Geranium molle	Crane's bill geranium	non-native	annual, perennial herb	-	-	-
Helminthotheca echioides	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	-	Limited	FAC
Hemizonia congesta ssp. *lutescens*	Hayfield tarweed	native	annual herb	-	-	-
Hirschfeldia incana	Short-podded mustard	non-native (invasive)	perennial herb	-	Moderate	-
Hordeum brachyantherum	Meadow barley	native	perennial grass	-	-	FACW
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley	non-native (invasive)	annual grass	-	Moderate	FAC
Hordeum murinum	Foxtail barley	non-native (invasive)	annual grass	-	Moderate	FACU
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	-	Moderate	FACU
Lactuca serriola	Prickly lettuce	non-native	annual herb	-	-	FACU
Linum bienne	Narrow-leaved flax	non-native	annual herb	-	-	-
Logfia gallica	Narrowleaf cottonrose	non-native	annual herb	-	-	-
Lotus corniculatus	Bird's foot trefoil	non-native	perennial herb	-	-	FAC
Malva nicaeensis	Bull mallow	non-native	annual herb	-	-	-
Medicago polymorpha	Bur clover	non-native (invasive)	annual herb	-	Limited	FACU
Nerium oleander	Oleander	non-native	tree	-	-	-
Oxalis pes-caprae	Bermuda buttercup	non-native (invasive)	perennial herb	-	Moderate	-
Paspalum dilatatum	Dallis grass	non-native	perennial grass	-	-	FAC
Pinus sp.	Pine	non-native	tree	-	-	-
Plantago coronopus	Cut leaf plantain	non-native	annual herb	-	-	FAC

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL IPC Status[2]	Wetland Status[3]
Plantago erecta	California plantain	native	annual herb	-	-	-
Plantago lanceolata	Ribwort	non-native (invasive)	perennial herb	-	Limited	FAC
Poa annua	Annual blue grass	non-native	annual grass	-	-	FAC
Polycarpon tetraphyllum var. *tetraphyllum*	Four leaved allseed	non-native	annual herb	-	-	-
Polypogon monspeliensis	Annual beard grass	non-native (invasive)	annual grass	-	Limited	FACW
Polypogon viridis	Water beard grass	non-native	perennial grass	-	-	FACW
Pseudognaphalium luteoalbum	Jersey cudweed	non-native	annual herb	-	-	FAC
Pyracantha sp.	Firethorn	non-native	shrub	-	-	-
Quercus agrifolia var. *agrifolia*	Coast live oak	native	tree	-	-	-
Ranunculus californicus var. *californicus*	Common buttercup	native	perennial herb	-	-	FACU
Raphanus sativus	Wild radish	non-native (invasive)	annual, biennial herb	-	Limited	-
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	shrub	-	High	FAC
Rumex crispus	Curly dock	non-native (invasive)	perennial herb	-	Limited	FAC
Rumex pulcher	Fiddleleaf dock	non-native	perennial herb	-	-	FAC
Sanicula bipinnatifida	Purple sanicle	native	perennial herb	-	-	-
Senecio vulgaris	Common groundsel	non-native	annual herb	-	-	FACU
Sidalcea malviflora	Wild hollyhock	native	perennial herb	-	-	FACW
Sisyrinchium bellum	Blue eyed grass	native	perennial herb	-	-	FACW
Sonchus asper ssp. *asper*	Prickly sow thistle	non-native	annual herb	-	-	FAC
Sonchus oleraceus	Common sow thistle	non-native	annual herb	-	-	UPL

Scientific Name	Common Name	Origin	Form	Rarity Status[1]	CAL IPC Status[2]	Wetland Status[3]
Stipa pulchra	Purple needle grass	native	perennial grass	-	-	-
Stipa tenuissima	Mexican feathergrass	non-native	perennial grass	-	Watch	-
Taraxacum officinale	Red seeded dandelion	non-native	perennial herb	-	-	FACU
Taraxia ovata	Sun cup	native	perennial herb	-	-	-
Trifolium hirtum	Rose clover	non-native (invasive)	annual herb	-	Limited	-
Trifolium repens	White clover	non-native	perennial herb	-	-	FACU
Vicia sativa	Spring vetch	non-native	annual herb, vine	-	-	FACU
Vicia villosa	Hairy vetch	non-native	annual herb, vine	-	-	-
Wyethia angustifolia	Narrow leaved mule ears	native	perennial herb	-	-	FACU
Zeltnera muehlenbergii	Muehlenberg's centaury	native	annual herb	-	-	FAC

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2023]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2023] or Rare Plant Inventory (CNPS 2023). Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2023. Rare Plant Inventory (online edition, v9.5). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: July 2023.**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare
Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2023. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf/; most recently accessed: July 2023.**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

[3] **U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. Online at: http://wetland-plants.usace.army.mil/**

OBL:	Almost always found in wetlands
FACW:	Usually found in wetlands
FAC:	Equally found in wetlands and uplands
FACU:	Usually not found in wetlands
UPL:	Almost never found in wetlands
NL:	Not listed, assumed almost never found in wetlands
NI:	No information; not factored during wetland delineation

Appendix B-2. Wildlife species observed within and around the Project Site

Scientific Name	Common Name	Status
Birds		
Branta canadensis	Canada goose	-
Calypte anna	Anna's hummingbird	-
Danaus plexippus	monarch butterfly	-
Haemorhous mexicanus	house finch	-
Junco hyemalis	dark-eyed junco	-
Melospiza melodia	song sparrow	-
Sialia mexicana	western bluebird	-
Sturnus vulgaris	European starling	-
Thomomys bottae	Botta's pocket gopher	-

APPENDIX C. SPECIAL-STATUS SPECIES POTENTIAL TABLE

Appendix C. Potential for Special Status Plant and Wildlife Species to Occur within the Project Site. List Compiled from the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2023), U.S. Fish and Wildlife Service Information for Planning and Consultation Species Lists (USFWS 2023), and California Native Plant Society Rare Plant Inventory (CNPS 2023) search of the San Rafael and surrounding eight USGS 7.5' quadrangles.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
PLANTS				
Franciscan onion *Allium peninsulare* var. *franciscanum*	Rank 1B.2	Cismontane woodland, valley and foothill grassland. Elevation ranges from 170 to 1000 feet (52 to 305 meters). Blooms (Apr)May-Jun.	**Unlikely.** This species occurs on dry, clay substrate in shady areas, and such conditions are absent from the Project Site. Additionally, the nearest occurrence is approximately 16 miles north-northwest of the Project Site	No further actions are recommended for this species.
Sonoma alopecurus *Alopecurus aequalis* var. *sonomensis*	FE, Rank 1B.1	Marshes and swamps (freshwater), riparian scrub. Elevation ranges from 15 to 1200 feet (5 to 365 meters). Blooms May-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Napa false indigo *Amorpha californica* var. *napensis*	Rank 1B.2	Broadleafed upland forest (openings), chaparral, cismontane woodland. Elevation ranges from 165 to 6560 feet (50 to 2000 meters). Blooms Apr-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
bent-flowered fiddleneck *Amsinckia lunaris*	Rank 1B.2	Cismontane woodland, coastal bluff scrub, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	**Moderate Potential**. Potentially suitable grassland habitat and serpentine substrate are present.	An appropriately timed survey is recommended for this species.
coast rockcress *Arabis blepharophylla*	Rank 4.3	Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 10 to 3610 feet (3 to 1100 meters). Blooms Feb-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Franciscan manzanita *Arctostaphylos franciscana*	FE, Rank 1B.1	Coastal scrub (serpentine). Elevation ranges from 195 to	**No Potential**. Although serpentine substrate is present, this species has a highly restricted range (serpentine	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		985 feet (60 to 300 meters). Blooms Feb-Apr.	substrate in the northern part of mainland San Francisco City/County), and there is only one plant remaining in the wild. Finally, no species of *Artostaphylos* were observed at the Project Site.	
Mt. Tamalpais manzanita *Arctostaphylos montana* ssp. *montana*	Rank 1B.3	Chaparral, valley and foothill grassland. Elevation ranges from 525 to 2495 feet (160 to 760 meters). Blooms Feb-Apr.	**No Potential**. Although serpentine substrate is present, no species of *Arctostaphylos* were observed at the Project Site.	No further actions are recommended for this species.
Presidio manzanita *Arctostaphylos montana* ssp. *ravenii*	FE, SE, Rank 1B.1	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 150 to 705 feet (45 to 215 meters). Blooms Feb-Mar.	**No Potential**. Although serpentine substrate is present, this species has a highly restricted range (the Presidio of San Francisco), and there is only one plant in the wild. Finally, no species of *Artostaphylos* were observed at the Project Site.	No further actions are recommended for this species.
Marin manzanita *Arctostaphylos virgata*	Rank 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, north coast coniferous forest. Elevation ranges from 195 to 2295 feet (60 to 700 meters). Blooms Jan-Mar.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
marsh sandwort *Arenaria paludicola*	FE, SE, Rank 1B.1	Marshes and swamps (brackish, freshwater). Elevation ranges from 10 to 560 feet (3 to 170 meters). Blooms May-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Carlotta Hall's lace fern *Aspidotis carlotta-halliae*	Rank 4.2	Chaparral, cismontane woodland. Elevation ranges from 330 to 4595 feet (100 to 1400 meters). Blooms Jan-Dec.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Brewer's milk-vetch *Astragalus breweri*	Rank 4.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (openings, often gravelly). Elevation ranges	**Moderate Potential.** Potentially suitable grassland and serpentine substrate are present.	An appropriately timed survey is recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		from 295 to 2395 feet (90 to 730 meters). Blooms Apr-Jun.		
ocean bluff milk-vetch *Astragalus nuttallii* var. *nuttallii*	Rank 4.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 395 feet (3 to 120 meters). Blooms Jan-Nov.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	Rank 1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Elevation ranges from 0 to 180 feet (0 to 55 meters). Blooms (Apr)Jun-Oct.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
alkali milk-vetch *Astragalus tener* var. *tener*	Rank 1B.2	Playas, valley and foothill grassland (adobe clay), vernal pools. Elevation ranges from 5 to 195 feet (1 to 60 meters). Blooms Mar-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Thurber's reed grass *Calamagrostis crassiglumis*	Rank 2B.1	Coastal scrub (mesic), marshes and swamps (freshwater). Elevation ranges from 35 to 195 feet (10 to 60 meters). Blooms May-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
serpentine reed grass *Calamagrostis ophitidis*	Rank 4.3	Chaparral (openings, often north-facing slopes), lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Elevation ranges from 295 to 3495 feet (90 to 1065 meters). Blooms Apr-Jul.	**No Potential**. Although a small area of serpentine substrate is present in the Project Site, this conspicuous, perennial species would be evident year-round, and none were observed in the Project Site.	No further actions are recommended for this species.
Brewer's calandrinia *Calandrinia breweri*	Rank 4.2	Chaparral, coastal scrub. Elevation ranges from 35 to 4005 feet (10 to 1220 meters). Blooms (Jan)Mar-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Tiburon mariposa-lily *Calochortus tiburonensis*	FT, ST, Rank 1B.1	Valley and foothill grassland (serpentine). Elevation ranges from 165 to 490 feet (50 to 150 meters). Blooms Mar-Jun.	**Unlikely.** Although a small area of serpentine is present, this species has a highly restricted range (Ring Mountain), and it is unlikely to be present in the small, disturbed area of serpentine substrate present in the Project Site.	No further actions are recommended for this species.
Oakland star-tulip *Calochortus umbellatus*	Rank 4.2	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 330 to 2295 feet (100 to 700 meters). Blooms Mar-May.	**Moderate Potential.** Potentially suitable grassland and serpentine substrate are present.	An appropriately timed survey is recommended for this species.
pink star-tulip *Calochortus uniflorus*	Rank 4.2	Coastal prairie, coastal scrub, meadows and seeps, north coast coniferous forest. Elevation ranges from 35 to 3510 feet (10 to 1070 meters). Blooms Apr-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Mt. Saint Helena morning-glory *Calystegia collina* ssp. *oxyphylla*	Rank 4.2	Chaparral, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 915 to 3315 feet (279 to 1010 meters). Blooms Apr-Jun.	**Unlikely.** This species is more closely associated with chaparral habitat, which is absent from the Project Site. The nearest occurrence is approximately 6 miles northwest of the Project Site, and this species is unlikely to have colonized the small area of serpentine present in the Project Site.	No further actions are recommended for this species.
coastal bluff morning-glory *Calystegia purpurata* ssp. *saxicola*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, north coast coniferous forest. Elevation ranges from 0 to 345 feet (0 to 105 meters). Blooms (Mar)Apr-Sep.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
seaside bittercress *Cardamine angulata*	Rank 2B.2	Lower montane coniferous forest, north coast coniferous forest. Elevation ranges from 50 to 3000 feet (15 to 915	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		meters). Blooms (Jan)Mar-Jul.		
bristly sedge *Carex comosa*	Rank 2B.1	Coastal prairie, marshes and swamps (lake margins), valley and foothill grassland. Elevation ranges from 0 to 2050 feet (0 to 625 meters). Blooms May-Sep.	**No Potential**. This species occurs in areas with prolonged inundation, and such habitat is absent from the Project Site.	No further actions are recommended for this species.
Lyngbye's sedge *Carex lyngbyei*	Rank 2B.2	Marshes and swamps (brackish, freshwater). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Apr-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
northern meadow sedge *Carex praticola*	Rank 2B.2	Meadows and seeps (mesic). Elevation ranges from 0 to 10500 feet (0 to 3200 meters). Blooms May-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Tiburon paintbrush *Castilleja affinis* var. *neglecta*	FE, ST, Rank 1B.2	Valley and foothill grassland (serpentine). Elevation ranges from 195 to 1310 feet (60 to 400 meters). Blooms Apr-Jun.	**No Potential.** Although a small area of serpentine substrate is present, this conspicuous, perennial species would be evident year-round, and it was not observed.	No further actions are recommended for this species.
johnny-nip *Castilleja ambigua* var. *ambigua*	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools (margins). Elevation ranges from 0 to 1425 feet (0 to 435 meters). Blooms Mar-Aug.	**No Potential**. This species is associated with coastal terrace and salt marsh habitats, which are absent from the Project Site.	No further actions are recommended for this species.
Nicasio ceanothus *Ceanothus decornutus*	Rank 1B.2	Chaparral (maritime). Elevation ranges from 770 to 950 feet (235 to 290 meters). Blooms Mar-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
glory brush *Ceanothus gloriosus* var. *exaltatus*	Rank 4.3	Chaparral. Elevation ranges from 100 to 2000 feet (30 to 610 meters). Blooms Mar-Jun(Aug).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Point Reyes ceanothus *Ceanothus gloriosus* var. *gloriosus*	Rank 4.3	Closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 15 to 1705 feet (5 to 520 meters). Blooms Mar-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Mason's ceanothus *Ceanothus masonii*	SR, Rank 1B.2	Chaparral (openings, rocky, serpentine). Elevation ranges from 755 to 1640 feet (230 to 500 meters). Blooms Mar-Apr.	**No Potential**. No suitable habitat occurs within the Project Site. No serpentine soils are present.	No further actions are recommended for this species.
Point Reyes salty bird's-beak *Chloropyron maritimum* ssp. *palustre*	Rank 1B.2	Marshes and swamps (coastal salt). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms Jun-Oct.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub. Elevation ranges from 10 to 705 feet (3 to 215 meters). Blooms Apr-Jul(Aug).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Franciscan thistle *Cirsium andrewsii*	Rank 1B.2	Broadleafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Mt. Tamalpais thistle *Cirsium hydrophilum* var. *vaseyi*	Rank 1B.2	Broadleafed upland forest, chaparral, meadows and seeps. Elevation ranges from 785 to 2035 feet (240 to 620 meters). Blooms May-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Presidio clarkia *Clarkia franciscana*	FE, SE, Rank 1B.1	Coastal scrub, valley and foothill grassland (serpentine). Elevation ranges from 80 to 1100 feet (25 to 335 meters). Blooms May-Jul.	**Unlikely.** Although a small area of serpentine substrate is present, this species is only known from the Presidio of San Francisco and from Alameda County. The nearest occurrence is approximately 7 miles south of the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
round-headed collinsia *Collinsia corymbosa*	Rank 1B.2	Coastal dunes. Elevation ranges from 0 to 65 feet (0 to 20 meters). Blooms Apr-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco collinsia *Collinsia multicolor*	Rank 1B.2	Closed-cone coniferous forest, coastal scrub. Elevation ranges from 100 to 900 feet (30 to 275 meters). Blooms (Feb)Mar-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
serpentine collomia *Collomia diversifolia*	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 655 to 1970 feet (200 to 600 meters). Blooms May-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
California lady's-slipper *Cypripedium californicum*	Rank 4.2	Bogs and fens, lower montane coniferous forest. Elevation ranges from 100 to 9025 feet (30 to 2750 meters). Blooms Apr-Aug(Sep).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
silverskin lichen *Dermatocarpon meiophyllizum*	Rank 2B.3	Coastal prairie, lower montane coniferous forest, north coast coniferous forest, subalpine coniferous forest, upper montane coniferous forest. Elevation ranges from 970 to 11465 feet (295 to 3495 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
western dichondra *Dichondra occidentalis*	Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Elevation ranges from 165 to 1640 feet (50 to 500 meters). Blooms (Jan)Mar-Jul.	**Unlikely.** This species in rocky shrubland and woodland habitat, which is absent from the Project Site. The nearest occurrence of this species is approximately 27 miles northwest of the Project Site.	No further actions are recommended for this species.
western leatherwood *Dirca occidentalis*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane woodland, closed-cone coniferous forest, north coast coniferous forest, riparian forest, riparian woodland.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		Elevation ranges from 80 to 1395 feet (25 to 425 meters). Blooms Jan-Mar(Apr).		
small spikerush *Eleocharis parvula*	Rank 4.3	Marshes and swamps. Elevation ranges from 5 to 9910 feet (1 to 3020 meters). Blooms (Apr)Jun-Aug(Sep).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
California bottle-brush grass *Elymus californicus*	Rank 4.3	Broadleafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug(Nov).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Koch's cord moss *Entosthodon kochii*	Rank 1B.3	Cismontane woodland (soil). Elevation ranges from 590 to 3280 feet (180 to 1000 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
marsh horsetail *Equisetum palustre*	Rank 3	Marshes and swamps. Elevation ranges from 150 to 3280 feet (45 to 1000 meters). Blooms Unk.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Tiburon buckwheat *Eriogonum luteolum* var. *caninum*	Rank 1B.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms May-Sep.	**Moderate Potential Not Observed.** Potentially suitable serpentine substrate is present within the Project Site. This species was not observed on July 14, 2023, following a reference site visit.	No further actions are recommended for this species.
San Francisco wallflower *Erysimum franciscanum*	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland. Elevation ranges from 0 to 1805 feet (0 to 550 meters). Blooms Mar-Jun.	**Unlikely.** This species tends to be in openings associated with scrub and woodland in Marin County, and such habitat is absent from the Project Site. Additionally, this species has not be observed on-site.	No further actions are recommended for this species.
bare monkeyflower *Erythranthe nudata*	Rank 4.3	Chaparral, cismontane woodland. Elevation ranges from 655 to 2295 feet (200 to 700 meters). Blooms May-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
minute pocket moss *Fissidens pauperculus*	Rank 1B.2	North coast coniferous forest (damp coastal soil). Elevation ranges from 35 to 3360 feet (10 to 1024 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Marin checker lily *Fritillaria lanceolata* var. *tristulis*	Rank 1B.1	Coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 50 to 490 feet (15 to 150 meters). Blooms Feb-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
fragrant fritillary *Fritillaria liliacea*	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 10 to 1345 feet (3 to 410 meters). Blooms Feb-Apr.	**Unlikely.** Although grassland habitat is present, this species typically occurs on clay substrate, which is absent from the Project Site. Additionally, the nearest extant occurrence of this species is approximately 15 miles northwest of the Project Site.	No further actions are recommended for this species.
blue coast gilia *Gilia capitata* ssp. *chamissonis*	Rank 1B.1	Coastal dunes, coastal scrub. Elevation ranges from 5 to 655 feet (2 to 200 meters). Blooms Apr-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
woolly-headed gilia *Gilia capitata* ssp. *tomentosa*	Rank 1B.1	Coastal bluff scrub, valley and foothill grassland. Elevation ranges from 35 to 720 feet (10 to 220 meters). Blooms May-Jul.	**No Potential**. This species is known from rocky outcrops, and such habitat is absent. Additionally, the nearest occurrence is approximately 12 miles northwest of the Project Site.	No further actions are recommended for this species.
dark-eyed gilia *Gilia millefoliata*	Rank 1B.2	Coastal dunes. Elevation ranges from 5 to 100 feet (2 to 30 meters). Blooms Apr-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco gumplant *Grindelia hirsutula* var. *maritima*	Rank 3.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland. Elevation ranges from 50 to 1310 feet (15 to 400 meters). Blooms Jun-Sep.	**Unlikely.** This species is known from sites with stronger coastal influence, and the nearest occurrence is from the Presidio of San Francisco.	No further actions are recommended for this species.
Diablo helianthella *Helianthella castanea*	Rank 1B.2	Broadleafed upland forest, chaparral, cismontane	**Unlikely**. The only occurrence in the vicinity is a historic collection with	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation ranges from 195 to 4265 feet (60 to 1300 meters). Blooms Mar-Jun.	vague, unreliable location information. The nearest occurrences with reliable location information are approximately 15 miles south and east of the Project Site.	
congested-headed hayfield tarplant *Hemizonia congesta* ssp. *congesta*	Rank 1B.2	Valley and foothill grassland. Elevation ranges from 65 to 1835 feet (20 to 560 meters). Blooms Apr-Nov.	**Moderate Potential. Not Observed.** Potentially suitable grassland habitat is present. This species was not observed on July 14, 2023.	No further actions are recommended for this species.
Marin western flax *Hesperolinon congestum*	FT, ST, Rank 1B.1	Chaparral, valley and foothill grassland. Elevation ranges from 15 to 1215 feet (5 to 370 meters). Blooms Apr-Jul.	**Moderate Potential Not Observed.** Potentially suitable grassland on serpentine substrate is present. This species was not observed on July 14, 2023, following a reference site visit.	No further actions are recommended for this species.
water star-grass *Heteranthera dubia*	Rank 2B.2	Marshes and swamps (alkaline, still, slow-moving water). Elevation ranges from 100 to 4905 feet (30 to 1495 meters). Blooms Jul-Oct.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Santa Cruz tarplant *Holocarpha macradenia*	FT, SE, Rank 1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 720 feet (10 to 220 meters). Blooms Jun-Oct.	**Unlikely.** The nearest occurrence of this species are restoration populations in Wildcat Regional Park in Contra Costa County. The nearest extant native non-restoration populations are in Santa Cruz County. There are two historic collections of this species from Marin County, but the location is vague and the identity of the collections are in question.	No further actions are recommended for this species.
Kellogg's horkelia *Horkelia cuneata* var. *sericea*	Rank 1B.1	Chaparral (maritime), closed-cone coniferous forest, coastal dunes, coastal scrub. Elevation ranges from 35 to 655 feet (10 to 200 meters). Blooms Apr-Sep.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Point Reyes horkelia *Horkelia marinensis*	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		Elevation ranges from 15 to 2475 feet (5 to 755 meters). Blooms May-Sep.		
thin-lobed horkelia *Horkelia tenuiloba*	Rank 1B.2	Broadleafed upland forest, chaparral, valley and foothill grassland. Elevation ranges from 165 to 1640 feet (50 to 500 meters). Blooms May-Jul(Aug).	**Unlikely.** Marin County occurrences of this species are associated with shrubland and forest and openings in those habitats. Those habitats are absent from the Project Site.	No further actions are recommended for this species.
harlequin lotus *Hosackia gracilis*	Rank 4.2	Broad-leafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grassland. Elevation ranges from 0 to 2295 feet (0 to 700 meters). Blooms Mar-Jul.	**Unlikely.** This species is typically known from mesic sites, and the mesic areas on-site are disturbed and primarily fill soil.	No further actions are recommended for this species.
island tube lichen *Hypogymnia schizidiata*	Rank 1B.3	Chaparral, closed-cone coniferous forest. Elevation ranges from 1180 to 1330 feet (360 to 405 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
coast iris *Iris longipetala*	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May(Jun).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Rank 4.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt), meadows and seeps (alkaline seeps). Elevation ranges from 10 to 2955 feet (3 to 900 meters). Blooms (Mar)May-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
small groundcone *Kopsiopsis hookeri*	Rank 2B.3	Lower montane coniferous forest, north coast coniferous forest, upper montane coniferous forest. Elevation ranges from 295 to 2905 feet (90 to 885 meters). Blooms Apr-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
beach layia *Layia carnosa*	FT, SE, Rank 1B.1	Coastal dunes, coastal scrub (sandy). Elevation ranges from 0 to 195 feet (0 to 60 meters). Blooms Mar-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
bristly leptosiphon *Leptosiphon aureus*	Rank 4.2	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Elevation ranges from 180 to 4920 feet (55 to 1500 meters). Blooms Apr-Jul.	**Moderate Potential.** Potentially suitable grassland habitat is present.	An appropriately timed survey is recommended for this species.
large-flowered leptosiphon *Leptosiphon grandiflorus*	Rank 4.2	Cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 4005 feet (5 to 1220 meters). Blooms Apr-Aug.	**Unlikely.** This species is typically known from sandier substrate than what is present on-site, and the nearest occurrence is approximately 23 miles northwest.	No further actions are recommended for this species.
broad-lobed leptosiphon *Leptosiphon latisectus*	Rank 4.3	Broadleafed upland forest, cismontane woodland. Elevation ranges from 560 to 4920 feet (170 to 1500 meters). Blooms Apr-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
rose leptosiphon *Leptosiphon rosaceus*	Rank 1B.1	Coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco lessingia *Lessingia germanorum*	FE, SE, Rank 1B.1	Coastal scrub (remnant dunes). Elevation ranges from 80 to 360 feet (25 to 110 meters). Blooms (Jun)Jul-Nov.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
woolly-headed lessingia *Lessingia hololeuca*	Rank 3	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	**Moderate Potential**. Not Observed. Potentially suitable grassland and serpentine substrate are present within the Project Site. This species was not observed on July 14, 2023, following a reference site visit.	No further actions are recommended for this species.
Tamalpais lessingia *Lessingia micradenia* var. *micradenia*	Rank 1B.2	Chaparral, valley and foothill grassland. Elevation ranges from 330 to 1640 feet (100 to 500 meters). Blooms (Jun)Jul-Oct.	**Unlikely.** This species is typically known from chaparral/grassland matrix on strongly serpentine substrate, and such habitat is absent from the Project Site.	No further actions are recommended for this species.
Mt. Diablo cottonweed *Micropus amphibolus*	Rank 3.2	Broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Elevation ranges from 150 to 2705 feet (45 to 825 meters). Blooms Mar-May.	**Unlikely.** Marin County occurrences of this species are associated with openings in oak/bay forest, and such habitat is absent from the Project Site.	No further actions are recommended for this species.
marsh microseris *Microseris paludosa*	Rank 1B.2	Cismontane woodland, closed-cone coniferous forest, coastal scrub, valley and foothill grassland. Elevation ranges from 15 to 1165 feet (5 to 355 meters). Blooms Apr-Jun(Jul).	**Unlikely.** This species is more closely associated with coastal scrub and prairie habitats, which are absent from the Project Site.	No further actions are recommended for this species.
elongate copper moss *Mielichhoferia elongata*	Rank 4.3	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, subalpine coniferous forest. Elevation ranges from 0 to 6430 feet (0 to 1960 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	Rank 1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools. Elevation ranges from	**No Potential**. Vernal pools are absent from the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		15 to 5710 feet (5 to 1740 meters). Blooms Apr-Jul.		
Marin County navarretia *Navarretia rosulata*	Rank 1B.2	Chaparral, closed-cone coniferous forest. Elevation ranges from 655 to 2085 feet (200 to 635 meters). Blooms May-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
white-rayed pentachaeta *Pentachaeta bellidiflora*	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland (often serpentine). Elevation ranges from 115 to 2035 feet (35 to 620 meters). Blooms Mar-May.	**Unlikely.** Although a small area of serpentine substrate is present, this species is often known from native grassland, which is absent from the Project Site. Most occurrences in Marin are considered extirpated. The one occurrence considered extant was last seen in 1912, approximately 4.5 miles northwest of the Project Site.	No further actions are recommended for this species.
Gairdner's yampah *Perideridia gairdneri* ssp. *gairdneri*	Rank 4.2	Broadleafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Elevation ranges from 0 to 2000 feet (0 to 610 meters). Blooms Jun-Oct.	**Unlikely.** The origin of the mesic areas on-site are related to historic anthropogenic disturbance and therefore less likely to support this species. Additionally, this species is not known from the lowlands in this part of the County.	No further actions are recommended for this species.
Michael's rein orchid *Piperia michaelii*	Rank 4.2	Chaparral, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Elevation ranges from 10 to 3000 feet (3 to 915 meters). Blooms Apr-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Choris' popcornflower *Plagiobothrys chorisianus* var. *chorisianus*	Rank 1B.2	Chaparral, coastal prairie, coastal scrub. Elevation ranges from 10 to 525 feet (3 to 160 meters). Blooms Mar-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco popcornflower *Plagiobothrys diffusus*	SE, Rank 1B.1	Coastal prairie, valley and foothill grassland. Elevation ranges from 195 to 1180 feet	**Unlikely.** This species is known from clay substrate and vernal pools, which are absent from the Project	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		(60 to 360 meters). Blooms Mar-Jun.	Site. Additionally, with the exception of an extinct occurrence in San Francisco County, this species has not been recorded north of far southern San Mateo County.	
hairless popcornflower *Plagiobothrys glaber*	Rank 1A	Marshes and swamps (coastal salt), meadows and seeps (alkaline). Elevation ranges from 50 to 590 feet (15 to 180 meters). Blooms Mar-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
North Coast semaphore grass *Pleuropogon hooverianus*	ST, Rank 1B.1	Broadleafed upland forest, meadows and seeps, north coast coniferous forest. Elevation ranges from 35 to 2200 feet (10 to 671 meters). Blooms Apr-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
nodding semaphore grass *Pleuropogon refractus*	Rank 4.2	Lower montane coniferous forest, meadows and seeps, north coast coniferous forest, riparian forest. Elevation ranges from 0 to 5250 feet (0 to 1600 meters). Blooms (Feb-Mar)Apr-Aug.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Oregon polemonium *Polemonium carneum*	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6005 feet (0 to 1830 meters). Blooms Apr-Sep.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Marin knotweed *Polygonum marinense*	Rank 3.1	Marshes and swamps (brackish, coastal salt). Elevation ranges from 0 to 35 feet (0 to 10 meters). Blooms (Apr)May-Aug(Oct).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Tamalpais oak *Quercus parvula* var. *tamalpaisensis*	Rank 1B.3	Lower montane coniferous forest. Elevation ranges from 330 to 2460 feet (100 to 750 meters). Blooms Mar-Apr.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Lobb's aquatic buttercup *Ranunculus lobbii*	Rank 4.2	Cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms Feb-May.	**No Potential**. The wetlands in the Project Site do not pond for sufficient duration to support this species.	No further actions are recommended for this species.
adobe sanicle *Sanicula maritima*	SR, Rank 1B.1	Chaparral, coastal prairie, meadows and seeps, valley and foothill grassland. Elevation ranges from 100 to 785 feet (30 to 240 meters). Blooms Feb-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Point Reyes checkerbloom *Sidalcea calycosa* ssp. *rhizomata*	Rank 1B.2	Marshes and swamps (freshwater, near coast). Elevation ranges from 10 to 245 feet (3 to 75 meters). Blooms Apr-Sep.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Marin checkerbloom *Sidalcea hickmanii* ssp. *viridis*	Rank 1B.1	Chaparral (serpentine). Elevation ranges from 165 to 1410 feet (50 to 430 meters). Blooms May-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Scouler's catchfly *Silene scouleri* ssp. *scouleri*	Rank 2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms (Mar-May)Jun-Aug(Sep).	**Unlikely.** This species is known from rocky outcrops and immediate coastal habitats, which are absent from the Project Site.	No further actions are recommended for this species.
San Francisco campion *Silene verecunda* ssp. *verecunda*	Rank 1B.2	Chaparral, coastal bluff scrub, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 100 to 2115 feet (30 to 645 meters). Blooms (Feb)Mar-Jul(Aug).	**Unlikely.** This species is known from dune and immediate coastal habitats, which are absent from the Study Area.	No further actions are recommended for this species.
long-styled sand-spurrey *Spergularia macrotheca* var. *longistyla*	Rank 1B.2	Marshes and swamps, meadows and seeps. Elevation ranges from 0 to 835 feet (0 to 255 meters). Blooms Feb-May.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Santa Cruz microseris *Stebbinsoseris decipiens*	Rank 1B.2	Broadleafed upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 1640 feet (10 to 500 meters). Blooms Apr-May.	**Unlikely.** Occurrences of this species in Marin are associated with openings in shrubland and woodland, and such habitats are absent from the Project Site. The nearest occurrences are approximately 5 miles northwest on the upper slopes of Mt. Tamalpais.	No further actions are recommended for this species.
Tamalpais jewelflower *Streptanthus batrachopus*	Rank 1B.3	Chaparral, closed-cone coniferous forest. Elevation ranges from 1000 to 2135 feet (305 to 650 meters). Blooms Apr-Jul.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
Tiburon jewelflower *Streptanthus glandulosus* ssp. *niger*	FE, SE, Rank 1B.1	Valley and foothill grassland (serpentine). Elevation ranges from 100 to 490 feet (30 to 150 meters). Blooms May-Jun.	**Unlikely.** Although a small area of serpentine substrate is present in the Project Site, this species has a highly restricted range, known only from two occurrences on the Tiburon Peninsula.	No further actions are recommended for this species.
Mt. Tamalpais bristly jewelflower *Streptanthus glandulosus* ssp. *pulchellus*	Rank 1B.2	Chaparral, valley and foothill grassland. Elevation ranges from 490 to 2625 feet (150 to 800 meters). Blooms May-Jul(Aug).	**Unlikely.** Although a small area of serpentine substrate is present in the Project Site, this species is associated with openings in chaparral, and such habitat is absent from the Project Site. Additionally, the nearest occurrence of this species is approximately 5 miles northwest of the Project Site.	No further actions are recommended for this species.
Suisun Marsh aster *Symphyotrichum lentum*	Rank 1B.2	Marshes and swamps (brackish, freshwater). Elevation ranges from 0 to 10 feet (0 to 3 meters). Blooms (Apr)May-Nov.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
marsh zigadenus *Toxicoscordion fontanum*	Rank 4.2	Chaparral, cismontane woodland, lower montane coniferous forest, marshes and swamps, meadows and seeps. Elevation ranges from 50 to 3280 feet (15 to 1000 meters). Blooms Apr-Jul.	**No Potential**. This species is known from wet areas on serpentine substrate. The wetlands in the Project Site do not occur in areas with serpentine influence.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
two-fork clover *Trifolium amoenum*	FE, Rank 1B.1	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine). Elevation ranges from 15 to 1360 feet (5 to 415 meters). Blooms Apr-Jun.	**Moderate Potential.** Potentially suitable grassland habitat is present.	An appropriately timed survey is recommended for this species.
saline clover *Trifolium hydrophilum*	Rank 1B.2	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools. Elevation ranges from 0 to 985 feet (0 to 300 meters). Blooms Apr-Jun.	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
San Francisco owl's-clover *Triphysaria floribunda*	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland. Elevation ranges from 35 to 525 feet (10 to 160 meters). Blooms Apr-Jun.	**Unlikely.** The nearest occurrences of this species are from San Francisco County, and all are considered extirpated. The nearest occurrences in Marin County are in Pt. Reyes National Seashore, more than 20 miles away.	No further actions are recommended for this species.
coastal triquetrella *Triquetrella californica*	Rank 1B.2	Coastal bluff scrub, coastal scrub. Elevation ranges from 35 to 330 feet (10 to 100 meters).	**No Potential**. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
WILDLIFE				
MAMMALS				
pallid bat *Antrozous pallidus*	CDFW Species of Special Concern WBWG High Priority	Found in a variety of habitats ranging from grasslands to mixed forests, favoring open and dry, rocky areas. Roost sites include crevices in rock outcrops and cliffs, caves, mines, hollow trees, and various manmade structures such as bridges, barns, and buildings (including occupied buildings). Roosts must protect bats from high temperatures. Very sensitive	**Unlikely.** No potential roosting sites are present within the Project Site. No hollow trees, crevices, snags, or suitable manmade structures were observed. The Project Site is occupied by development and has a history of anthropogenic disturbance.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		to disturbance of roosting sites.		
Townsend's big-eared bat *Corynorhinus townsendii*	CDFW Species of Special Concern WBWG High Priority	Associated with a wide variety of habitats from deserts to higher-elevation mixed and coniferous forests. Females form maternity colonies in buildings, caves and mines, and males roost singly or in small groups. Foraging typically occurs at edge habitats near wooded areas, e.g., along streams.	**Unlikely.** No potential roosting sites are present within the Project Site. The Project Site does not contain suitable building features, caves, or mines to support roosts.	No further actions are recommended for this species.
hoary bat *Lasiurus cinereus*	WBWG Medium Priority	Prefers open forested habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Unlikely.** No potential roosting sites are present within the Project Site. Trees within the Project Site do not provide suitable foliage to support roosts.	No further actions are recommended for this species.
western red bat *Lasiurus blossevillii*	CDFW Species of Special Concern WBWG High Priority	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs. Roosts are usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas.	**Unlikely.** The Project Site does not contain coniferous forest habitat, nor does it provide large hollow trees, rock crevices, caves, or buildings suitable for roosting.	No further actions are recommended for this species.
Point Reyes jumping mouse *Zapus trinotatus orarius*	CDFW Species of Special Concern	Restricted to Point Reyes Peninsula in western Marin County. Occurs in wet, marshy coastal meadows and humus-filled dark soils of coast redwood forests,	**No Potential.** The Project Site does not contain suitable habitat to support this species.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		also thickets of woody vegetation along streams and seeps. Eats mainly grass seeds with some insects and fruit taken. Builds grassy nests on ground under vegetation, burrows in winter.		
Point Reyes mountain beaver *Aplodontia rufa phaea*	CDFW Species of Special Concern	Occurs only in western Marin County, almost entirely within Point Reyes National Seashore. Found on moist slopes within areas of coastal scrub and other habitats with herbaceous vegetation. Lives in extensive burrow systems and forages on a variety of herbaceous plants.	**No Potential.** The Project Site is outside of the current known distribution of this species. No suitable habitat occurs within the Project Site.	No further actions are recommended for this species.
salt-marsh harvest mouse *Reithrodontomys raviventris*	Federal Endangered California Endangered CDFW Fully Protected	Endemic to emergent salt and brackish wetlands of the San Francisco Bay Estuary. Pickleweed marshes are primary habitat; also occurs in various other wetland communities with dense vegetation. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**No Potential.** This species has been documented in tidal marsh habitat associated with Richardson Bay, approximately 1 mile south of the Project Site. However, this species is unlikely to disperse into the Project Site due to the developed nature of the site and absence of suitable habitat. The Project Site does not provide pickleweed marshes or brackish wetland communities with dense vegetation to support this species.	No further actions are recommended for this species.
salt-marsh wandering shrew *Sorex vagrans halicoetes*	CDFW Species of Special Concern	Salt marshes of the south arm of San Francisco Bay. Medium high marsh 6 to 8 feet above sea level where abundant driftwood is scattered among Salicornia.	**No Potential.** The Project Site does not contain suitable marsh habitat to support this species.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Suisun shrew *Sorex ornatus sinuosus*	CDFW Species of Special Concern	Tidal marshes of the northern shores of San Pablo and Suisun Bays. Require dense low-lying cover and driftweed and other litter above the mean hightide line for nesting and foraging.	**No Potential.** The Project Site does not contain suitable marsh habitat to support this species.	No further actions are recommended for this species.
San Pablo vole *Microtus californicus sanpabloensis*	CDFW Species of Special Concern	Saltmarshes of San Pablo Creek, on the south shore of San Pablo Bay. Constructs burrow in soft soil. Feeds on grasses, sedges and herbs. Forms a network of runways leading from the burrow.	**No Potential.** The Project Site does not contain suitable marsh habitat to support this species.	No further actions are recommended for this species.
American badger *Taxidea taxus*	CDFW Species of Special Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	**No Potential.** The Project Site is subject to a high degree of anthropogenic disturbance. No suitably sized mammal burrows or indications of burrowing rodents were observed during the site visit on February 4, 2022.	No further actions are recommended for this species.
southern sea otter *Enhydra lutris nereis*	Federal Threatened CDFW Fully Protected CDFW Species of Special Concern	Nearshore marine environments from about Año Nuevo, San Mateo County. To Point Sal, Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	**No Potential.** No aquatic habitat is present with the Project Site.	No further actions are recommended for this species.
		BIRDS		
great blue heron *Ardea herodias*	none (breeding sites protected by CDFW); CDF sensitive	Year-round resident. Nests colonially or semi-colonially in tall trees and on cliffs, also sequested terrestrial substrates. Breeding sites usually in close proximity to foraging areas: marshes, lake margins, tidal flats, and	**Unlikely.** There are no known breeding sites within the vicinity of the Project Site and none were observed during the site visit on February 4, 2022.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		rivers. Forages primarily on fishes and other aquatic prey, also smaller terrestrial vertebrates.		
short-eared owl *Asio flammeus*	CDFW Species of Special Concern	Occurs year-round, but primarily as a winter visitor; breeding very restricted in most of California. Found in open, treeless areas (e.g., marshes, grasslands) with elevated sites for foraging perches and dense herbaceous vegetation for roosting and nesting. Preys mostly on small mammals, particularly voles.	**No Potential.** The Project Site occurs outside of the current known breeding range for this species.	No further actions are recommended for this species.
burrowing owl *Athene cunicularia*	CDFW Species of Special Concern	Year-round resident and winter visitor. Occurs in open, dry grasslands and scrub habitats with low-growing vegetation, perches and abundant mammal burrows. Preys upon insects and small vertebrates. Nests and roosts in old mammal burrows, most commonly those of ground squirrels.	**Unlikely.** No mammal burrows or suitable surrogate burrows were observed during the site visit on February 4, 2022. The nearest documented breeding occurrence is approximately 6.5 miles to the west.	No further actions are recommended for this species.
western snowy plover *Charadrius nivosus nivosus*	Federal Threatened CDFW Species of Special Concern	Federal listing applies only to the Pacific coastal population. Year-round resident and winter visitor. Occurs on sandy beaches, salt pond levees, and the shores of large alkali lakes. Nests on the ground, requiring sandy, gravelly or friable soils.	**No Potential.** The Project Site does not contain sandy, gravelly or friable soils required for nesting.	No further actions are recommended for this species.
northern harrier *Circus hudsonius*	CDFW Species of Special Concern	Year-round resident and winter visitor. Found in open habitats including	**Unlikely.** The Project Site does not provide dense ground vegetation necessary to support nesting.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		grasslands, prairies, marshes and agricultural areas. Nests on the ground in dense vegetation, typically near water or otherwise moist areas. Preys on small vertebrates.		
black swift *Cypseloides niger*	CDFW Species of Special Concern	Summer resident with a fragmented breeding distribution; most occupied areas in California either montane or coastal. Breeds in small colonies on cliffs behind or adjacent to waterfalls, in deep canyons, and sea-bluffs above surf. Forages aerially over wide areas.	**No Potential.** The Project Site does not provide cliffs, waterfall features, canyons, or sea-bluffs to support nesting.	No further actions are recommended for this species.
white-tailed kite *Elanus leucurus*	CDFW Fully Protected	Year-round resident in coastal and valley lowlands with scattered trees and large shrubs, including grasslands, marshes and agricultural areas. Nests in trees, of which the type and setting are highly variable. Preys on small mammals and other vertebrates.	**Unlikely.** This species has been observed within Hauke Park and Bay Front Meadow, which likely provide foraging habitat, immediately west of the Project Site (eBird 2022). Trees within the Project Site and in the immediate vicinity may support nesting; however, the high degree of anthropogenic disturbance within the Project Site likely reduces the suitability of any potential nesting habitat.	No further actions are recommended for this species.
American peregrine falcon *Falco peregrinus anatum*	Federal Delisted California Delisted CDFW Fully Protected	Year-round resident and winter visitor. Occurs in a wide variety of habitats, though often associated with coasts, bays, marshes and other bodies of water. Nests on protected cliffs and also on man-made structures including buildings and bridges. Preys on birds,	**No Potential.** The Project Site does not contain protected cliffs and man-made structures are subject to a high degree of anthropogenic disturbance.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		especially waterbirds. Forages widely.		
saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	CDFW Species of Special Concern	Resident of the San Francisco Bay region, in fresh and saltwater marshes. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**No Potential.** No marsh habitat or suitable vegetation communities are present with the Project Site.	No further actions are recommended for this species.
California black rail *Laterallus jamaicensis coturniculus*	California Threatened CDFW Fully Protected	Year-round resident in marshes (saline to freshwater) with dense vegetation within four inches of the ground. Prefers larger, undisturbed marshes that have an extensive upper zone and are close to a major water source. Extremely secretive and cryptic.	**No Potential.** The Project Site does not contain suitable marsh habitat to support this species.	No further actions are recommended for this species.
California Ridgway's rail *Rallus obsoletus obsoletus*	Federal Endangered California Endangered CDFW Fully Protected	Year-round resident in tidal marshes of the San Francisco Bay estuary. Requires tidal sloughs and intertidal mud flats for foraging, and dense marsh vegetation for nesting and cover. Typical habitat features abundant growth of cordgrass and pickleweed. Feeds primarily on mollusks and crustaceans.	**No Potential.** The Project Site does not contain suitable marsh habitat to support this species.	No further actions are recommended for this species.
Alameda song sparrow *Melospiza melodia pusillula*	CDFW Species of Special Concern	Year-round resident of salt marshes bordering the south arm of San Francisco Bay. Inhabits primarily pickleweed marshes; nests placed in marsh vegetation,	**No Potential.** The Project Site does not contain marsh vegetation to support nesting.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		typically shrubs such as gumplant.		
Samuels (San Pablo) song sparrow *Melospiza melodia samuelis*	CDFW Species of Special Concern	Year-round resident of tidal marshes along the north side of San Francisco and San Pablo Bays. Typical habitat is dominated by pickleweed, with gumplant and other shrubs present in the upper zone for nesting. May forage in areas adjacent to marshes.	**No Potential.** The Project Site does not contain marsh vegetation to support nesting.	No further actions are recommended for this species.
bank swallow *Riparia riparia*	California Threatened	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Historical nesting range in southern and central areas of California has been eliminated by habitat loss. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	**No Potential.** The Project Site does not contain vertical cliffs or bank cuts.	No further actions are recommended for this species.
REPTILES & AMPHIBIANS				
western pond turtle *Actinemys marmorata*	CDFW Species of Special Concern	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks,	**No Potential.** Suitable aquatic habitat is not present within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.		
California giant salamander *Dicamptodon ensatus*	CDFW Species of Special Concern	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent or semi-permanent streams. Larvae usually remain aquatic and terrestrial invertebrates.	**No Potential.** The Project Site does not contain forested, woodland, or chaparral habitat to support this species.	No further actions are recommended for this species.
foothill yellow-legged frog *Rana boylii*	California Endangered CDFW Species of Special Concern	Found in or adjacent to rocky streams in a variety of habitats. Prefers partly-shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	**No Potential.** Suitable rocky stream habitat does not occur within the Project Site.	No further actions are recommended for this species.
California red-legged frog *Rana draytonii*	Federal Threatened CDFW Species of Special Concern	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Associated with quiet perennial to intermittent ponds, stream pools and wetlands. Prefers shorelines with extensive vegetation. Disperses through upland habitats after rains.	**No Potential.** Suitable aquatic habitat is not present within the Project Site or immediate vicinity.	No further actions are recommended for this species.
FISH				

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
green sturgeon, southern Distinct Population Segment *Acipenser medirostris*	Federal Threatened CDFW Species of Special Concern	Spawn in the Sacramento River and the Feather River. Spawn at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
tidewater goby *Eucyclogobius newberryi*	Federal Endangered	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches; requires fairly still but not stagnant water and high oxygen levels.	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
southern coastal roach *Hesperoleucus venustus subditus*	CDFW Species of Special Concern	Southern Coastal Roach are restricted to the drainages of Tomales Bay/northern SF Bay in the north and Monterey Bay in the south. There are no records of Roach being present in watersheds between these two systems (Baumsteiger and Moyle 2019).	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
coho salmon - central CA coast ESU *Oncorhynchus kisutch*	Federal Endangered California Endangered	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
steelhead - central California coast DPS *Oncorhynchus mykiss irideus pop. 8*	Federal Threatened	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
Sacramento splittail *Pogonichthys macrolepidotus*	CDFW Species of Special Concern	Formerly endemic to the lakes and rivers of the Central Valley, but now confined to the Sacramento Delta, Suisun Bay and associated marshes. Occurs in slow-moving river sections and dead-end sloughs. Requires flooded vegetation for spawning and foraging for young. A freshwater species, but tolerant of moderate salinity (10-18 parts per thousand).	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
longfin smelt *Spirinchus thaleichthys*	Federal Candidate California Threatened	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.
eulachon – Southern DPS *Thaleichthys pacificus*	Federal Threatened CDFW Species of Special Concern	Found in Klamath River, Mad River, Redwood Creek and in small numbers in Smith River and Humboldt Bay tributaries. Spawn in lower reaches of coastal rivers with moderate water	**No Potential.** No aquatic habitat is present within the Project Site.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
		velocities and bottom of pea-sized gravel, sand and woody debris.		
		INVERTEBRATES		
California freshwater shrimp *Syncaris pacifica*	Federal Endangered California Endangered	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks with exposed roots. Summer: leafy branches touching water.	**No potential.** No low-gradient streams are present within the Project Site.	No further actions are recommended for this species.
western bumble bee *Bombus occidentalis*	California Candidate Endangered	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2015). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	**Unlikely.** The Project Site is outside of this species known current distribution. There are no recent documented occurrences of this species in the vicinity of the Project Site.	No further actions are recommended for this species.
monarch - California overwintering population *Danaus plexippus pop. 1*	Federal Candidate	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, Monterey cypress), with nectar and water sources nearby.	**No Potential.** Suitable winter roost habitat does not occur within the Project Site or immediate vicinity.	No further actions are recommended for this species.

SCIENTIFIC NAME	STATUS[1, 2]	HABITAT	POTENTIAL FOR OCCURRENCE	RECOMMENDATIONS
Bay checkerspot butterfly *Euphydryas editha bayensis*	Federal Threatened	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. *Plantago erecta* is the primary host plant; *Orthocarpus densiflorus* and *O. purpurascens* are the secondary host plants.	**No Potential.** The Project Site does not contain serpentine soil, nor the appropriate host plants for this species.	No further actions are recommended for this species.
Callippe silverspot butterfly *Speyeria callippe callippe*	Federal Endangered	Two populations in San Bruno mountain and the Cordelia Hills are recognized. Hostplant is Viola pedunculata, which is found on serpentine soils. Most adults found on east-facing slopes; males congregate on hilltops in search of females.	**No Potential.** The Project Site does not contain serpentine soil, nor the appropriate host plants for this species.	No further actions are recommended for this species.
mission blue butterfly *Icaricia icarioides missionensis*	Federal Endangered	Inhabits grasslands and coastal chaparral of the San Francisco Peninsula and southern Marin County, but mostly found on San Bruno Mountain. Three larval host plants: *Lupinus albifrons*, *L. variicolor*, and *L. formosus*, of which *L. albifrons* is favored.	**Unlikely.** The Project Site is outside of this species known current distribution and does not support the appropriate host plants. There are no recent documented occurrences of this species in the vicinity of the Project Site.	No further actions are recommended for this species.

Note: All species identified using the *Jepson eFlora* [Jepson Flora Project (eds.) 2023]; nomenclature follows *Jepson eFlora* [Jepson Flora Project (eds.) 2023] or Inventory of Rare and Endangered Plants (CNPS 2023). Sp.: "species", intended to indicate that the observer was confident in the identity of the genus but uncertain which species.

[1] **California Native Plant Society. 2023. Inventory of Rare and Endangered Plants (online edition, v-9.5). Sacramento, California. Online at: http://rareplants.cnps.org/; most recently accessed: July 2023.**

FE:	Federal Endangered
FT:	Federal Threatened
SE:	State Endangered
ST:	State Threatened
SR:	State Rare

Rank 1A:	Plants presumed extinct in California
Rank 1B:	Plants rare, threatened, or endangered in California and elsewhere
Rank 2:	Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3:	Plants about which we need more information – a review list
Rank 4:	Plants of limited distribution – a watch list

[2] **California Invasive Plant Council. 2023. California Invasive Plant Inventory Database. California Invasive Plant Council, Berkeley, CA. Online at: http://www.cal-ipc.org/paf/; most recently accessed: July 2023.**

High:	Severe ecological impacts; high rates of dispersal and establishment; most are widely distributed ecologically.
Moderate:	Substantial and apparent ecological impacts; moderate-high rates of dispersal, establishment dependent on disturbance; limited-moderate distribution ecologically
Limited:	Minor or not well documented ecological impacts; low-moderate rate of invasiveness; limited distribution ecologically
Assessed:	Assessed by Cal-IPC and determined to not be an existing current threat

Appendix A of the Biological Resources Technical Report was excluded from Volume II, Appendices of the Draft EIR for brevity purposes. All figures contained in Appendix A of the BRTR are included in the Draft EIR.

APPENDIX F

GEOLOGIC ENGINEERING/GEOLOGIC HAZARDS INVESTIGATION

GEOTECHNICAL ENGINEERING/
GEOLOGIC HAZARDS INVESTIGATION
PROPOSED MULTI-FAMILY
RESIDENTIAL DEVELOPMENT
1 HAMILTON DRIVE
MILL VALLEY, CALIFORNIA

PROJECT NO. 042-22001
AUGUST 2, 2023
(REVISED AUGUST 15, 2023)

Prepared for:

MR. PATRICK KELLY
CITY OF MILL VALLEY
26 CORTE MADERA AVENUE
MILL VALLEY, CALIFORNIA 94941

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GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

August 2, 2023
(Revised August 15, 2023)

KA Project No. 042-22001

Mr. Patrick Kelly
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, California 94941

RE: Geotechnical Engineering Investigation
Proposed Multi-Family Residential Development
1 Hamilton Drive
Mill Valley, California

Dear Mr. Kelly:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 307-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

DRJ:wa

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August 2, 2023
(Revised August 15, 2023)

KA No. 042-22001

GEOTECHNICAL ENGINEERING/GEOLOGIC HAZARDS INVESTIGATION
PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
1 HAMILITON DRIVE
MILL VALLEY, MARIN COUNTY, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering/ Geologic Hazards Investigation for the proposed multi-family residential development to be located at 1 Hamilton Drive in Mill Valley, Marin County, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, and soil cement reactivity.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend, are presented in Appendix A. Appendix A also contains a description of the laboratory testing phase of this study, along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our revised proposal dated January 17, 2022 (KA Proposal No. P956-21) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A review of available data for evaluation of subsurface conditions at the project site.
- Aerial photograph interpretation.
- A search of geologic and seismologic literature pertaining to the area of the site.

- Evaluation of potential geologic hazards.
- A field investigation consisting of drilling 5 borings to depths ranging from approximately 10 to 34 feet for evaluation of the subsurface conditions at the project site. The deep boring was terminated due to auger refusal.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.
- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.
- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

It is understood that the proposed development will include the construction of new four-story structure to be supported on conventional shallow foundations or drilled piers. Foundation loads are anticipated to be light to moderate.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The site is irregular in shape and encompasses approximately 3.67 acres. The site is made up of two areas. The Housing Site is located on the northern 1.75 acres of the property and the PSB Site is located on the southern portion. The site is located between Hamilton Drive and Roque Moraes Drive, at Keats Drive in Mill Valley, California. The site has a street address of 1 Hamilton Drive. Hamilton Drive, Hauke Park, and Pickleweed Inlet are located to the west; high-voltage transmission lines, a hillside, and an apartment or condominium development is located to the south; and Roque Moraes Drive and a residential development are located northeast of the site. The project area is located at longitude 122.52263° West and latitude 37.89772° North.

Site history was obtained by reviewing historical aerial photographs taken in 1946, 1952, 1963, 1968, 1974, 1983, 1987, 1993, 2005, 2009, 2012, 2016, and 2020. Review of the 1946 aerial photograph indicates that the project site appeared to be vacant hillside with a road located on the west side. West of the road, was a flat area and a tidal marsh.

Review of the 1952 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1946 aerial photograph.

Review of the 1963 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1952 aerial photograph. Roque Moraes Drive appeared on the east/northeast side of the site along with a residential subdivision. West of the site, it appeared that a portion of the tidal marsh had been filled in.

Review of the 1968 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 1963 aerial photograph with more fill showing up in the marsh area to the west of the site. An excavation or cut appeared in the southeast corner of the site.

Review of the 1974 aerial photograph indicates that the project site had grading activities along the southern half of the site. West of the site, a sports/city park appeared and grading activities had also been taking place south of the site.

Review of the 1983 aerial photograph indicates that the project site had an asphaltic concrete parking lot on the western portion and two buildings and parking lots appeared on the southern half of the site. A baseball field appeared at the park to the west.

Review of the 1987 to 2005 aerial photographs indicate that the project site conditions appeared to be relatively similar to that noted in the 1983 aerial photograph with an apartment or condominium development appearing to the south of the site.

Review of the 2009 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 2005 aerial photograph.

Review of the 2012 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 2009 aerial photograph with solar panels appearing on the southeast area of the site.

Review of the 2016 to 2020 aerial photographs indicate that the project site conditions appeared to be relatively similar to that noted in the 2012 aerial photograph.

Presently, the site predominately consists mainly of a vacant hillside on the northern half; an asphaltic concrete parking lot and restroom on the west side; police and fire station buildings on the south half, and solar panels on the southeast area. Several trees are located within the site including a small garden area in the southern most portion of the site. The open hillside areas of site are covered by a sparse to moderate weed growth and the surface soils have a loose consistency. The site includes areas that range from relatively level to moderately sloping with approximately 60 feet of relief within portions of the site.

GEOLOGIC SETTING

General

The project area is located in the eastern portion of the City of Mill Valley, within the central portion of the Coast Ranges Geomorphic Province of California. The site is located west of the San Francisco Bay and is within the eastern facing slope of the Pacific Coast Range/Mount Tamalpais within the Coast

Range Province. The Coast Ranges generally consist of an alternating series of parallel mountains and valleys located adjacent to the Pacific Coast. The bedrock units that form the range have been disrupted by intense folding, faulting, and crushing that occurred when the range was formed by the processes of plate tectonics. During the Jurassic and Cretaceous Periods (about 80 to 150 million years ago), the Pacific Oceanic Plate, which was progressively moving towards the east, collided with the North American Continental Plate, which was moving toward the west. This collision caused the less rigid Pacific Oceanic Plate to be subducted beneath the North American Continental Plate. The colliding motion of the two plates caused portions of the Pacific Oceanic Crust and overlying marine sediments to be piled onto the North American Continental Plate along the west coast of California. The resulting chaotic jumble of bedrock units scraped off onto the North American Plate, is known as the "Franciscan Assemblage" and comprises a large portion of the Coast Range Province. Subsequent development of a series of northwest-trending fault zones has further contributed to the deformation of the Coast Ranges.

During the Pleistocene Epoch ("Ice Age"), the San Francisco Bay depression was formed by down faulting (down warping) of the earth's crust. During this time, sea levels lowered by as much as 350 feet, leading to increased erosion by the streams and rivers discharging into the bay. With the melting of the last ice sheets, beginning about 12,000 years ago, the sea level gradually rose to its present level. Much of the clay and silt carried by the river flood waters were deposited within the quiet bay waters, resulting in significant accumulations of "bay mud" in marshlands and mudflats.

The site lies within the limits of the City of Mill Valley and the near surface soils consist of alluvial, colluvial, and sedimentary rock depositional environments along the eastern slope of the Pacific Coast Range/Mount Tamalpais within the Coast Ranges Province adjacent to the tidal marshes and alluvial fill along the western margins of San Francisco Bay.

Arroyo Corte Madera Del Presidio Creek or Sutton-Manor Creek, Old Mill Creek, Coyote Creek, and the Picklewood Inlet to Richardson Bay are located nearby. Alluvial fans, flood deposits, and tidal marsh deposits formed by these drainage courses are the predominant flatland geomorphic features in the area. The elevated portion of the site area is characterized by sediments and rock shed from the Coast Range that accumulated primarily as a complex of alluvial fan or colluvial deposit. The site is located within the transition of the flatland marsh deposits and the sloping hills. The majority of the site is comprised of Franciscan Complex mélange while the southeastern portion of the site is mapped as Franciscan Serpentenite.

Regional Geologic Map, Regional Geologic Cross-Section, and Local Geologic Maps are presented on Figures 4, 5, and 6, respectively.

Lithology

In general, the Coast Ranges are composed of sedimentary and metamorphic bedrock interspersed with volcanics. The 2000 Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties indicates that the near-surface deposits in area of the subject site are identified mainly as a Franciscan mélange terrain and serpentinite. The near surface soils are made up of clay sands and sandy clays with varying amounts of gravel. At depth, these younger sediments are

underlain by Cretaceous and Jurasssic rock which consist of a Franciscan mélange and serpentinite. Within the central portion of the site, a large block of serpentinite is mapped (Blake, Greymer, Jones-2000). The remaining areas of the site are mapped as Franciscan Complex mélange. The surrounding portions of the site mainly consist of Franciscan Complex mélange with two small outcrops or large blocks of chert and greenstone located approximately 400 feet to the northwest and southeast of the site (Blake, Graymer, Jones-2000). West of the site, quaternary artificial fills overlay quaternary marine and marsh deposits. (See site Geologic Map, Figure 2)

The modern depositional processes operating on the valleys and lowlands are mainly the result of the region's Mediterranean climate and active tectonic setting. The interaction between easily eroded bedrock and the heavy winter rains causes large seasonal fluctuations in the sediment loads carried by streams from the uplands down to the bay. During times of high surface-water runoff, sediments are supplied from slopewash, landslides, and gullying, then carried by shifting alluvial channels to the marshlands and bay. Some material is deposited on the alluvial plain, especially when streams overtop their banks and spread their sediment-laden waters over the low plains and basins.

According to Helley and others, (1979), "the younger deposits make up the alluvial fans being formed under the existing regime. The streams forming these young fans are graded to present sea level. These younger deposits and the bay mud into which they grade are informally referred to as Holocene deposits. The older alluvial deposits now partly covered by the Holocene deposits, make up alluvial fans formed by these same streams when they were graded to lower strands of sea level during the late Pleistocene (prior to about 10,000 years ago). These older deposits are informally referred to as late Pleistocene alluvium. The Holocene alluvium is differentiated further into depositional units called facies on the basin of textural characteristics (that is, gravel, sand, silt, and clay) and the depositional environment (such as stream levees and floodbasins). These facies grade from coarse-grained gravel and sand deposits, which form prominent stream levees at the highest part of the alluvial fans, into medium-grained sand and silt deposits, which form broad flood plains and subdued levees along the lower margins of the alluvial fans. These stream deposits grade into and interfinger with fine-grained silt and clay deposits, which form the flat floor of flood basins between stream levees on the outer margins of the alluvial fans directly adjacent to the bay marshlands. This gradation from coarse-grained to fine-grained sediment in the Holocene alluvium is a natural consequence of very recent stream erosion, transportation, and deposition. The coarsest rock debris eroded from the bedrock uplands is deposited near the base of the hills where the rapidly flowing streams enter the broad, gently sloping alluvial plain. Only the finer-grained debris is carried by the ever-slackening water to the lower parts of the alluvial fans and eventually into the bay itself."

The subsurface information obtained in this study indicates that the surface and near-surface soil deposits at the subject site generally consist of clayey sand, sandy clay, and silty sand with varying amounts of gravel. These observed deposits are consistent with those mapped in the area, and are further described in the Soil Profile and Subsurface Conditions section of this report.

Structure and Faults

The San Francisco Bay region is tectonically dominated by horizontal shear caused by the relative motion of the Pacific and North American plates. The northwest-southeast shear, probably with some other superposed influences, produces right-lateral strike-slip, plus a variety of other types of crustal movements. Since the boundary of the plates is generally diffuse, the various structural responses occur over a relatively broad band from the foot of the continental slope to the Central Valley. Transform-type plate movement did not begin at the latitude of San Francisco until about 7 to 10 million years ago, a time interval of transition in tectonics and sedimentation. The recent and current transform movement has superimposed a structural fabric on the pre-existing highly deformed structure created by Jurassic and Cretaceous subduction and emplacement of the Franciscan Complex terrain.

Active faults in the region of the subject site are predominately characterized by strike-slip motion (right-lateral). Major nearby faults showing evidence of earthquake activity within historic time (past 200 years) in relation to the site include the San Andreas (6.68 miles west), the San Gregorio (10.33 miles south), Hayward-Rodgers Creek (11.28 miles east), Point Reyes (17.34 northwest), West Napa (23.81 miles east), the Green Valley (26.17 miles east), the Mount Diablo (26.43 miles east), the Calaveras (28.55 miles southeast), the Monte Vista- Shannon (35.06 miles south), and the Greenville (37.66 miles east) faults. These faults are considered to be active, as they have demonstrated geologic displacement with the past 10,000 years.

Crustal movements measured in California today sample deformation processes that have been continued through at least the past 5 Ma of Pliocene, Pleistocene, and Holocene time. During this interval, several hundred kilometers of right-lateral offset has accumulated across the San Andreas fault system, and many thousands of great earthquakes similar to the historical events of 1857 and 1906 have undoubtedly occurred. The observed deformation results from relative right-lateral translation of the Pacific and North American plates far from the main plate-boundary faults, which are either freely slipping and without major seismic activity, or are in locked frictional contact and slip episodically in repeated great earthquakes. Aseismic fault slip (creep), as occurs across the San Andreas fault in central California causes no crustal deformation beyond a growing offset across the fault, although this offset may be distributed across a zone as broad as a few tens or hundreds of meters. Where the plate-boundary fault is alternately locked aseismically in its upper 10 km or so and abruptly slipping in great earthquakes, deformation extends several tens of kilometers into the plate interiors. Between large events, elastic strains build up in this zone and are episodically released every few hundred years. Subsequent postearthquake recovery processes redistribute the strains aseismically for years to decades after a major shock, and this deformation gradually merges into the steady accumulation of elastic-strain energy that persists until the frictional strength of the fault is again exceeded. This sequence of interearthquake strain accumulation, coseismic strain release, and postseismic readjustment is a recurring process.

The 8.25 magnitude earthquake of April 18, 1906, ranks as one of the most significant earthquakes of all time. Rupturing the northernmost 430 km of the San Andreas fault from the northwest of San Juan Bautista to the triple junction at Cape Mendocino, the earthquake confounded contemporary geologists with its large, horizontal displacements and great rupture length.

The characteristics and amount of surface fault slip in this earthquake varied to a remarkable degree along the length of the rupture. Peak displacements of 6 m were measured near Olema on the Point Reyes peninsula, where the surface trace of the rupture formed a sharp, well-defined break. In contrast, the fault break was extremely difficult to recognize along its southernmost 90 km, where the surface offset averaged only about 1½ m or less. The slip rate along the San Andreas fault in the vicinity of the project site is on the order of 17 mm/yr. to 24 mm/yr.

The San Andreas and San Gregorio Fault zones are major strike-slip-fault systems that form part of the active plate boundary between the Pacific and North American Plates. The San Gregorio Fault is offshore for most of its length, whereas the San Andreas Fault extends offshore south of Bolinas northwest of San Francisco. On the basis of magnetic and seismicity data, motion on the San Andreas Fault has been interpreted to step over to another fault, the Golden Gate Fault, that lies 3 km to the east of the San Andreas Fault and also goes offshore near San Francisco. All three faults merge and come onshore again at Bolinas Lagoon. The Golden Gate, San Andreas, and San Gregorio Faults all have recognizable continuations across the Gulf of the Farallones. The Potato Patch Fault branches eastward off the San Gregorio Fault and continues northward as another fault with significant, but unknown, offset, possibly merging with the San Andreas Fault south of Bolinas. The San Gregorio structural zone, an area of major thrust-fault deformation west of the San Gregorio Fault, also continues across the Gulf of the Farallones and widens from about 2 to more than 8 km from south to north. All of these features are undergoing modern uplift onto the Point Reyes Peninsula. The San Gregorio Fault separates two major offshore sedimentary basins: the San Gregorio Basin, which lies between the Golden Gate/San Andreas Faults and the San Gregorio Fault; and the Bodega Basin, which lies west of the San Gregorio Fault. Maximum sedimentary thickness in the San Gregorio Basin is poorly defined but probably approaches 2 km overlying Franciscan and Salinian basement rocks. The age of the basin fill is unknown but could be similar to that of strata in the onshore Merced Formation, which are younger than about 1.8 Ma. Although strike-slip motion on the San Andreas Fault appears to step northeastward to the Golden Gate Fault in the area from Daly City to the Golden Gate, the offshore continuation of the San Andreas Fault has served as a locus for subsidence. The fault generally underlies the depocenter of the San Gregorio Basin. The Potato Patch Fault, which lies between the San Andreas and San Gregorio Faults, forms the edge of a structural high in the basin. Both the San Andreas and Potato Patch Faults are at least partly normal faults along which basement rocks have undergone differential subsidence during basin formation.

The Hayward-Rodgers Creek fault system (11.28 miles east) is 140 km long, extending from near Healdsburg on the north to the Warm Springs district of Fremont on the south. South of San Pablo Bay, the fault passes through heavily urbanized areas where much evidence of the fault is obscured. The southern part of the fault produced the regionally damaging 1868 M6.8 earthquake. The East Bay Source Characterization Group considers the Hayward-Rogers Creek fault to be a three-segment system, identified as the Rogers Creek fault, the northern segment of the Hayward fault (Hayward North) and the southern segment of the Hayward fault (Hayward South).

The northern boundary of the Rogers Creek fault is a ±5 km-wide zone south of Healdsburg in which the Holocene trace of the fault appears to die out. The southern boundary is a ±5 km zone offshore beneath San Pablo Bay. The 6 km stepover from the Rogers Creek to the Hayward North fault is coincident the

western edge of a prominent gravity low that extends approximately 20 km to the east of the step-over. There are no geophysical data that indicate the presence of a structural depression or extensional faulting within the stepover. It is also not known whether Rogers Creek and the Hayward North fault join at depth beneath this structure or remain individual faults through the seismogenic crust. Based on modeling of rupture propagation across steps in faults, the San Pablo Bay stepover continues to be viewed as a major structural and geometric barrier for ruptures propagating into it.

The Hayward North fault extends from the San Pablo Bay stepover to near Montclair in Oakland. With the timing constraint of the moist recent event (formerly the 1836 earthquake) removed, the primary basis for defining the Hayward North fault is that it is the section of the Hayward fault that did not rupture in 1868. An uncertainty of $\pm$5 km is assigned to the northern boundary in San Pablo Bay. The southern endpoint is less certain. The possible north end of the 1868 rupture near Rocky Mound is 20 km north of the segment boundary near San Leandro adopted by the East Bay Source Characterization Group, where the evidence for 1868 surface rupture was distinct (Lawson, 1908). Trenching evidence suggests the 1868 surface rupture extended at least to Montclair (Lienkaemper and Williams, 1999). There are no obvious geometric or lithologic changes along this reach of the fault that provide a physical basis for proposing a segment boundary. Therefore, a southern endpoint is possible anywhere between Mira Vista on the north, which did not rupture at the surface in 1868, and San Leandro. The segment endpoint selected by the East Bay Source Characterization Group lies at Montclair, about midway between Mira Vista and San Leandro, with an uncertainty of $\pm$10 km.

The East Bay Source Characterization Group takes the Hayward South fault to be the extent of the 1868 rupture. Nothing is known about the slip distribution of the 1868 earthquake or of the variability in rupture lengths and/or slip distributions of pre-historic Hayward South fault events. It is possible that Hayward North and Hayward South fault ruptures could overlap 10 to 20 km in the broad boundary between the two segments. The southern endpoint of the Hayward South fault is midway between the south end of known 1868 surface rupture at Agua Caliente Creek (Lawson, 1908) and the Alum Rock seismicity trend.

Slip rates for the Hayward-Rogers Creek fault are $\pm$2 mm/yr for each of the three fault segments based on paleoseimic and fault-creep data consistent with new paleoseismic observations of a minimum rate of 7-10 mm/yr for the past 8,400 years on the Hayward South fault at Union City (Lienkaemper and Borchardt, 1996) and 8.4$\pm$2 mm/yr for the past 900 years on Rogers Creek fault (Schwartz and others, 1992). Measurements of surface creep (Lienkaemper and others, 2001) show that the Hayward fault has an average creep rate of about 4 to 6 mm/yr with a high of 9 mm/yr near Fremont, a significant fraction of the overall geologic slip rate. Williams (1999) reports a long-term (35 ka) slip rate of 10$\pm$1 mm/yr on the Hayward North fault from offset of Strawberry Canyon.

The San Andreas fault, located 6.68 miles west, is the closest active fault to the site. To the east of the San Andreas, is the Hayward-Rogers Creek and the Calaveras fault. The Calaveras fault extends 76 miles, splaying from the San Andreas fault near Hollister and terminating at Danville at its northern end.

The Calaveras fault (28.55 miles southeast) forms the western margin of Livermore Valley and San Ramon Valley. The Calaveras fault is one of the most geologically active and complex faults in San Francisco Bay Region. As many as twelve M>5 earthquakes have occurred on the Calaveras fault during historical time. The Calaveras fault exhibits heterogeneous surface creep in the southern section, with slip rates as high as 17 mm/yr. Slip rates at the town of Hollister decrease from about 11 mm/yr. to 7 mm/yr. within 2.3 km along the fault. Surface creep is absent along the northern section. Although no significant elastic strain has been observed adjacent to the central section of the fault from geodetic data between 1970 and 1985, three moderate events occurred (M5.9 on 6 August 1979, M6.2 on 24 April 1984, and M5.1 on 13 June 1988), progressing sequentially northward along this section of the fault. Slip along the northern Calaveras fault appears to step across to the Concord-Green Valley fault zone along a northeast-trending conjugate left-lateral fault that produced the April 1990 Alamo earthquake sequence with the largest event of magnitude 4.5 (Oppenheimer and MacGregor-Scott, 1991). Analysis of historical seismic data has also identified persistent aseismic zones that are believed to represent locked patches of the southern and central Calaveras fault as well as most of the northern Calaveras fault.

The Monte Vista Fault, located 35.06 miles south, is a potentially active geologic fault, i.e., a fault capable of generating destructive earthquakes, in the San Francisco Bay Area. It is a relatively short fault that runs between and generally parallel to the much longer San Andreas Fault and Hayward Fault zones, trending northwest along the eastern foothills of the Santa Cruz Mountains on the west side of San Francisco Bay. The most recent activity was estimated to have been approximately 700,000 years ago. It has a slip rate of 0.4 mm/year. However, a recent magnitude 2.6 earthquake has been attributed to this fault.

The northwest-trending central Greenville fault system, consisting of several segments or strands, is located 37.66 east of the site. The fault is exposed for over 80 km along its length, from the north end, near Mt. Diablo, to its southern terminus in San Antonio Valley along the eastern side of Livermore Valley.

On January 24, 1980, an earthquake of magnitude 5.5 (Bolt et al., 1981) caused discontinuous right-lateral surface displacements along the southeastern branch of the Greenville fault, approximately 12 km southeast of Mount Diablo. Fault-plane solutions indicate a focal depth of 11.8 km (Bolt et al., 1981). The first principal shock was followed by a rapid succession of magnitude 5.0 and 4.0 earthquakes, resulting in a relatively long duration of ground shaking. The earthquake was followed by a series of aftershocks, culminating in a magnitude 5.6 event on January 27, 1980, located 12 km to the south of the first principal shock. The focal depth of the January 27 earthquake was 11.8 km. The maximum peak horizontal ground acceleration recorded during the earthquake was 0.26g at Del Valle Reservoir, located 11 miles from the epicenter.

Contractional structures in the eastern San Francisco Bay area are part of a late Cenozoic fold-thrust belt, the Mt. Diablo fold-and-thrust belt (MDFTB) that can be traced from the northern Diablo Range, south of Livermore Valley, to the western Sacramento-San Joaquin Delta region. The MDFTB is bounded by dextral faults, the Greenville and Concord faults on the east and the Calaveras fault on the west. Thrust faults and associated folds in the MDFTB generally trend west-northwest, oblique to strike-slip faults on

the San Andreas system, and exhibit well-defined right-steeping en echelon geometry. The Mt. Diablo thrust fault, the largest structure the in the MDFTB, is driven by a restraining transfer of dextral slip from the Greenville fault to the Concord fault. The Mt. Diablo thrust fault is potentially capable of generating an earthquake of about M_W 6¾, which is comparable to the 1983 Coalinga M_L 6.7 and 1994 Northridge (M_W 6.7) earthquakes.

A group of northward-trending faults on the northeast flank of the Mt. Diablo antiform were evaluated with regard to their seismogenic potential during geological, seismological, and geophysical investigations of the proposed Los Vaqueros Dam site in eastern Contra Costa County. The faults, collectively referred to as the Vaqueros Faults, included the Brentwood, Kellogg, Vaqueros, Davis, and Camino Diablo faults. They occur along the southern projection of the Antioch Fault and in the area directly east and north of the more north-westerly-trending, active Marsh Creek-Greenville segments of the Greenville fault zone. This fault segment was the source of the 1980 M_L 5.9 and 5.3 Livermore earthquakes. Analysis of soil stratigraphy exposed in trenches and geomorphic analyses along faults reveals no evidence indicating that the Vaqueros faults have been active in Holocene time. The observed displacements on the Vaqueros faults appear to be associated with the formation of the Mt. Diablo antiform, beginning about 3 million years ago, rather than due to direct accommodation of plate motion in the present-day San Andreas Fault System (Bigger and Wong, 1992).

As noted above, several dominant faults with seismogenic structures are located in the vicinity of the subject site, (Fault Activity Map is provided on Figure 7).

GEOLOGIC HAZARDS

Fault Rupture Hazard Zones in California

The Alquist-Priolo Geologic Hazards Zones Act went in effect in March, 1973. Since that time, the act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in CGS Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The area of the subject site is included on the Earthquake Zones of Required Investigation Map (refer to Earthquake Fault Zones Map, Figure 10). The site is not within a Fault-Rupture Hazard Zone, but a pre-Quaternary, unnamed fault is located within or near the site. This fault is oriented running northwest to southeast along the eastern portion of the site and appears to be ¾ of a mile long. This is a pre-Quaternary fault and is recognized as not showing any active displacement. The nearest zoned active faults are portions related to the San Andreas fault located more than 6.68 miles west of the subject site. In our opinion, this pre-Quaternary, unnamed fault is not a concern to the development of the project.

Seismic Hazard Zones in California

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazards Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. The area of the subject site is not included on a State of California Seismic Hazard Zone Map as of this report date. The site is also not included on the "Liquefaction or Landslide Susceptibility" Map dated 2003, prepared by the U.S. Geological Survey (refer to as Earthquake Zones of Required Investigation map, Figure 11). A map generated for Marin County shows that the project site lies within a very low potential for liquefaction although just to the west, is a very high liquefaction potential area. (refer to Marin County Liquefaction Map, Figure 12). The site is not located within areas identified as susceptible to liquefaction or landslide hazards.

Historic Seismicity/Earthquake Epicenter Distribution

The Mill Valley area has historically experienced a moderate to high degree of seismicity. A listing of historic earthquakes with magnitudes greater than 4.0 within approximately 50 miles (80 kilometers) of the subject site was obtained from the comprehensive California Geological Survey computerized earthquake catalog for the State of California, the Townley and Allen (1939) catalog and the U.S. Geological Survey Earthquake Data Base System. In addition, a listing was obtained for all historic earthquakes with magnitudes greater than 5.0 within approximately 100 miles of the site. The listings include the date, time, location, depth, magnitude, and intensity all recorded events within the search radius between 1800 and 2021. A review of the literature for pre-1900 earthquakes (Toppozada, 1991) does not reveal any significant recorded seismic events in the vicinity of the subject site prior to the period covered by the above listing.

The historic earthquake listings are included in Appendix E. A plot of epicenters associated with historic earthquakes in the region of the site with magnitudes greater than 5 is shown on Figure 8, Epicenter Map. The earthquake data indicates that 380 events with magnitudes greater than 4.0 occurred within 50 miles of the subject site between 1800 and 2022. One of the listed events occurred within 3.5 miles of the site. The data indicates that 16 events exceeded magnitudes 5.0 within 20 miles of the subject site. The nearest listed event occurred approximately 3.5 miles south of the site in 1808 with a magnitude of 6.3. Ninety of the listed earthquakes with magnitudes greater than 4.0 occurred within 20 miles of the site. Numerous earthquakes are listed with magnitudes between 5.0 and 6.0 beyond about 40 miles of the site. One event was recorded with a magnitude of 8.25 within 10.3 miles of the site.

Earthquakes in the San Francisco Bay Region result from strain energy constantly accumulating across the region because of the northwestward motion of the Pacific Plate relative to the North American Plate. The region experienced large and destructive earthquakes in 1838, 1868, 1906, and 1989, and future large earthquakes to relieve this continually accumulating strain are a certainty.

At 5:12 a.m. on April 18, 1906, the people of San Francisco were awakened by an earthquake that would devastate the city. The main temblor, having a 7.7–7.9 magnitude, lasted about one minute and was the result of the rupturing of the northernmost 296 miles of the 800-mile San Andreas fault. But when calculating destruction, the earthquake took second place to the great fire that followed. The fire, lasting four days, most likely started with broken gas lines (and, in some cases, was helped along by people hoping to collect insurance for their property—they were covered for fire, but not earthquake, damage). With water mains broken, fighting the fires was almost impossible, and about 500 city blocks were destroyed. The damages were estimated at about $400,000,000 in 1906 dollars, which would translate to about $8.2 billion today.

In 1906 San Francisco was the ninth largest U.S. city with a population of 400,000 and over 225,000 were left homeless by the disaster. The death toll is uncertain. City officials estimated the casualties at 700 but more modern calculations say about 3,000 lost their lives. The lowballing city figures may have been a public relations ploy to downplay the disaster with an eye on rebuilding the city. On April 20, the U.S.S. *Chicago* rescued 20,000 victims, one of the largest sea evacuations in history, rivaling Dunkirk in World War II. Martial law was not declared, but some 500 looters were shot by police and the military.

The epicenter of this earthquake has moved around in the past 100 years, as advances in seismology have been made. It was first thought to have been in Marin County, then northwest of the Golden Gate, and most recently, in the Pacific Ocean about two miles west of San Francisco. The plate-tectonics theory that would shed some light on the quake wasn't formulated until the 1920s and not embraced until some three decades later. The San Andreas fault is on the boundary between the Pacific plate and the North American plate. During the earthquake, the ground west of the fault tended to move northward and, in the most extreme instance, a 21-foot shift was measured. Earthquake ruptures are fast movers—seismologists estimated the average speed of this rupture to have been 8,300 mi/hr going north, and 6,300 mi/hr traveling south. The quake was felt from southern Oregon to south of Los Angeles and inland as far as central Nevada.

Charles Richter developed his scale in 1935 to measure the amount of seismic energy released, the magnitude, of an earthquake. Seismologists found the Richter scale fine for lower magnitude quakes, but inaccurate for higher magnitude ones. The 1906 earthquake was assigned a Richter rating of 8.3, but on the newer moment magnitude scale it has been demoted to one measuring 7.8 or 7.9.

On Oct. 17, 1989, at 5:04 p.m., at the height of the rush hour, Bay Area residents thought the "big one" had struck. The 7.1 Richter scale (6.9 moment magnitude) Loma Prieta earthquake, with its epicenter about 60 miles from San Francisco, was the largest one to hit the region since 1906. Sixty to 70 deaths were reported, freeways and bridges were damaged, and the World Series between the Oakland and San Francisco teams was postponed for 10 days. Property damage was estimated at $6 billion dollars, making this the costliest natural disaster to that date. But seismologists said this was not the major earthquake feared by all. That one is still in the future.

In 1906 there were only about 650,000 people living in the area, but today more than 7 million people make their homes in the San Francisco Bay region.

The San Francisco earthquake of 1906 is undoubtedly the most important earthquake to have affected the central California area during historic time. It was investigated in great detail by geologists, seismologists, and engineers of the State Earthquake Investigation Commission, and the results of this investigation have served as the basis for much of our understanding of the relationship between earthquakes and faulting. The importance of this earthquake to our understanding of future earthquakes in the central California area is that it is the only "look-alike" for the "great" earthquake that is expected along the 1857 Break of the San Andreas Fault. Had the 1857 quake itself been studied in the detail that was given to the 1906 event, it would have been the most important event. However, very little is known about this earthquake that is useful for the objective stated above.

Time-dependent earthquake rupture forecasts, in which the probabilities of future events are conditioned on the dates of previous earthquakes, have been the focus of five previous Working Groups on California Earthquake Probabilities (WGCEP 1988, 1990, 1995 & 2003). Each of these working groups has expanded on its predecessors, improving the data and forecasting methodology, and each has drawn on input from broad cross-sections of the earth science community.

The 2007 Working Group on California Earthquake Probabilities (WGCEP) has developed a statewide earthquake-rupture forecast that uses "best available science". This model, called the Uniform California Earthquake Rupture Forecast Version 2 (UCERF 2), is the product of a collaborative project of the U.S. Geological Survey (USGS), the California Geological Survey (CGS) and the Southern California Earthquake Center (SCEC) with the assistance of the California Earthquake Authority (CEA). Development of this model was tightly coordinated with the USGS National Seismic Hazard Mapping Program (NSHMP). For this project, the WGCEP has assembled and analyzed the latest data on the rates of earthquake occurrence from historic and instrumental data, paleoseismology, slip rates on faults, and deformation rates from GPS and long-term plate-tectonic models.

According to UCERF 2, a $M \geq 6.7$ earthquake is virtually assured in California during the next 30 years (99.7% probability of occurrence). Larger events are less likely: the mean 30-year UCERF 2 estimate gives a 94% chance of a $M \geq 7.0$ earthquake, a 46% chance of a $M \geq 7.5$ shock, and 4.5% chance of a $M \geq 8.0$ event.

The following table summarizes the mean probabilities for $M \geq 6.7$ events on the principal strike-slip faults of California, which accommodate most of the motion between the North America and Pacific plates. The most dangerous fault is the southern part of the San Andreas, which has a 59% probability of generating a $M \geq 6.7$ earthquake in the next 30 years. This compares with 21% for the northern San Andreas fault. The Bay Area Hayward–Rodgers Creek fault has a 31% probability of generating a $M \geq 6.7$ earthquake in the next 30 years.

Thirty-Year Probability of M≥ 6.7 Events on the Type A Vaults and the Four Faults Considered by WGCEP (2003) as Type B				
Type	Fault	WGCEP (2007) Mean (Min-Man)	WGCEP (2003) Mean (2.5% & 97.5%)	WGCEP (1995) Mean
Type A	Southern San Andreas	59% (22-94)		53%
Type A	Hayward-Rodgers Creek	31% (12-67)	27% (10-58)	
Type A	San Jacinto	31% (14-54)		61%
Type A	Northern San Andreas	21% (6-39)	23% (3-27)	
Type A	Elsinore	11% (5-25)		24%
Type A	Calaveras	7% (1-22)	11% (3-27)	
Type A	Garlock	6% (3-12)		
Type B	San Gregorio Connected (San Gregorio)	6% (4-9)	10% (2-28)	
Type B	Green Valley Connected (Concord-Green Valley)	3% (1-6)	4% (0-12)	
Type B	Greenville Connected (Greenville)	3% (2-4)	3% (0-8)	
Type B	Mount Diablo Thrust (Mt. Diablo Thrust)	1% (0-1)	2% (0-8)	
All probabilities have been rounded to the nearest percent. Names in parentheses are those used by WGCEP (2003).				

Geologic Subgrade

Information obtained from the geologic literature, as well as data from the above-described site exploration, indicate the general soil profile at the site consists predominately of loose to very dense clayey sand or firm to hard sandy clay and sandy clay with gravel was encountered. Below these surface soils, weathered Franciscan Complex mélange or serpentinite rock was encountered in some of the borings. Assuming that any loose surface soil and fill material on the site are removed and recompacted as recommended in our Geotechnical Engineering Investigation, the geologic subgrade of the site can be conservatively approximated as "soft soil". A Joyner-Boore Class D subgrade classification is considered appropriate for the soil profile and corresponds with a National Earthquake Hazard Reduction Program (NEHRP) (BSSC, 1994) Site Class D. The site class definition from the 2022 California Building Code and ASCE 7-16, that is most consistent with the site conditions is Site Class D.

Soil Liquefaction

Soil liquefaction is a state of soil particles suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs in soils such as sand in which the strength is purely friction. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic event.

To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Groundwater depth;

2) Soil type;

3) Relative density;

4) Initial confining pressure;

5) Intensity and duration of groundshaking.

The soils and rock encountered within a depth of 34 feet on the project site predominately consist of loose to very dense clayey sand or firm to hard sandy clay and sandy clay with gravel. Very dense, highly to moderately weathered serpentinite rock was encountered at a depth of approximately 14 feet below site grade within Boring No. B-5. The bore was terminated at 34 feet due to auger refusal. Groundwater was encountered at depths of 5 to 13 feet below existing site grade in the borings drilled along the western edge of the site. No groundwater was encountered within Boring No. B-5. Groundwater data was available within the vicinity of the site, but groundwater depth on the lower elevation west side of the site sits around 5 feet.

The potential for soil liquefaction during a seismic event was evaluated using the LIQUEFYPRO computer program (Version 5.9d) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 7.86 was used. A peak horizontal ground surface acceleration of 0.728g was considered conservative and appropriate for the liquefaction analysis. A groundwater depth of 5 feet was used for the analysis. The analysis indicates that soils above a depth of 5 feet are non-liquefiable due to the absence of groundwater. The soils below a depth of 5 feet are considered to be slightly liquefiable with factors of safety ranging from 2.33 to 5.0. The analysis indicates that the total and differential seismic induced settlement is not anticipated to exceed ¼ inch and ⅛ inch, respectively. Accordingly, the liquefaction potential at the site is considered low and measures to mitigate the liquefaction potential should consider the anticipated settlements in the project design.

Seismic Settlement

One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. The estimated seismic settlement was determined at the site using the settlement analysis method by Modified Stark/Olsen (1987). The results of the settlement analysis are included as follows:

	Seismic Settlement (inches)				
Location	**Saturated Settlement**	**Unsaturated Settlement**	**Total Settlement**	**Range of Differential Settlement**	**Design for Differential Settlement**
B-5	0.00	0.01	0.01	0 to ⅓	⅓ Inch in 100 Feet

The above settlement values were determined at a specific boring location. The consolidated settlement (under static load of specific structures) and differential settlement (per specified length in building area) are indicated in the Foundations section of this report. However, the project's Structural Engineer should consider the estimated settlements when designing the foundations for the proposed structures.

The native soils within the project site are not conducive to hydrocollapse due to the relatively low void-ratio and shallow ground water. Any loose fill material at the site could be vulnerable to hydrocollapse. However, the proposed structure is planned to be supported on conventional footings or driller piers. Therefore, the structure will not be vulnerable to significant hydrocollapse. In addition, this hazard can be mitigated by following the design and construction recommendations of current and future Geotechnical Engineering Investigations (over-excavation and rework of any loose soils and/or uncertified fill materials).

Pickleweed Inlet or Arroyo Corte Madera Del Presidio Creek lies approximately 500 feet west of the property line of the project area. The potential for lateral spreading was evaluated using the "Revised Multilinear Regression Equations for Predication of Lateral Spread Displacement" by Youd, Hansen, Corbett and Bartlett (2002). Based on a lack of shallow liquefiable soils within the subject site and the distance of proposed structures from the existing creek, the structures are not likely subject to lateral spreading hazards.

Subsidence Due to Fluid Withdrawal

Portions of California, such as the San Joaquin Valley, have been subject to land subsidence due to fluid withdrawal (groundwater and petroleum). However, the area of the subject site is not known to be subject to such subsidence hazards.

Expansive Soils

The surface and near surface soils observed on the site consist of predominately clayey sand, sandy clay, and clayey sand with gravel. The clayey soils are considered to be moderately expansive. Therefore, it is recommended that mitigation measures to reduce the potential problems associated with expansive soils be followed as indicated in the Site Preparation section of this report. In addition, it is recommended that mitigation measures to reduce the potential problems associated with expansive soils be included, as needed, in subsequent Geotechnical Engineering Investigation Report(s) for specific development and redevelopment projects at the subject site. We would not expect the expansive nature of these clayey soils to present a significant geologic hazard to the site provided that the recommendations of this report and future Geotechnical Engineering Investigation(s) are followed.

Inundation Hazards

A review of Federal Emergency Management Agency (FEMA) Flood Insurance Mapping for the area of the subject site (Community Panel Number 06041C0469F) indicates that the subject site is within "Zone X", "Areas determined to be outside the 0.2% annual chance floodplain." (refer to Flood Map, Figure 13).

A review of the California Department of Water Resources, Dam Inundation Map 2017, for the area of the subject site indicates the project area is not located within an "Inundation Area". (Figure 14)

Tsunamis and Seiches

A tsunami is a series of ocean waves generated in the ocean by an impulsive disturbance. Due to the site elevation approximately 19 feet above mean sea level and moderate upslope relief of the site, tsunamis are not considered a threat to the site (California Department of Conservation, Marin County Tsunami Hazard Areas, 2020-2022). The map does show that just west across Hamilton Drive a tsunami hazard is possible threat though. Seiches are standing waves in a body of water such as a lake or reservoir. The site is located greater than 500 feet from the closest body of water so seiches are not anticipated to affect the subject site.

Slope Stability and Potential for Slope Failure

The site is located on an area with moderate sloping hillsides. The surrounding land to the west of the site is relatively level and is utilized as a park with ball fields. However, the ground slopes upward from approximately mid site and to the northeast. East of the site, Roque Moraes Drive, Keats Drive, and a residential development are terraced upward into a hill with the uppermost elevation being around 240 feet. Approximately ⅓ of southwestern area of the site is sloping roughly 1 to 2° to the east mainly within the asphaltic concrete parking area. The remaining northern and eastern ⅔ of the site has moderately upsloping hillsides. The slope steepens upward from the relatively flat parking area and mid site, the site slopes between 3 to 25°. Along the northeastern edge of the site, an increase in slope occurs and up to 45 to 50° southwesterly facing slope exist. The total relief across the site is around 60 feet. Roque Moraes Drive is located along this northeastern edge of the site. This road slopes from an upper elevation of 80 feet from the southeast down to an approximate elevation of 20 feet northwest at the intersection with Hamilton Drive. The slope is covered with a sparse to moderate weed and grass growth, and several small to large trees are scattered across the site. The surface soils along the slope appeared to consist of relatively loose clayey sand and sandy clay with varying amounts of gravel. No significant slope failures were noted during our site visits, but evidence of prior cut and grading is visible in the southeastern slope of the site. Minor slope instability, predominately related to erosion, was observed at various locations throughout the slope. However, no significant slope failures were noted during our site visits.

It should be noted that concrete flatwork, located within 10 feet from the edge of the slope is subject to soil creep and may experience cracking and movement.

It is recommended that any modifications to the slope or any proposed cut and fill slopes be constructed to 2:1 (horizontal to vertical). In lieu of those slopes, a retaining wall may be used. Cut and fill slopes for the building pad should not exceed 2:1 (horizontal to vertical). Cut and fill slopes may be revised as recommended by the Soils Engineer upon review of a more definite site plan.

Slopes can be reconstructed by placement of Engineered Fill utilizing a keying and benching procedure as described below. Reconstructed slopes should be constructed at an inclination not exceeding 2:1 (horizontal to vertical). Krazan and Associates, Inc. should be retained to review all slope reconstruction plans and specifications prior to initiating the repair work.

General site clearing should include removal of vegetation, any loose and/or saturated materials. Excavations or depressions extending below subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill, placed and recompacted in accordance with the recommendations stated herein.

Where fills greater than 8 feet are to be constructed on original ground that slopes at inclinations steeper than 6:1 (horizontal to vertical), benches should be cut into the existing slope as the filling operations proceed. Each bench should consist of a level terrace a minimum of 10 feet wide, with the rise to the next bench held to 4 feet or less. Where fills of comparable height will be constructed on ground that slopes at an inclination steeper than 4:1 (horizontal to vertical), a keyway should be provided in addition to the benches. Each keyway should consist of a level trench at least 10 feet wide and at least 2 feet deep, with side slopes not exceeding 1:1 (horizontal to vertical), cut into the existing slope. Where fills of comparable height will be constructed on ground that slopes at an inclination steeper than 2:1 (horizontal to vertical), geotextile fabric and retaining structures should be utilized in slope construction where subsequent specific building site investigations warrant.

Site grading near the crowns of the reconstructed slopes should be accomplished such that excessive sheet run-off is prevented.

The completed slopes should be seeded or otherwise vegetated to protect from future erosion. Well vegetated slopes at the recommended configuration should be reasonably protected from typical erosional effects. However, vegetated slopes may not be protected from unusual flow conditions, such as flood events or over-topping of the development's storm drainage system. If erosion control from unusual flow conditions is desired, more substantial erosion protection measures, such as grouted cobble slope facing or manufactured slope protection products should be considered.

Naturally Occurring Asbestos

The subject site is located within a geologic area known to contain a group of silicate minerals that occur as asbestiform fibers or naturally-occurring asbestos (NOA). Asbestos is a known carcinogen and inhalation of asbestos may result in the development of lung cancer or mesothelioma. Asbestos is a naturally-occurring mineral that is commonly found in serpentinites, ultramafic rocks and some mafic rocks, which exist primarily within the northern two-thirds of the State of California.

Volcanic Hazards

The subject site is not within an area known to be affected by volcanic hazards (Miller, 1989, USGS Bulletin, 1847).

County Seismic Safety Element

Documentation and mapping included in the Natural Hazards section of the Marin County Multijurisdictional Local Hazard Mitigation Plan Annex dated 2021, and the Safety section of the City of Mill Valley General Plan referenced documents generally indicate that the site area is subject to relatively moderate to high seismicity and related hazards.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 5 borings to depths ranging from 10 to 34 feet below existing site grade, using a truck-mounted drill rig. Borings No. B-4 and B-5, were terminated due to auger refusal in Franciscan Complex mélange or weathered serpentinite rock. In addition, 1 bulk subgrade sample was obtained from the site for laboratory R-value testing. The approximate boring and bulk sample locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, consolidation potential, expansion potential, plasticity, R-value and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered are typical of those found in the geologic region of the site. In general, the upper soils consisted of approximately 6 to 12 inches of very loose clayey sand or sandy clay. These soils are disturbed, have low strength characteristics and are highly compressible when saturated.

Below the loose surface soils, approximately 2 to 3 feet of loose clayey sand or firm to very stiff sandy clay was encountered. Field and laboratory tests suggest that these soils are moderately strong, slightly compressible and have a moderate expansion potential. Penetration resistance ranged from 11 to 28 blows per foot. Dry densities ranged from 98 to 111 pcf. Representative soil samples consolidated approximately 2½ to 3½ percent under a 2 ksf load when saturated. A representative soil sample had an expansion index of 70.

Below approximately 3 to 4 feet, layers of predominately medium dense to very dense clayey sand or stiff to hard sandy clay and sandy clay with gravel were encountered. Field and laboratory tests suggest that these soils are moderately and slightly compressible. Penetration resistance ranged from 12 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 95 to 120 pcf.

Below approximately 9 to 14 feet, Franciscan Complex mélange or weathered serpentinite rock was encountered within Borings No. B-4 and B-5 along the northern and eastern half of the site. This weathered rock was moderately strong and extended to the auger refusal depth of 34 feet in our deep Boring B-5.

For additional information about the soils encountered, please refer to the logs of borings in Appendix A.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was encountered at depths of 5 to 13 feet below existing site grade in the borings drilled along the western edge of the site.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions with the exception of the loose surface soils, expansive nature of the on-site clayey soils, moderate slopes, and existing development, appears to be conducive to development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated. Accordingly, it is recommended that the surface soils be recompacted. The intent is to stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Fill material was not encountered in our borings. However, fill may be present between and beyond our boring locations. The extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils which have not been properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. It is anticipated the fill material will be suitable for reuse as Engineered Fill, provided it is cleansed of excessive organics and debris. However, supplemental testing would be required for re-use as non-expansive Engineered Fill.

The on-site upper soils consisted of clayey sand and sandy clay. These clayey soils have a moderate swell potential. The estimated swell pressures of the clayey soils may cause minor movement effecting slabs and possible stucco or similar brittle exterior finishes. To reduce potential soil movement, it is

recommended the upper 24 inches of soil within slab-on-grade and exterior flatwork areas consist of non-expansive Engineered Fill. During construction, it is recommended that additional tests should be performed on the on-site soils to verify their physical and index properties. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soil below, which may result in soil swelling. The replacement soils and/or upper 24 inches of Imported Fill soils should meet the specifications as described under the subheading Engineered Fill. The non-expansive replacement soils should be compacted to at least 90 percent of relative compaction based on ASTM Test Method D1557. The exposed native soils in the excavation should not be allowed to dry out and should be kept continually moist, prior to backfilling. In addition, footings and slabs should be nominally reinforced to reduce cracking and vertical off-sets.

As an alternative to the use of non-expansive soils, the upper 24 inches of soil supporting the slab areas can consist of lime-treated clayey soils. The lime-treated soils should be recompacted to a minimum of 90 percent of maximum density. Preliminary application rate of lime should be 5 percent by dry weight. The lime material should be calcium oxide, commonly known as quick-lime. The clayey soils should be at or near optimum moisture during the mixing operations.

A parking lot is located in the southwest portion of the site. In addition, several structures are located in the vicinity of the site. Buried utilities are located along the edges of the site and may extend into the project site. Any buried structures, including utilities or loosely backfilled excavations, encountered during construction should be properly removed and/or relocated and the resulting excavations backfilled with Engineered Fill. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted.

As mentioned earlier, the site is located on sloping ground. It is recommended that any cut and fill slopes be constructed 2:1 (horizontal to vertical) or flatter. In lieu of these slopes, retaining walls may be used. In addition, it is recommended the building be constructed a minimum horizontal distance of 10 feet or ⅓ the slope height away from the edge of the slope, whichever is greater. Cut and fill slopes may be revised as recommended by the Soils Engineer upon review of a more definitive site plan.

Trees are located within the proposed building site. Tree removal operations should include roots greater than 1 inch in diameter. The resulting excavation should be cleaned to firm native ground and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Shallow Franciscan Complex mélange or serpentinite rock was encountered within Borings No. B-4 and B-5 at aproximately 9 to 14 feet. In order to reduce post-construction differential settlement, it is recommended that native soil and rock in areas of proposed structures that are in a soil/rock transition zone be cut a minimum of 2 feet below the proposed bottoms of footings. The excavation should be extended a minimum of 5 feet beyond structural elements. The resulting excavation should be backfilled with Engineered Fill. In lieu of over-excavation, the footings of all connected structures may be embedded a minimum of 1 foot into the native decomposed rock.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavations. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed as conventional spread or continuous footings with an allowable bearing pressure of 2,500 psf for dead-plus-live loads. Conventional footings should have a minimum embedment of 18 inches. In addition, it is recommended that foundations on the downhill side of the building have a minimum setback of 10 feet or ⅓ the height of the downhill slope height, whichever is greater. Alternatively, the foundations can be deepened to meet the required setback. Footing excavations should be inspected by a member of Krazan & Associates, Inc.'s engineering staff prior to placing reinforcing steel.

Groundwater Influence on Structures/Construction

During our recent field investigation groundwater was encountered at approximately 5 to 13 feet below existing site grade. In addition, shallow weathered Franciscan Complex mélange or serpentinite rock is located throughout portions of the site which may result in a perched water condition. Therefore, dewatering and/or waterproofing may be required should structures or excavations extend into the weathered rock. If groundwater is encountered, our firm should be consulted prior to dewatering the site. Installation of a standpipe piezometer is suggested prior to construction should groundwater levels be a concern.

In addition to the groundwater level, if earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

One aspect in the preparation of this property for construction is the determination of areas of possible seasonal springs and the placement of subsurface drainage systems to intercept groundwater away from the planned area of construction. It is recommended that the site be observed by a member of our engineering staff following completion of the site clearing and stripping to evaluate the need for sub-drainage systems. Evaluation should also be performed following completion of rough site grading. This is particularly important for use in evaluating the need for subdrains for pavements. This office should be contacted regarding any future seepage on the property so appropriate mitigation measures can be recommended.

Site Preparation

General site clearing should include removal of vegetation; existing utilities; structures including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum

depth of 2 to 4 inches or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for use as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Fill material was not encountered in our borings. However, fill may be present between and beyond our boring locations. The extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils which have not been properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. It is anticipated the fill material will be suitable for reuse as Engineered Fill, provided it is cleansed of excessive organics and debris. However, supplemental testing would be required for re-use as non-expansive Engineered Fill.

It is recommended that the upper 24 inches of soil within proposed slab-on-grade and adjacent exterior flatwork areas consist of non-expansive or lime-treated Engineered Fill. Alternatively, the upper 24 inches may consist of lime-treated Engineered Fill. The fill placement serves two functions: 1) it provides a uniform amount of soil, which will more evenly distribute the soil pressures and 2) it reduces moisture content fluctuation in the clayey material beneath the building area. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soil below, which may result in soil swelling. Imported Fill should be approved by the Soils Engineer prior to placement. The fill should be placed as specified as Engineered Fill. In addition, it is recommended conventional foundations and slabs be nominally reinforced to reduce cracking and vertical offsets. In addition, it is recommended utility trenches be plugged with concrete, a 3-sack sand/cement slurry or compacted clayey soils where they enter into the building. The plug should be a minimum of 24 inches wide and extend the full depth of the trench.

Any buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. Prior to fill placement, Krazan & Associates, Inc. should inspect the bottom of the excavation to verify no additional removal will be required. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Trees and shrubs are located within the site. Tree and shrub removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be cleaned to firm native ground and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, tree and shrub removal operations, and demolition activities, the exposed subgrade within the proposed building areas should be excavated to a depth of at least 24 inches, worked until uniform and free from large clods, moisture-conditioned to a minimum of 2 percent above optimum

moisture content, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 5 feet beyond structural elements. Prior to fill placement, the exposed subgrade soils should be proofrolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Soft or pliant areas should be excavated to firm native ground.

Following stripping, tree and shrub removal operations, and demolition activities, the exposed subgrade within the proposed exterior flatwork and pavement areas should be excavated to a depth of at least 12 inches, worked until uniform and free from large clods, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Limits of recompaction should extend 2 feet beyond flatwork and pavements. Prior to fill placement, the exposed subgrade soils should be proofrolled and observed by Krazan & Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

The site is located on sloping ground. It is recommended that cut and fill slopes be constructed 2:1 (horizontal to vertical) or flatter. In lieu of these slopes, retaining walls may be used. In addition, it is recommended the building be constructed a minimum horizontal distance of 10 feet or ⅓ the slope height away from the edge of the slope, whichever is greater. Cut and fill slopes may be revised as recommended by the Soils Engineer upon review of a more definitive site plan.

Site grading near slopes and the embankments, including retaining walls and wing walls, should be accomplished such that excessive sheet run-off is prevented. The completed slopes should be seeded or otherwise vegetated to protect against erosion. Well-vegetated slopes, at the recommended configuration, should be reasonably protected from typical erosional effects. However, vegetated slopes may not be protected from unusual slope conditions, such as a flood event. If erosion control from unusual flow conditions is desired, more substantial erosion protection measures, such as grouted cobble slope facing or manufactured slope protection products, should be considered.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Slope Construction/Reconstruction

Slopes can be reconstructed by placement of Engineered Fill utilizing a keying and benching procedure as described below. Reconstructed slopes should be constructed at an inclination not exceeding 2:1 (horizontal to vertical). Krazan and Associates, Inc. should be retained to review all slope reconstruction plans and specifications prior to initiating the repair work.

General site clearing should include removal of vegetation, any loose and/or saturated materials. Excavations or depressions extending below subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill, placed and recompacted in accordance with the recommendations stated herein.

Where fills greater than 8 feet are to be constructed on original ground that slopes at inclinations steeper than 6:1 (horizontal to vertical), benches should be cut into the existing slope as the filling operations proceed. Each bench should consist of a level terrace a minimum of 10 feet wide, with the rise to the next bench held to 4 feet or less. Where fills of comparable height will be constructed on ground that slopes at an inclination steeper than 4:1 (horizontal to vertical), a keyway should be provided in addition to the benches. Each keyway should consist of a level trench at least 10 feet wide and at least 2 feet deep, with side slopes not exceeding 1:1 (horizontal to vertical), cut into the existing slope. Where fills of comparable height will be constructed on ground that slopes at an inclination steeper than 2:1 (horizontal to vertical), geotextile fabric and retaining structures should be utilized in slope construction where subsequent specific building site investigations warrant.

Site grading near the crowns of the reconstructed slopes should be accomplished such that excessive sheet run-off is prevented.

The completed slopes should be seeded or otherwise vegetated to protect from future erosion. Well vegetated slopes at the recommended configuration should be reasonably protected from typical erosional effects. However, vegetated slopes may not be protected from unusual flow conditions, such as flood events or over-topping of the development's storm drainage system. If erosion control from unusual flow conditions is desired, more substantial erosion protection measures, such as grouted cobble slope facing or manufactured slope protection products should be considered.

Slope Protection

Site grading near slopes and the embankments, including retaining walls and wing walls, should be accomplished such that excessive sheet run-off is prevented. The completed slopes should be seeded or otherwise vegetated to protect from erosion. Well-vegetated slopes, at the recommended configuration, should be reasonably protected from typical erosional effects. However, vegetated slopes may not be protected from unusual flow conditions, such as a flood event. If erosion control from unusual flow conditions is desired, more substantial erosion protection measures, such as grouted cobble slope facing or manufactured slope protection products, should be considered.

Within the side of embankments facing water flow, it is recommended that rock rip rap or concrete paving be used to prevent erosion. Rip rap or paving should be inspected regularly, to be sure that they are not dislodged or damaged. Eroded areas should be promptly repaired and reseeded or protected by rip rap or paving. As an alternative to the rip rap or paving, erosion control geotextile material, such as Mirafi 700X or similar, may be installed for erosion control. This geotextile protection system is often used to guard against erosion.

Engineered Fill

The organic-free, on-site soils are predominately clayey sand, sandy clay and sandy clay with gravel. The clayey soils will not be suitable for re-use as non-expansive Engineered Fill. These clayey soils will be suitable for reuse for fill placement within the upper 24 inches of slab-on-grade and adjacent exterior flatwork areas, provided they are lime-treated. The preliminary application rate of lime should be 5 percent by dry weight. The lime material should be calcium oxide, commonly known as quick-lime. The clayey soils should be at or near optimum moisture-condition during mixing operations. Additional testing is recommended to determine the appropriate application rate of lime prior to placement. These clayey soils will be suitable for reuse as General Engineered Fill, provided they are cleansed of excessive organics, debris, and moisture-conditioned to at least 2 percent above optimum moisture. It is recommended that additional testing be performed on the on-site soils and fill material to evaluate the physical and index properties prior to reuse as Engineered Fill.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor since he has complete control of the project site at that time.

Imported Fill material should be predominately non-expansive granular material with a plasticity index less than 10 and an expansion index less than 15. Imported Fill should be free from rocks and lumps greater than 4 inches in diameter. All Imported Fill material should be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to achieve at least 90 percent of the maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2022 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and

exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Grade the site to prevent water/run-off flow over the face of cut and fill slopes. To accomplish this, use asphalt berms, brow ditches, or other measures to intercept and slowly redirect flow. Plant all disturbed areas with erosion-resistant vegetation suited to the area. As an alternative, jute netting or geotextile erosion control mats may be considered for control of erosion. Slopes should be inspected periodically for erosion and repaired immediately if erosion is detected. Where only 1 drainage terrace is necessary, it should be located at mid-height of the slope. Brow ditches and drainage terraces should be cleaned before the start of each rainy season and, if necessary, after each rainstorm.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be minimized; cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Utility trench backfill placed in pavement areas should be compacted to at least 90 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

Sandy and gravelly soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavation. Shoring or sloping back trench sidewalls may be required within these sandy and gravelly soils if the excavation will be deep.

The Contractor is responsible for removing all water-sensitive soils from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations - Conventional

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure may be supported on a shallow foundation system bearing on undisturbed native soils or Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,875 psf
Dead-Plus-Live Load	2,500 psf
Total Load, Including Wind or Seismic Loads	3,325 psf

Conventional footings should have a minimum embedment of 18 inches. In addition, it is recommended that foundations on the downhill side of the building have a minimum setback of 10 feet or ⅓ the height of the downhill slope height, whichever is greater. Alternatively, the foundations can be deepened to meet the required setback. Footings should have a minimum width of 12 inches regardless of load.

The total soil settlement is not expected to exceed 1 inch. Differential soil settlement should be less than ½ inch. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.30 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads.

Foundations - Drilled Piers

The proposed structures can be supported on caissons using an allowable sidewall friction of 400 psf. This value is for dead-plus-live loads. This value may be increased ⅓ for short duration loads, such as wind or seismic. Uplift loads can be resisted by caissons using an allowable sidewall friction of 225 psf of the surface area and the weight of the pier. Caissons should have a minimum embedment depth of 8 feet. The upper 2 feet should be neglected from friction calculations. The total and differential settlement should be less than 1 inch. Most of the settlement is expected to occur as the loads are applied. If drilled piers or caissons will be utilized, no over-excavation of the fill and native soils will be required.

Lateral loads for caissons may be designed using the 2022 CBC flagpole formula with a lateral bearing capacity of 150 psf/ft. This value can be doubled for allowable deflections of up to ½ inch. The lateral loading criteria is based on the assumption that the load application is applied at the ground level and flexible cap conditions apply.

Sandy soils and shallow groundwater were encountered at the site. These sandy soils may be subject to caving during drilling operations. Accordingly, cased caissons may be required.

Floor Slabs and Exterior Flatwork

In areas that will utilize moisture-sensitive floor coverings, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder sheeting underlain by a minimum of 3 inches of compacted, clean, gravel of ¾-inch maximum size. To aid in concrete curing an optional 2 to 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

Slabs-on-grade should be reinforced at a minimum with No. 3 reinforcement bars at 18 inches on-center each way within the floor slabs middle-third. Ultimate design of floor slabs and reinforcement should be performed by the project Structural Engineer.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills. Ultimate design of floor slabs and reinforcement should be performed by the project's Structural Engineer.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 50 pounds per square foot per foot of depth. Walls incapable of this deflection or are fully constrained walls against deflection may be designed for an equivalent fluid at-rest pressure of 70 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls or loads imposed by construction equipment, foundations, or roadways.

Retaining and/or below grade walls should be drained with either perforated pipe encased in free-draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches, should extend upward to within 12 inches of the top of the wall, and should be encapsulated by a geotextile filter fabric, such as Mirafi 140N or equivalent. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic concrete, or other suitable backfill to reduce surface drainage into the wall drain system. The aggregate should conform to Class 2 permeable materials graded in accordance with the CalTrans Standard Specifications (2018). Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

Drainage pipes should be placed with the perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall in the center of the drainage blanket and should have a minimum diameter of 4 inches. Collector pipes may be either slotted of perforated. Slots should be no wider than ⅛-inch in diameter, while perforations should be no more than ¼-inch in diameter. If retaining walls are less than 6 feet high, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete wall) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to the CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep-hole to retard soil piping.

During grading and backfilling operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

R-Value Test Results and Pavement Design

One subgrade soil sample was obtained from the project site for R-value testing at the location shown on the attached site plan. The sample was tested in accordance with the State of California Materials Manual Test Designation 301. Results of the test are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Sandy Clay (CL)	Less than 5

The test results are low and indicate poor subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Class III Aggregate Subbase	Compacted Subgrade**
4.0	2.0"	8.5"	--	12.0"
4.0	2.0"	4.5"	4.5"	12.0"
4.5	3.0"	9.0"	--	12.0"
4.5	3.0"	4.0"	5.5"	12.0"
5.0	3.0"	11.0"	--	12.0"
5.0	3.0"	5.0"	6.5"	12.0"
5.5	3.0"	11.5"	--	12.0"
5.5	3.0"	5.0"	7.0"	12.0"
6.0	3.0"	13.5"	--	12.0"
6.0	3.0"	6.5"	8.0"	12.0"
6.5	3.5"	14.0"	--	12.0"
6.5	3.5"	6.0"	9.0"	12.0"
7.0	4.0"	15.5"	--	12.0"
7.0	4.0"	6.5"	10.0"	12.0"
7.5	4.0"	17.0"	--	12.0"
7.5	4.0"	7.5"	10.5"	12.0"

** 95% compaction based on ASTM Test Method D1557 or CAL 216*
*** 90% compaction based on ASTM Test Method D1557 or CAL 216*

If traffic indices are not available, an estimated (typical value) index of 4.5 may be used for light automobile traffic, and an index of 7.0 may be used for light truck traffic.

The following recommendations are for light-duty and heavy-duty Portland Cement Concrete Pavement Sections based on the design procedures developed by the Portland Cement Association.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	6.0"	5.0"	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	7.0"	6.0"	12.0"

** 95% compaction based on ASTM Test Method D1557 or CAL 216*
*** 90% compaction based on ASTM Test Method D1557 or CAL 216*
****Minimum Compressive Strength of 3000 psi*

It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill material should be moisture-conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As

an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters – 2022 California Building Code

The Site Class per Section 1613 of the 2022 California Building Code (2022 CBC) and ASCE 7-16, Chapter 20 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2022 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.2.2
Site Coefficient F_a	1.200	Table 1613.2.3 (1)
S_s	1.500	Section 1613.2.1
S_{MS}	1.800	Section 1613.2.3
S_{DS}	1.200	Section 1613.2.4
Site Coefficient F_v	1.700	Table 1613.2.3 (2)
S_1	0.600	Section 1613.2.1
S_{M1}	1.020	Section 1613.2.3
S_{D1}	0.680	Section 1613.2.4
T_S	0.567	Section 1613.2

* Based on Equivalent Lateral Force (ELF) Design Procedure being used.

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUD/FHA and CBC. Therefore, no special design requirements are necessary to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in-situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc., should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc., will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (925) 307-1160.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

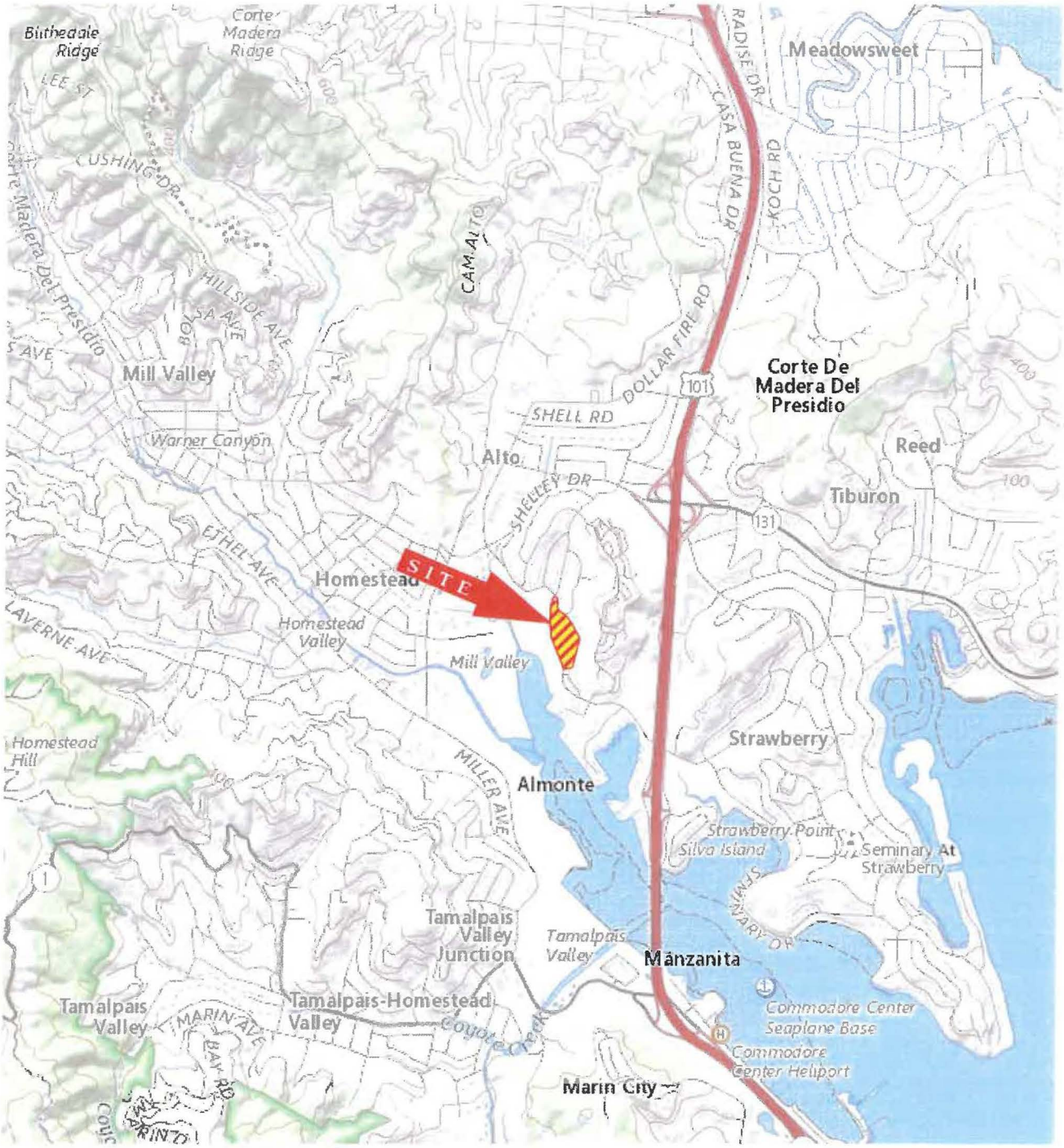


Stephen J. Nelson
Certified Engineering Geologist
CEG No. 2146



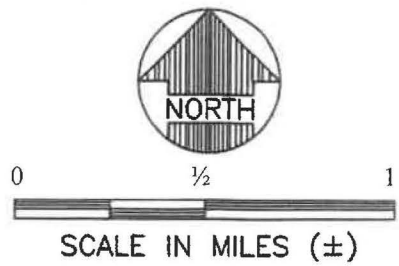
David R. Jarosz, II
Managing Engineer
RGE No. 2698/RCE No. 60185

SJN/DRJ:wa

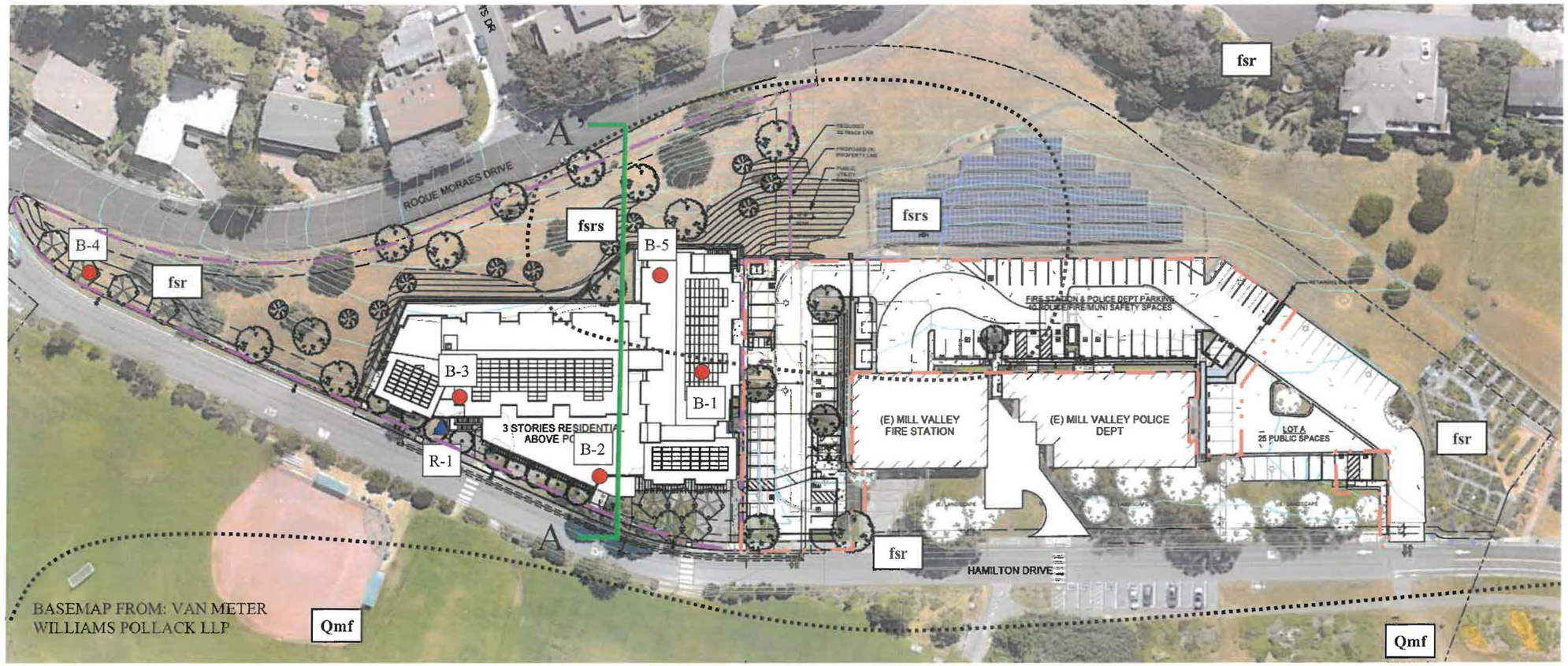


VICINITY MAP

MAP SOURCE:
United States Geological Survey; Topo ZoneMaps;
https://www.topozone.com/California/



GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 1	



Qmf - Artificial fill over marine and marsh deposits (Quaternary)

fsrs -Franciscan Complex- Serpentinite- (Creataceous to Jurassic)

fsr -Franciscan Complex- Mélange (Creataceous to Jurassic)

-Geologic Contact

-Approximate Boring Location

-Approximate R-Value Location

A A' -Cross Section A-A'

-Housing Site - Project Limits

-PSB Site - Project Limits

0' 80'

SITE GEOLOGIC MAP

MULTI-FAMILY RESIDENTIAL DEVELOPMENT
1 Hamilton Drive
Mill Valley, California

Scale: As Shown

Date: August 2023

Project No. 042-22001

Drawn by: WA

Approved by: DJ

Figure No. 2

Krazan
GEOTECHNICAL ENGINEERING

SITE MAP

MULTI-FAMILY RESIDENTIAL DEVELOPMENT
1 Hamilton Drive
Mill Valley, California

Scale:
As Shown

Date:
August 2023

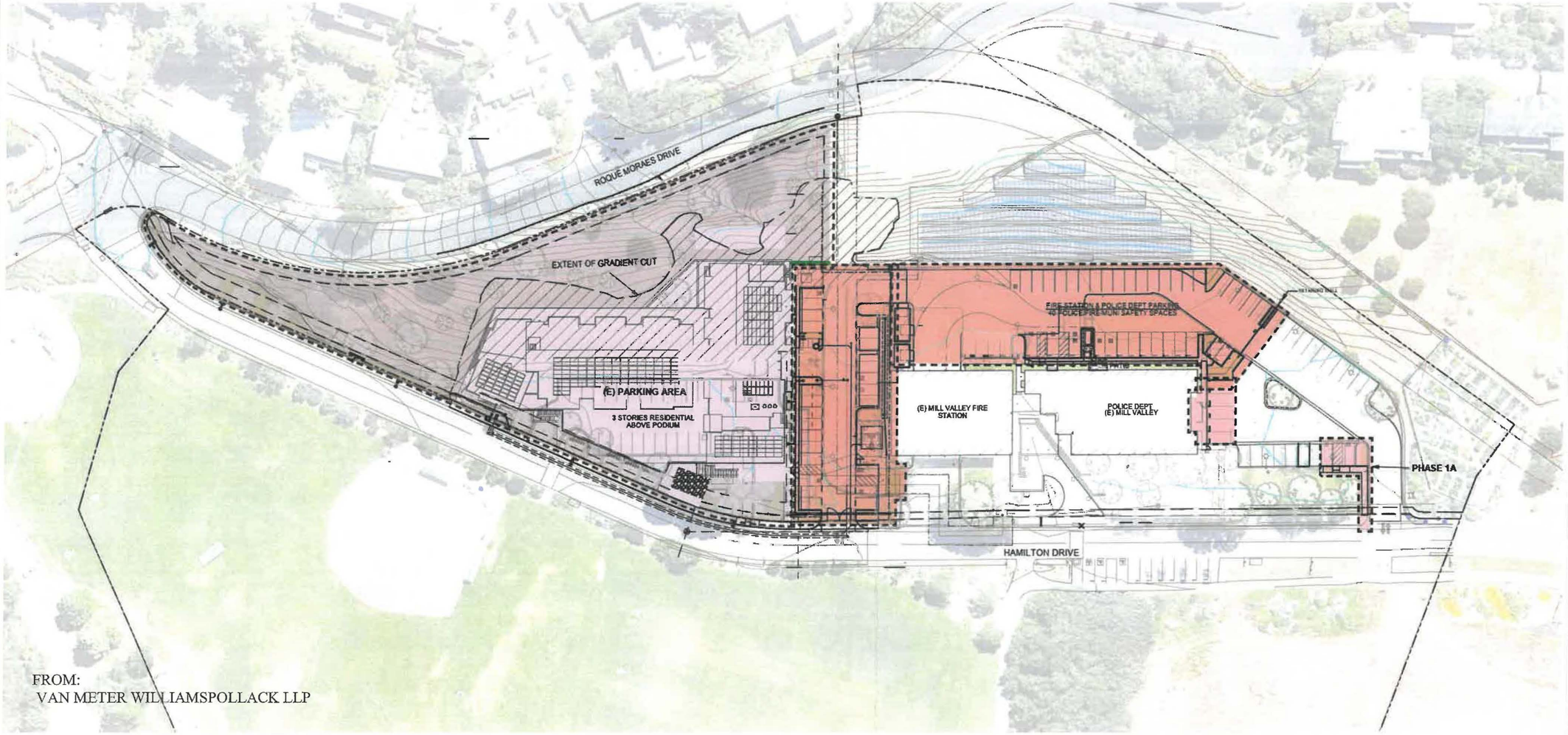
Project No.
042-22001

Drawn by:
WA

Approved by:
DJ

Figure No.
2.1

Krazan
GEOTECHNICAL ENGINEERING



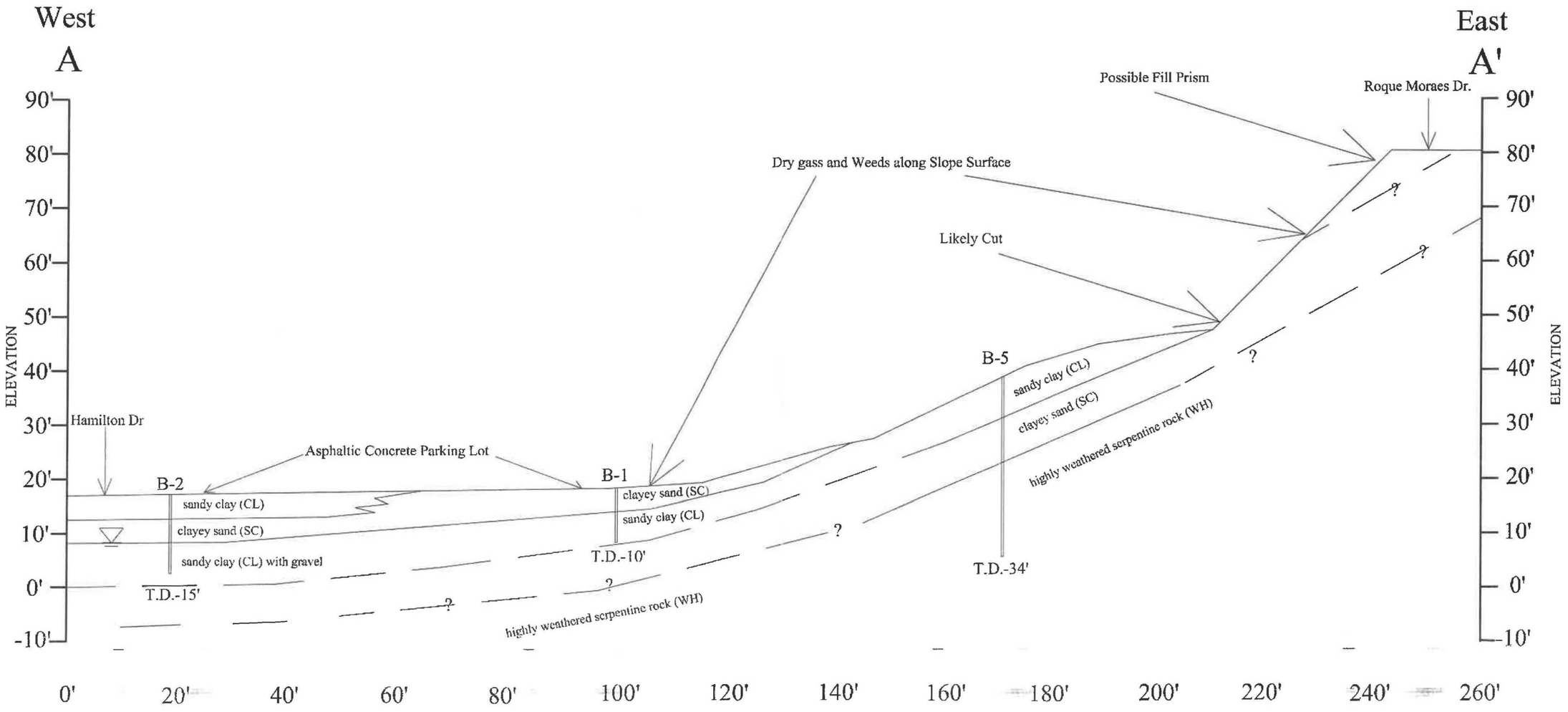
FROM:
VAN METER WILLIAMSPOLLACK LLP

-Housing Site

-PSB Site

0’ **80’**

N E S W



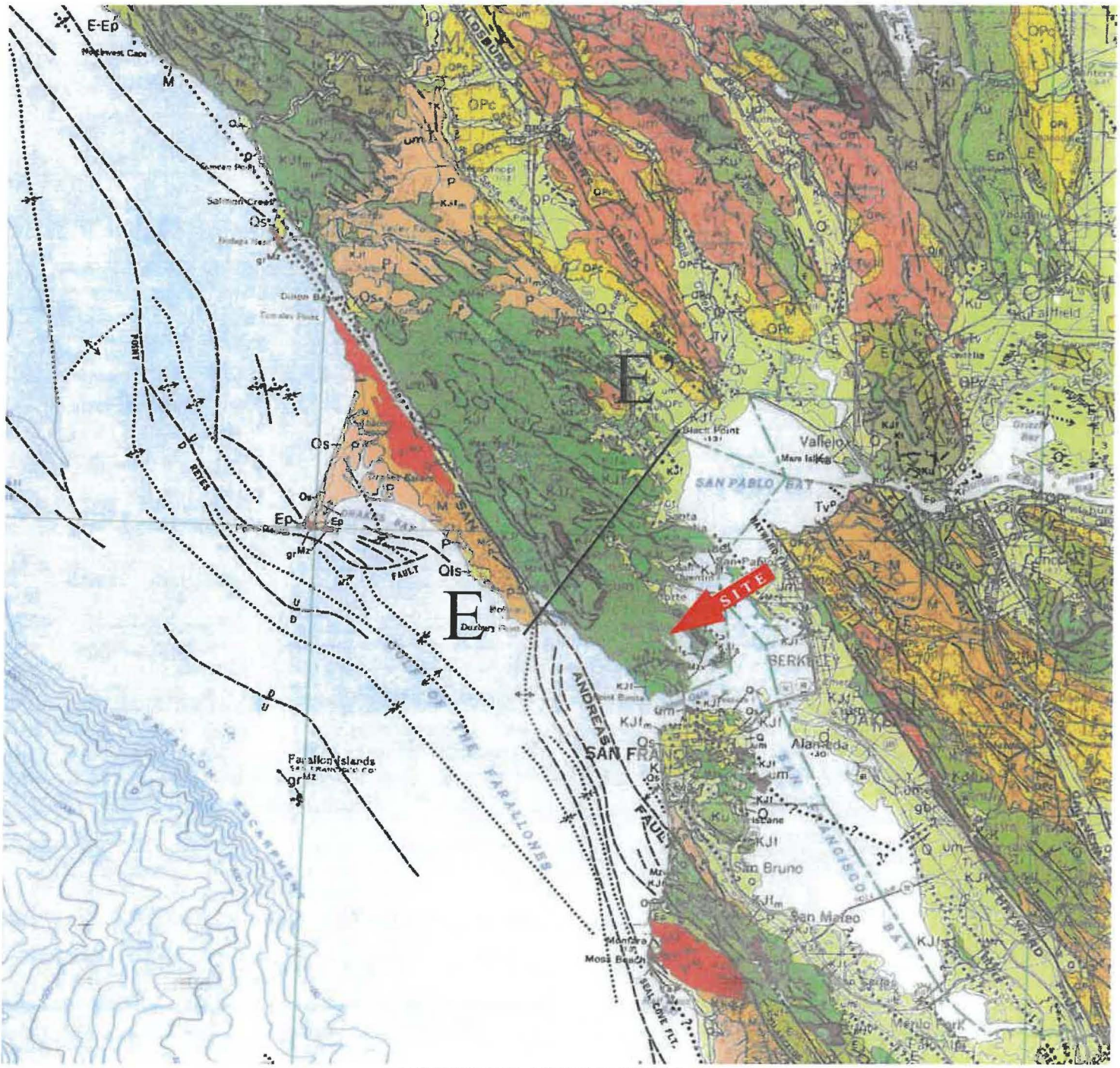
SITE GEOLOGIC CROSS SECTION A-A'

0' 20'

Scale: Vertical and Horizontal the same

GEOTECHNICAL ENGINEERING INVESTIGATION	**Scale:** As Shown	**Date:** August 2023
MULTI-FAMILY RESIDENTIAL DEVELOPMENT **1 Hamilton Drive** **Mill Valley, California**	**Drawn by:** WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 3

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GEOTECHNICAL ENGINEERING



REGIONAL GEOLOGIC MAP

FROM:
GEOLOGIC MAP OF CALIFORNIA QUADRANGLE,
COMPILATION BY CHARLES W. JENNINGS
1977

NORTH

0 12 24

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION
MULTI-FAMILY DEVELOPMENT
1 Hamilton Drive
Mill Valley, California

Scale: As Shown	**Date:** August 2023
Drawn by: WA	**Approved by:** SN
Project No. 042-22001	**Figure No.** 4

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GEOTECHNICAL ENGINEERING

Q -Alluvium, lake, playa, and terrace deposits: unconsolidated and semi unconsolidated marine deposits near the coast (Quaternary)

KJf -Franciscan Complex; sandstone with smaller amounts of shale, chert, limestone, and conglomerate-includes Franciscan mélange (Creataceous and Jurassic)

KJfm -Melange of fragments and sheared Franciscan Complex (Creataceous and Jurassic)

KJfs -Blueschist and semi-schist of Franciscan Complex (Cretaceous and Jurassic)

um -Ultramafic rocks, mostly serpentinite, gabbro, diabase, and peridotite (Cretaceous and Jurassic)

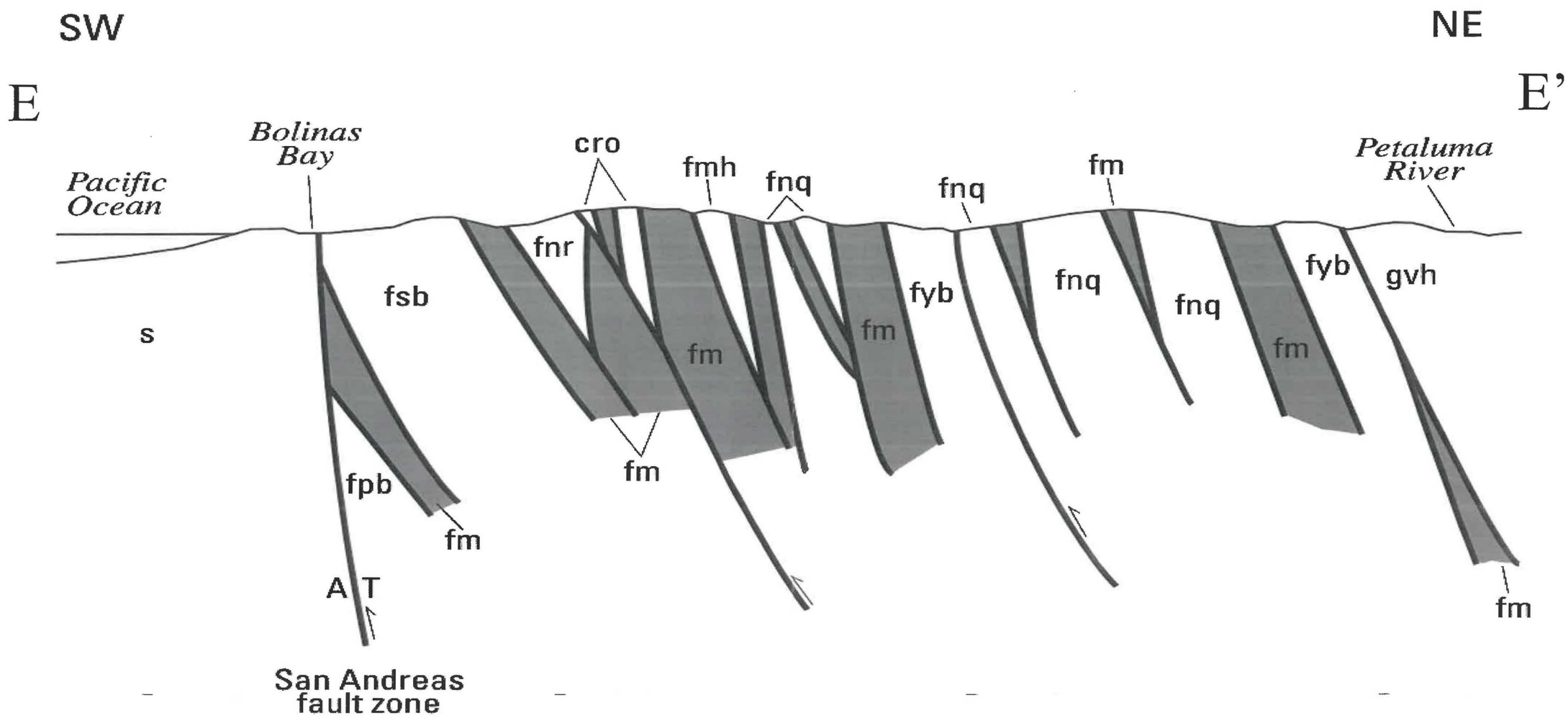
Mzv -Undivided mesozoic volcanic and meta volcanic rocks (Cretaceous and Jurassic)

REGIONAL GEOLOGIC MAP
EXPLANATION
(LOCALIZED)

Cross-section
E E'

FROM:
GEOLOGIC MAP OF CALIFORNIA QUADRANGLE,
COMPILATION BY CHARLES W. JENNINGS
1977

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 4a	



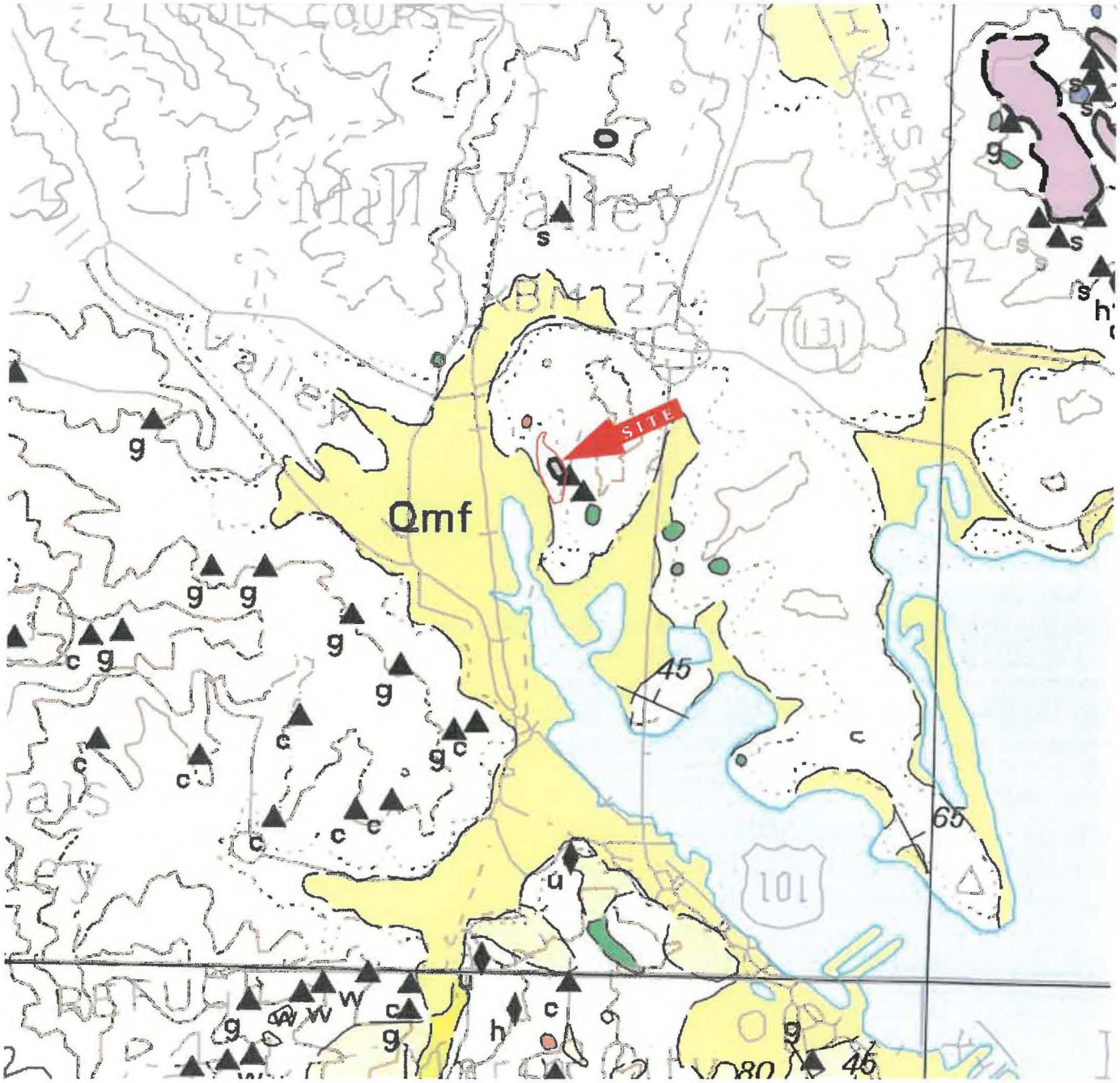
REGIONAL GEOLOGIC CROSS SECTION E-E'

SCALE 1" = 8,800 FEET
HORIZONTAL AND VERTICAL SCALE THE SAME

FROM: GEOLOGIC MAP OF PARTS OF MARIN, SAN FRANCISCO, ALAMEDA, CONTRA COSTA, AND SONOMA COUNTIES, CALIFORNIA.
BY M.C. BLAKEJR., R.W. GRAYMER, AND D.L. JONES
2000

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 5

Krazan
GEOTECHNICAL ENGINEERING



LOCAL GEOLOGIC MAP

FROM:
GEOLOGIC MAP OF PARTS OF MARIN, SAN FRANCISCO, ALAMEDA, CONTRA COSTA, AND SONOMA COUNTIES, CALIFORNIA.
BY M.C. BLAKEJR., R.W. GRAYMER, AND D.L. JONES
2000

NORTH

0 ½ 1

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 6

Krazan
GEOTECHNICAL ENGINEERING

LIST OF MAP UNITS

(See pamphlet for Description of Map Units)

SURFICIAL DEPOSITS

- Qaf — Artificial fill (Quaternary)
- Qmf — Artificial fill over marine and marsh deposits (Quaternary)
- Qs — Beach sand (Quaternary)
- Qd — Dune sand (Quaternary)
- Qm — Marine and marsh deposits (Quaternary)
- Qls — Landslide deposits (Quaternary)
- Qal — Alluvium (Quaternary)
- Qsr — Slope debris and ravine fill (Quaternary)
- Qu — Undifferentiated surficial deposits (Quaternary)
- Qv — Volcanic gravel (Quaternary)
- Qob — Older beach deposits (Quaternary)
- Qoal — Older alluvium (Quaternary)
- Qt — Marine and stream terrace deposits (Quaternary)
- Qmi — Millerton Formation (Quaternary)
- Qc — Colma Formation (Quaternary)

ROCKS WEST OF AND WITHIN THE SAN ANDREAS FAULT ZONE

- QTm — Merced Formation (early Quaternary and late Pliocene)
- Tsc — Santa Cruz Mudstone (late Miocene)
- Tm — Monterey Shale (late and middle Miocene)

ROCKS EAST OF AND WITHIN THE SAN ANDREAS FAULT ZONE

Tertiary overlap sequence

- Twg — Wilson Grove Formation (Pliocene)
- Tps — Petaluma Formation (Pliocene) Siltstone and claystone member
- Tpc — Gray claystone member
- Tsv — Sonoma Volcanics (Pliocene and Miocene)
- Tsr — Rhyolite lava flows
- Tsri — Rhyolite plugs and dikes
- Tsa — Andesite and basalt lava flows
- Tst — Pumiceous ash flow tuff
- Ts — Sandstone (Miocene)

Franciscan Complex

- Kfs — Sandstone and shale (Cretaceous)
- Kfss — Massive sandstone (Cretaceous)
- Kfsh — Thin-bedded sandstone and shale (Cretaceous)
- Kfl — Limestone and chert (Cretaceous)
- Kfg — Greenstone (Cretaceous)
- Kfch — Chert (Cretaceous)
- Kfgwy — Graywacke (Cretaceous)
- Kfdb — Diabase (Cretaceous)
- Kfm — Metamorphic rocks (Cretaceous and Jurassic)
- KJfch — Chert (Cretaceous and Jurassic)
- KJfgc — Greenstone and chert (Cretaceous and Jurassic)
- Jfg — Greenstone (Jurassic)
- Jfmgs — Metagreenstone (Jurassic)
- Jfmch — Metachert (Jurassic)
- Jfmgc — Metagreenstone and metachert (Jurassic)
- Jfgs — Greenstone (Jurassic)
- Jfm — Metamorphic rocks (Jurassic)
- Jspm — Massive serpentinite (Jurassic)
- sp — Serpentinite (Jurassic)
- — Silica-carbonate rock (Jurassic)
- fsr — Mélange

Great Valley Complex

- KJgv — Undivided Great Valley complex shale, sandstone, and conglomerate (Cretaceous and (or) Jurassic)
- Kgvcg — Novato Conglomerate (Cretaceous)
- KJgvs — Sandstone and claystone (Cretaceous and (or) Jurassic)
- sp — Serpentinite (Jurassic)
- — Silica-carbonate rock (Jurassic)

- Contact — Depositional or intrusive contact, dashed where approximately located, dotted where concealed, queried where uncertain
- Fault — Dashed where approximately located, small dashes where inferred, dotted where concealed, queried where location is uncertain, x indicates an active fault. Arrow and number show fault dip where measured
- Thrust fault — Sawteeth on upper plate, dashed where approximately located, small dashes where inferred, dotted where concealed, queried where location is uncertain
- Normal fault — Ticks on upper plate, dashed where approximately located, small dashes where inferred, dotted where concealed, queried where location is uncertain
- Strike and dip of bedding
- Strike and dip of bedding, top indicator observed
- Approximate strike and dip of bedding
- Overturned bedding
- Vertical bedding
- Strike and dip of foliation
- Vertical foliation
- Approximate strike and dip of pillow lava
- Regions of hydrothermal alteration
- High-grade mélange block — Letter code for rock type (u = Jfmgs, r = Jfmch, h = Jfmg)
- Low-grade mélange block — Letter code for rock type (s = sp, c = KJfch, g = Jfgs, w = Kfgwy, n = sl)

LOCAL GEOLOGIC MAP AND REGIONAL CROSS-SECTION E-E' EXPLAINATION

FROM:
GEOLOGIC MAP OF PARTS OF MARIN, SAN FRANCISCO, ALAMEDA, CONTRA COSTA, AND SONOMA COUNTIES, CALIFORNIA.
BY M.C. BLAKEJR., R.W. GRAYMER, AND D.L. JONES
2000

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 6a	



NOTES:

FAULT ACTIVITY MAP

PREPARED FROM THE C.G.S. "FAULT ACTIVITIY MAP OF CALIFORNIA" JENNINGS AND BRYANT, 2010

FAULT TRACES ON LAND ARE INDICATED BY SOLID LINES WHERE WELL LOCATED, BY DASHED LINES WHERE CONCEALED BY YOUNGER ROCKS OR BY LAKES OR BAYS. FAULT TRACES ARE QUERIED WHERE CONTINUATION OR EXISTENCE IS UNCERTAIN.

NORTH

0 3½ 7

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 7

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GEOTECHNICAL ENGINEERING

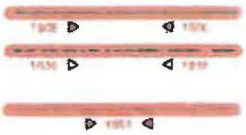


Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

(a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.

(b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.

(c) displaced survey lines.



A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

No triangle by date indicates an intermediate point along fault break.



Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.



Square on fault indicates where fault creep slippage has occured that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).



Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.



Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.



Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

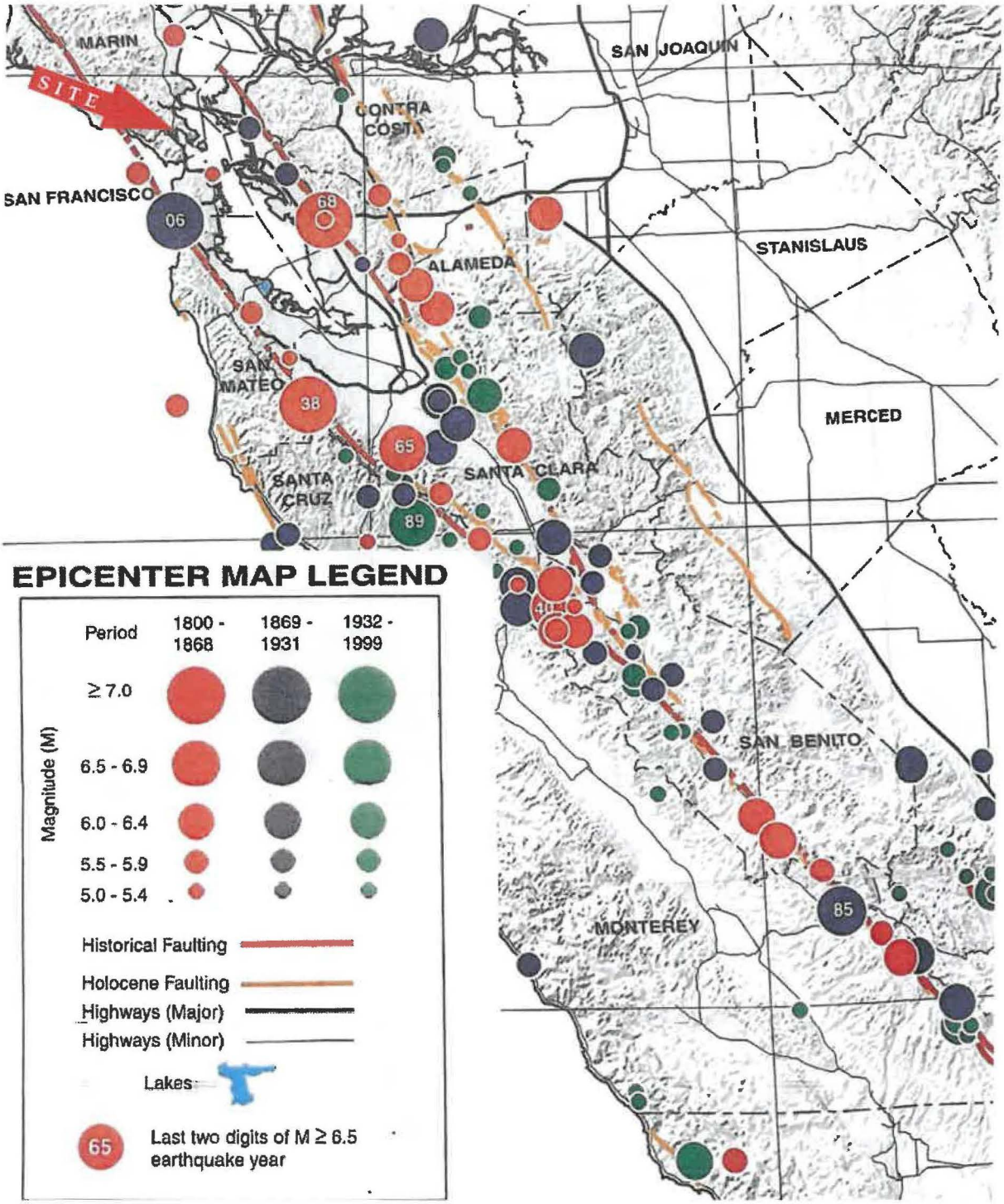
NOTES:

PREPARED FROM THE C.G.S. "FAULT ACTIVITY MAP OF CALIFORNIA" JENNINGS AND BRYANT, 2010

FAULT TRACES ON LAND ARE INDICATED BY SOLID LINES WHERE WELL LOCATED, BY DASHED LINES WHERE CONCEALED BY YOUNGER ROCKS OR BY LAKES OR BAYS. FAULT TRACES ARE QUERIED WHERE CONTINUATION OR EXISTENCE IS UNCERTAIN.

FAULT ACTIVITY MAP
EXPLANATION

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 7a	



MAP SOURCE:
CGS MAP SHEET 49
EPICENTERS OF AND AREAS
DAMAGED BY M > 5 CALIFORNIA
EARTHQUAKES, 1800-1999
BY TOPPOZADA, BRANUM, PETERSEN,
HALLSTROM, CRAMER & REICHLE, 2000

EPICENTER MAP

NORTH

0 23 46

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 8

Krazan
GEOTECHNICAL ENGINEERING



AERIAL PHOTO

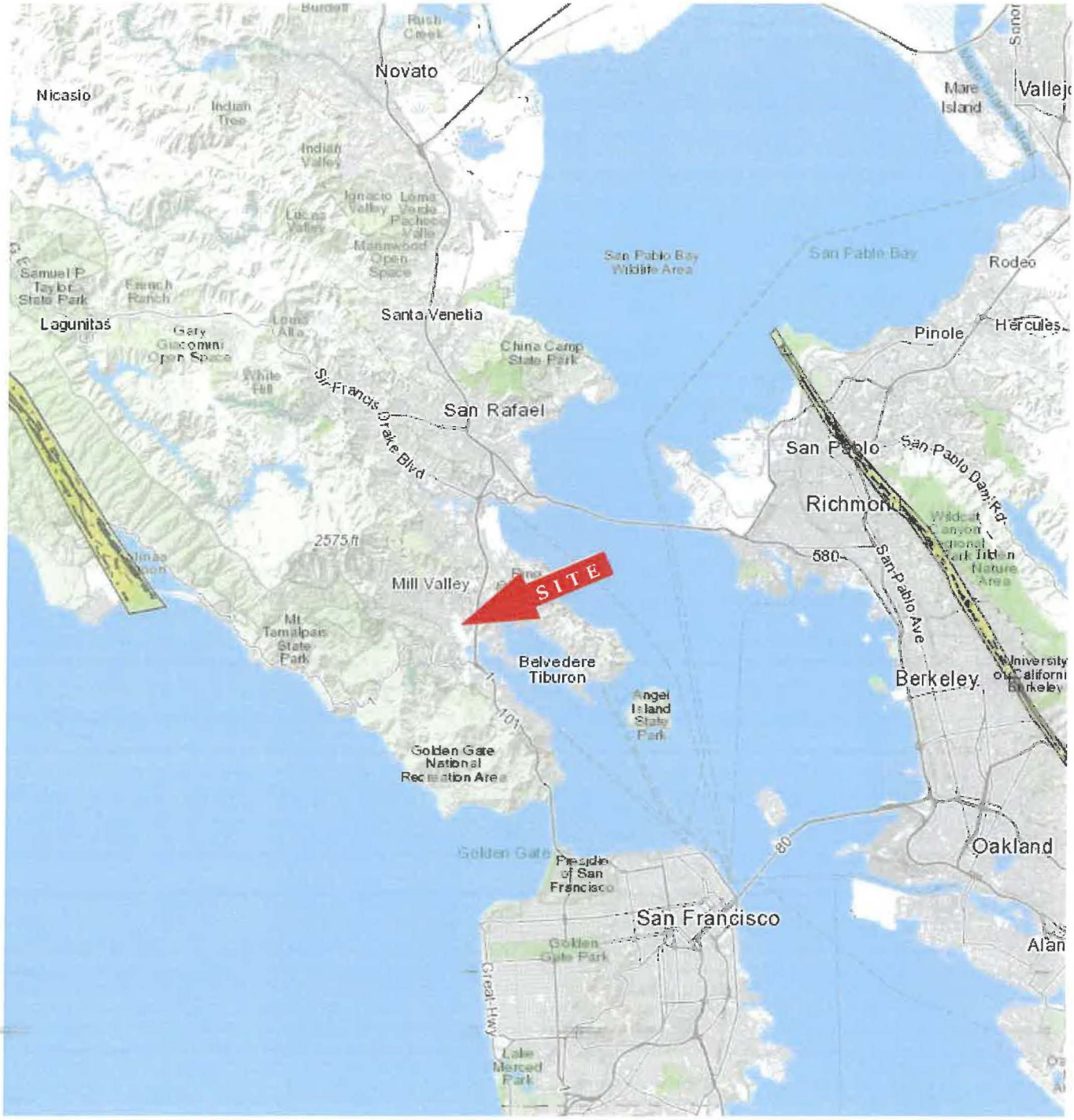
FROM:
GOOGLE EARTH PRO, 2023

NORTH

0' 160' 320'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 9	



EARTHQUAKE ZONES OF
REQUIRED INVESTIGATION
(FAULTS)

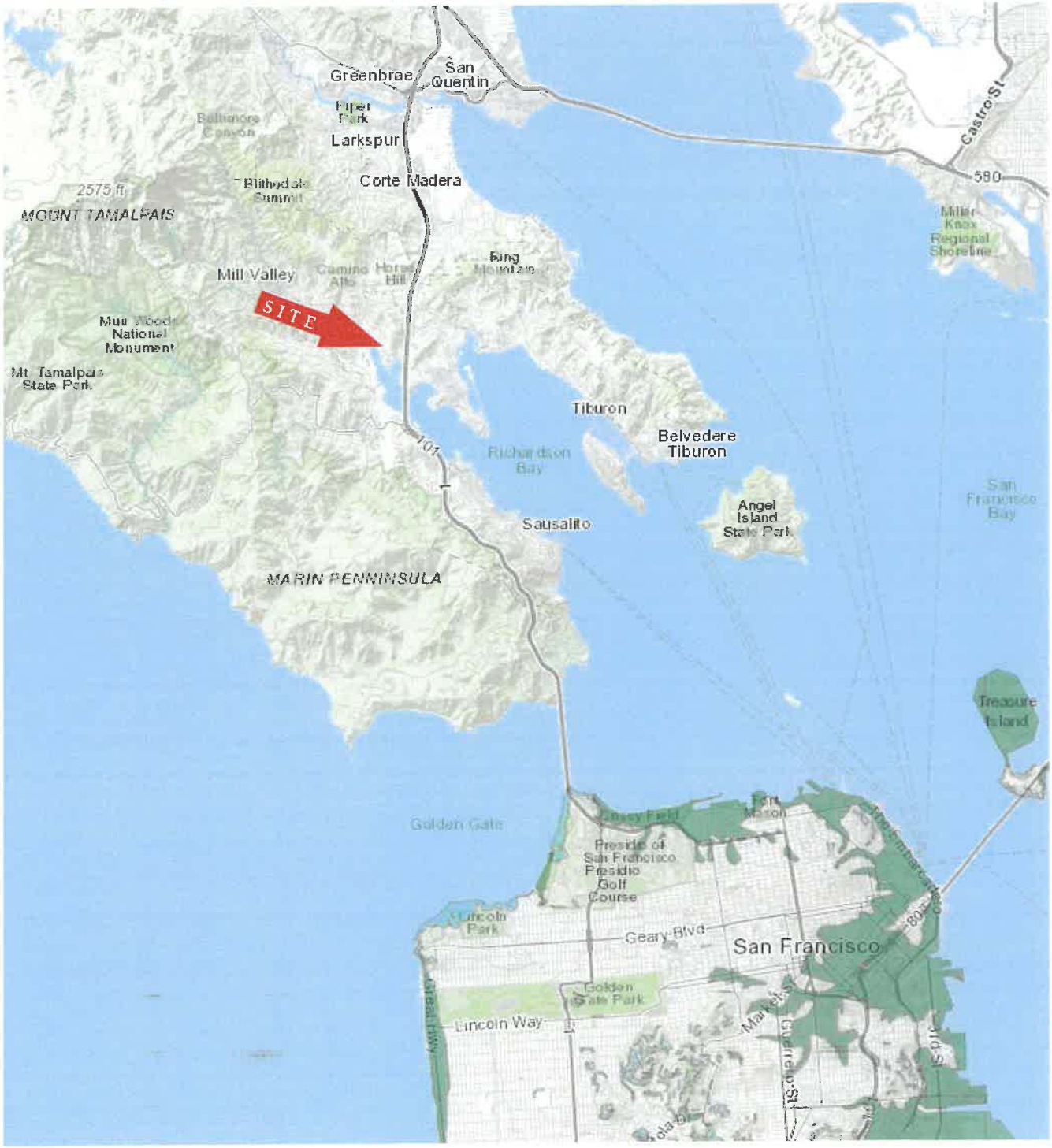
MAP SOURCE:
Earthquake Fault Zones and Seismic Hazard Zones. San Mateo Quadrangle
By John Parrish, PHD., State Geologist, 2003

NORTH

0 4 8

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 10	



EARTHQUAKE ZONES OF REQUIRED INVESTIGATION (LIQUEFACTION)

MAP SOURCE:

Earthquake Fault Zones and Seismic Hazard Zones. San Rafael Quadrangle
By John Parrish, PHD., State Geologist, 2003

NORTH

0 2 4

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 11

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Earthquake Zones of Required Investigation

This Map Shows Both Alquist-Priolo Earthquake Fault Zones And Seismic Hazard Zones Issued For The San Rafael Quadrangle

This map shows the location of Alquist-Priolo (AP) Earthquake Fault Zones and Seismic Hazard Zones, collectively referred to here as Earthquake Zones of Required Investigation. The Geographic Information System (GIS) digital files of these regulatory zones released by the California Geological Survey (CGS) are the "Official Maps." GIS files are available at the CGS website http://maps.conservation.ca.gov/cgs/informationwarehouse/. These zones will assist cities and counties in fulfilling their responsibilities for protecting the public from the effects of surface fault rupture and earthquake-triggered ground failure as required by the AP Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630) and the Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6). For information regarding the general approach and recommended methods for preparing these zones, see CGS Special Publication 42, *Earthquake Fault Zones, a Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California*, Appendix C, and CGS Special Publication 118, *Recommended Criteria for Delineating Seismic Hazard Zones in California*.

For information regarding the scope and recommended methods to be used in conducting required site investigations refer to CGS Special Publication 42, and CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*. For a general description of the AP and Seismic Hazards Mapping acts, the zonation programs, and related information, please refer to the website at www.conservation.ca.gov/cgs/

MAP EXPLANATION

EARTHQUAKE FAULT ZONES

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.



Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

SEISMIC HAZARD ZONES



Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.



Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

OVERLAPPING EARTHQUAKE FAULT AND SEISMIC HAZARD ZONES



Overlap of Earthquake Fault Zone and Liquefaction Zone
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone.



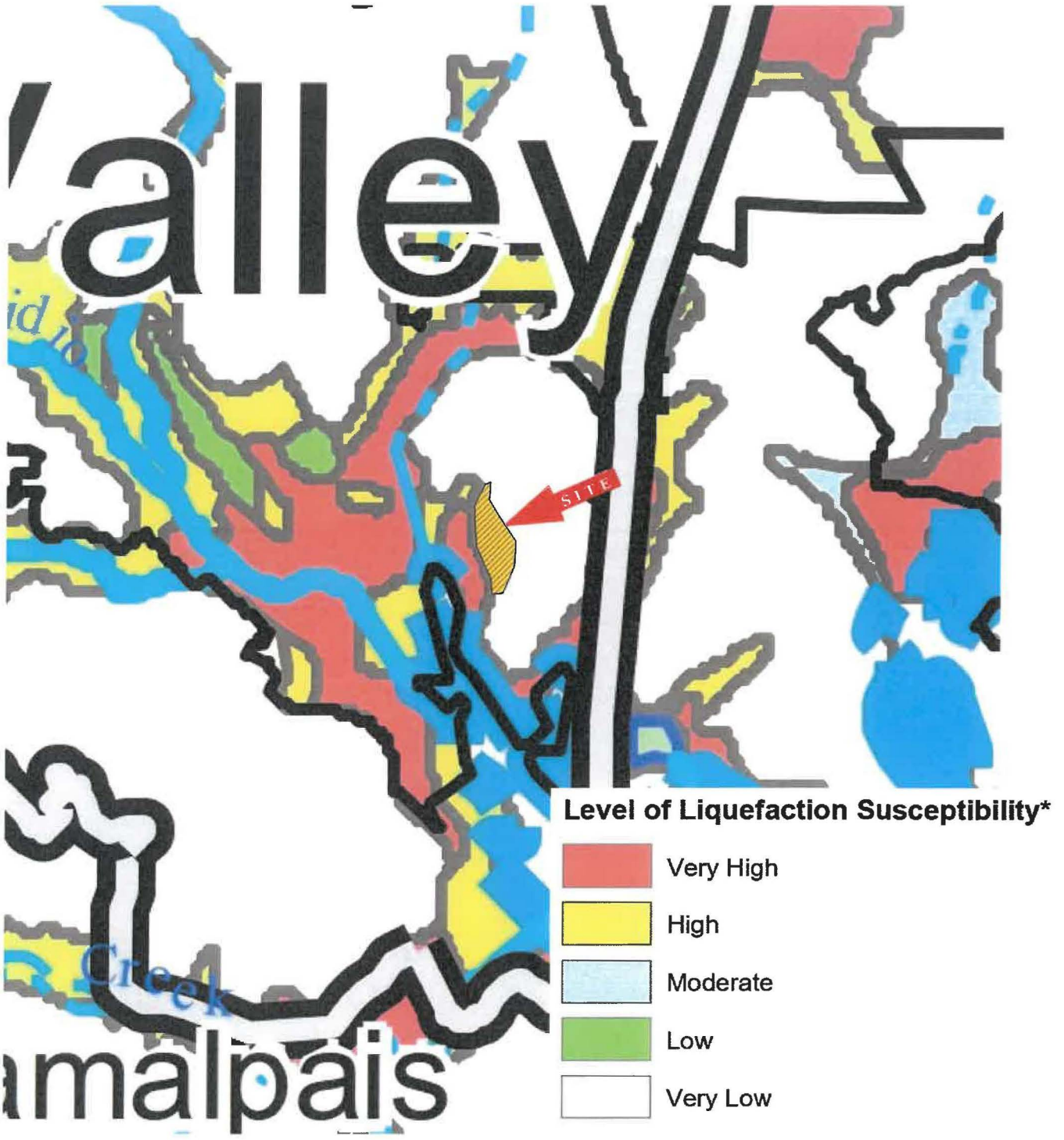
Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone.

Note: Mitigation methods differ for each zone – AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance.

EARTHQUAKE ZONES OF
REQUIRED INVESTIGATION
EXPLANATION

MAP SOURCE:
Earthquake Fault
Zones and Seismic Hazard Zones. San Rafael Quadrangle
By John Parrish, PHD., State Geologist, 2003

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 11a	



MARIN COUNTY
LIQUEFACTION MAP
(SITE LIES JUST TO EAST AND OUTSIDE OF VERY HIGH LIQUEFACTION SUSCEPTIBILITY)

MAP SOURCE:

SOURCE: Knudson, K. L., Sowers, J. M., Witter, R. C., Wentworth, C. M., and Helley, E. J., Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California: A Digital Database, Open-File Report 00-44, Online Version 1.0, U.S. Geological Survey, 2000.

NORTH

0 ½ 1

SCALE IN MILES (±)

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 12	



NOTE:

ALL OF FEMA FLOOD INSURANCE MAP IS SHOWN WITHIN "ZONE X" UNLESS OTHERWISE NOTED. EFFECTIVE 2019

FLOOD MAP

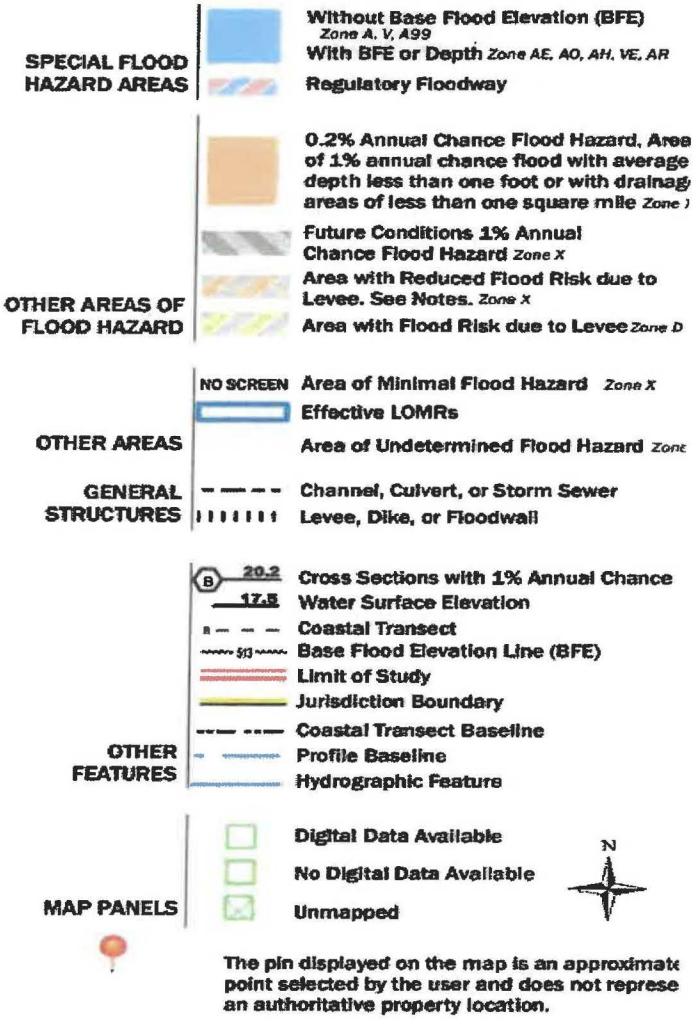
NORTH

0' 200' 400'

SCALE IN FEET (±)

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023
	Drawn by: WA	**Approved by:** SN
	Project No. 042-22001	**Figure No.** 13

Krazan
GEOTECHNICAL ENGINEERING



FLOOD MAP EXPLANATION

NOTE:

ALL OF FEMA FLOOD INSURANCE MAP IS SHOWN WITHIN "ZONE X" UNLESS OTHERWISE NOTED. EFFECTIVE 2019

GEOTECHNICAL ENGINEERING INVESTIGATION MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1 Hamilton Drive Mill Valley, California	Scale: As Shown Drawn by: WA Project No. 042-22001	Date: August 2023 Approved by: SN Figure No. 13a

Krazan
GEOTECHNICAL ENGINEERING



INUNDATION BOUNDARY

DAM INUNDATION
(NO DAM INUNDATION CONCERN)

NORTH

0 2 4

SCALE IN MILES (±)

FROM:
California Department of Water Resources, Dam Inundation Map, 2017

GEOTECHNICAL ENGINEERING INVESTIGATION **MULTI-FAMILY RESIDENTIAL DEVELOPMENT** 1 Hamilton Drive Mill Valley, California	**Scale:** As Shown	**Date:** August 2023	Krazan GEOTECHNICAL ENGINEERING
	Drawn by: WA	**Approved by:** SN	
	Project No. 042-22001	**Figure No.** 14	

APPENDIX E

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Appendices A, B, C, and D of the Geologic Engineering/Geologic Hazards Investigation were excluded from Volume II, Appendices of the Draft EIR for brevity purposes. The full appendices are available for viewing at the City's project website: https://www.cityofmillvalley.org/931/Hamilton-Drive.

APPENDIX G

NOISE ANALYSIS CALCULATIONS

Construction Noise Calculations

Construction Phase	Equipment[1]	No. Equipment[1]	Acoustical Usage Factor[2]	Maximum Noise Level @ 50 feet (Lmax)[3,4]	Typical Noise Level @ 50 feet (dBA_1)	Reference Distance (D_1)	Distance to Receptor (D_2)	Ground Absorption Constant (G)	Noise Level at Receptor (dBA_2)	Two Noisiest Equipment
Unit			%	dBA Lmax	dBA Leq	feet	feet	unitless	dBA Leq	dBA Leq
Site Preparation	Graders	1	40	85	81	50	55	0	80	83
	Scrapers	1	40	85	81	50	55	0	80	
	Tractors/Loaders/Backhoes	1	40	80	76	50	55	0	75	
Grading	Graders	1	40	85	81	50	55	0	80	82
	Rubber Tired Dozers	1	20	85	78	50	55	0	77	
	Tractors/Loaders/Backhoes	2	40	80	76	50	55	0	75	
Building Construction	Cranes	1	16	88	80	50	55	0	79	82
	Generator Sets	1	50	82	79	50	55	0	78	
	Tractors/Loaders/Backhoes	1	40	80	76	50	55	0	75	
	Welders	3	40	73	69	50	55	0	68	
Paving	Paving equipment	1	50	85	82	50	55	0	81	84
	Pavers	1	50	85	82	50	55	0	81	
	Rollers	2	20	85	78	50	55	0	77	
	Cement and Mortar Mixers	1	20	76	69	50	55	0	68	
	Tractors/Loaders/Backhoes	1	40	80	76	50	55	0	75	
Architectural Coating	Air Compressors	1	40	80	76	50	55	0	75	75

Notes:

Noise level at the receptor calculated based on the following equation:[5]

$dBA_2 = dBA_1 + 10 * \log_{10}(D_1/D_2)^{2+G}$

Where:

dBA_2 = Noise level at receptor

dBA_1 = Noise level at reference distance

D_1 = Reference distance

D_2 = Receptor distance

G = Ground absorption constant (0 for hard surface, 0.5 for soft surface)

Combined noise levels at receptor calculated for two noisiest equipment using decibel addition:

$L = 10 * \log_{10} (10^{(L_1/10)}+10^{(L_2/10)})$

L = Combined noise level

L_1 = Noise level for first noisiest piece of equipment

L_2 = Noise level for second noisiest piece of equipment

[1] Demolition equipment was provided by the project applicant. Other equipment based on the default off-road construction equipment list from CalEEMod v. 2022.1. Only equipment that generates substantial noise is shown.

[2] U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook, Table 9.1. August.

[3] Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-1. September.

[4] U.S. Department of Transportation, 2006. FHWA Highway Construction Noise Handbook. August. Table 9.1 summarizes the “default” values for use in the FHWA Roadway Construction Noise Model (RCNM). For welders only.

[5] California Department of Transportation, 1998. Technical Noise Supplement (TeNS). Equation N-2141.2. October.

Construction Vibration Calculations for Potential Disturbance

Equipment[1]	Typical Vibration Level @ 25 Feet[2] (RMS_1)	Annoyance Vibration Threshold (RMS_2)	Reference Distance (D_1)	Buffer Distance to Annoyance Threshold (D_2)
Unit	**VdB**	**VdB**	**feet**	**feet**
Vibratory Roller	94	83	25	58
Large bulldozer	87	83	25	34
Loaded trucks	86	83	25	31
Small bulldozer	58	83	25	4

Notes:

Buffer distance to vibration threshold for human annoyance calculated based on the following equation:[3]

$D_2 = D_1 * 10^{((RMS_1 - RMS_2) / 30)}$

Where:

RMS_1 = Vibration level at reference distance

RMS_2 = Vibration threshold for human disturbance

D_1 = Reference distance

D_2 = Buffer distance to vibration threshold for human annoyance

Construction Vibration Calculations for Potential Building Damage

Equipment[1]	Typical Vibration Level @ 25 Feet[2] (PPV_1)	Building Damage Vibration Threshold (PPV_2)	Reference Distance (D_1)	Buffer Distance to Damage Threshold (D_2)
Unit	**in/sec**	**in/sec**	**feet**	**feet**
Vibratory Roller	0.210	0.3	25	20
Large bulldozer	0.089	0.3	25	11
Loaded trucks	0.076	0.3	25	10
Small bulldozer	0.003	0.3	25	1

Notes:

Buffer distance to vibration threshold for building damage calculated based on the following equation:[3]

$D_2 = (PPV_1 / PPV_2)^{(1 / 1.5)} * D_1$

Where:

PPV_1 = Vibration level at reference distance

PPV_2 = Vibration threshold for building damage

D_1 = Reference distance

D_2 = Buffer distance to vibration threshold for building damage

[1] Demolition equipment provided by project applicant, and other equipment based on the CalEEMod default generated for the project. Only equipment that generates substantial vibration is shown.

[2] Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Table 7-4. September.

[3] Federal Transit Administration, 2018. Transit Noise and Vibration Impact Assessment Manual, Equations 7-2 and 7-3. September.

* * * * CASE INFORMATION * * * *

* * * * Results calculated with TNM Version 2.5 * * * *

One Hamilton Drive Construction Haul Truck

* * * * TRAFFIC VOLUME/SPEED INFORMATION * * * *

Automobile volume (v/h):	0.0
Average automobile speed (mph):	0.0
Medium truck volume (v/h):	0.0
Average medium truck speed (mph):	0.0
Heavy truck volume (v/h):	4.0
Average heavy truck speed (mph):	30.0
Bus volume (v/h):	0.0
Average bus speed (mph):	0.0
Motorcycle volume (v/h):	0.0
Average Motorcycle speed (mph):	0.0

* * * * TERRAIN SURFACE INFORMATION * * * *

Terrain surface: hard

* * * * RECEIVER INFORMATION * * * *

DESCRIPTION OF RECEIVER # 1

Residential

Distance from center of 12-ft wide, single lane roadway (ft):	50.0
A-weighted Hourly Equivalent Sound Level without Barrier (dBA):	51.9

APPENDIX H

TRANSPORTATION IMPACT ASSESSMENT

1 Hamilton Drive
Transportation Impact Assessment



October 2023

Prepared for:

WRA

Prepared by:

Parisi TRANSPORTATION CONSULTING
A DIVISION OF Parametrix

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1. Introduction

This report presents the conclusions of the transportation impact assessment conducted for the proposed project at 1 Hamilton Drive in Mill Valley, California ("Project"). The Project site is owned by the City of Mill Valley ("City").

The Project would develop up to 50 affordable housing units in a four-story building, with residential vehicle parking, bicycle parking, utility rooms, and management office on the ground floor, and residences located on the second through fourth floors. The housing units would consist of 20 one-bedroom, 18 two-bedroom, and 12 three-bedroom units.

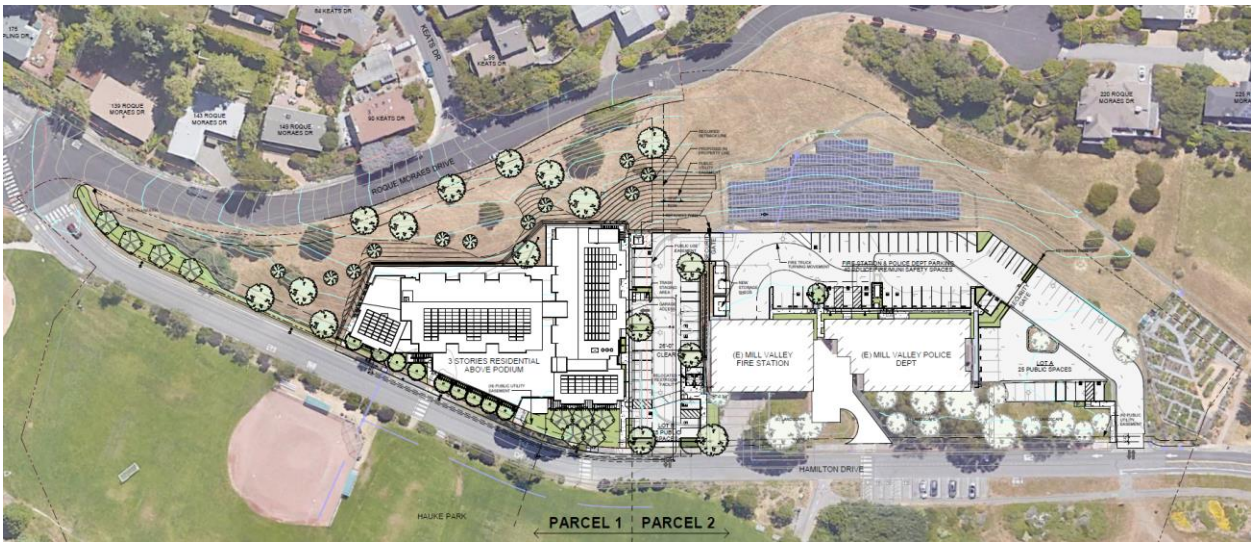
The Project also involves relocation of 38 existing public parking spaces, restrooms, and the two electric vehicle charging stations from the Hauke Park Main parking lot to a redesigned Public Safety Building (PSB) parking lot, which will also incorporate approximately 12 parking spaces additional to the replacement of the 38 spaces (for a total of approximately 50 public parking spaces).

This study analyzes anticipated transportation impacts of the Project, including:

- Vehicle trip generation and distribution.
- Traffic operations analysis for 11 study area intersections.
- Analysis for transit, pedestrian, and bicycle access.
- Parking needs assessment.
- CEQA transportation impact assessment.

Figure 1-1 displays the illustrative site plan of the Project included in the April 2023 Entitlement Set submission.

Figure 1-1: Illustrative Site Plan



Source: Van Meter Williams Pollack LLP, 2023.

2. Environmental and Regulatory Setting

The study area for the Project's transportation impact review encompasses transportation facilities within approximately one mile of the Project site. This section describes the study area's existing roadway, transit, bicycle, and pedestrian infrastructure, conditions, and other considerations.

2.1 ROADWAY NETWORK

The following includes description of roads in the study area according to functional classification based on the Mill Valley General Plan 2040 Mobility Element, number of vehicular travel lanes, on-street parking, sidewalks, and bicycle facilities.

US Highway 101 is a major freeway that runs south/north connecting San Francisco in the south and Sonoma County to the north. The interchange at East Blithedale Avenue / Tiburon Boulevard (SR 131) serves the project site from approximately 0.75 miles away.

East Blithedale Avenue is a two-to-four-lane arterial roadway that extends between US Highway 101 and downtown Mill Valley. The posted speed limit is 35 miles per hour (mph) in the study area corridor between US Highway 101 and Camino Alto. On-street parking is generally restricted along the roadway.

Sidewalks are present on both sides of the street only between Camino Alto and Roque Moraes Drive / Lomita Drive. Recently-installed bicycle infrastructure connecting the Mill Valley – Sausalito Pathway to US Highway 101 runs along the south side of the street and part of the north side of the street between US Highway 101 and Ashford Avenue (see Section 2.4).

Roque Moraes Drive is a two-lane collector roadway connecting East Blithedale Avenue and Kipling Drive / Hamilton Drive. The roadway has a prima facie speed limit of 25 mph. On-street parking is generally available on the north side of the street between Roque Moraes Court and Kipling Drive / Hamilton Drive where the roadway width permits.

Sidewalks are present on the north side of the street, and no existing bicycle facilities are present.

Kipling Drive is a two-lane collector roadway that runs between East Blithedale Avenue and Roque Moraes Drive and has a posted speed limit of 25 mph. On-street parking is available on both sides of the street between Seaver Drive / Longfellow Road and Roque Moraes Drive.

Sidewalks are present on both sides of the street between Seaver Drive / Longfellow Road and Roque Moraes Drive, and no existing bicycle facilities are present.

Hamilton Drive is a two-lane collector roadway that runs along the west side of the Project site from Roque Moraes Drive to the Redwood Highway Frontage Road and has a posted speed

limit of 25 mph. On-street parking is available within a short segment between Eucalyptus Knoll Street (north) and Seaver Drive / Eucalyptus Knoll Street (south) and is otherwise restricted. The roadway transitions to a one-way street and is closed to southbound traffic between the PSB parking lot and Eucalyptus Knoll Street (north).

Sidewalks are present on the east side of the street with the exception of the section between the two existing driveway entrances to the Hauke Park Main Parking Lot. A multi-use path on the west side of the street connects the Bayfront Park Pathway to Seaver Drive / Eucalyptus Knoll Street (south).

2.2 STUDY INTERSECTIONS

Eleven roadway intersections in the vicinity of the Project were identified as study intersections for operational analysis. These intersections are listed in Table 2-1 along with their control type. The intersections are displayed in Figure 2-1.

Table 2-1: Study Intersections and Control Type

Intersection Number	Road 1	Road 2	Intersection Type
1	East Blithedale Avenue	Camino Alto	Signalized
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signalized
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signalized
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signalized
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signalized
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signalized
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	Four-Way Stop Controlled
8	Hamilton Drive	Hauke Park Parking Lot*	One-Way Stop Controlled
9	Hamilton Drive	Public Safety Building Parking Lot	One-Way Stop Controlled
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	Two-Way Stop Controlled
11	Hamilton Drive	Redwood Highway Frontage Road	One-Way Stop Controlled

Source: Parisi Transportation Consulting, 2023. *Note: both north and south entrances to the Hauke Park Main parking lot are combined for purposes of this study. The Project would include consolidation and relocation of both driveways into a single street access providing service to project site parking, public parking PSB parking, and fire truck access.

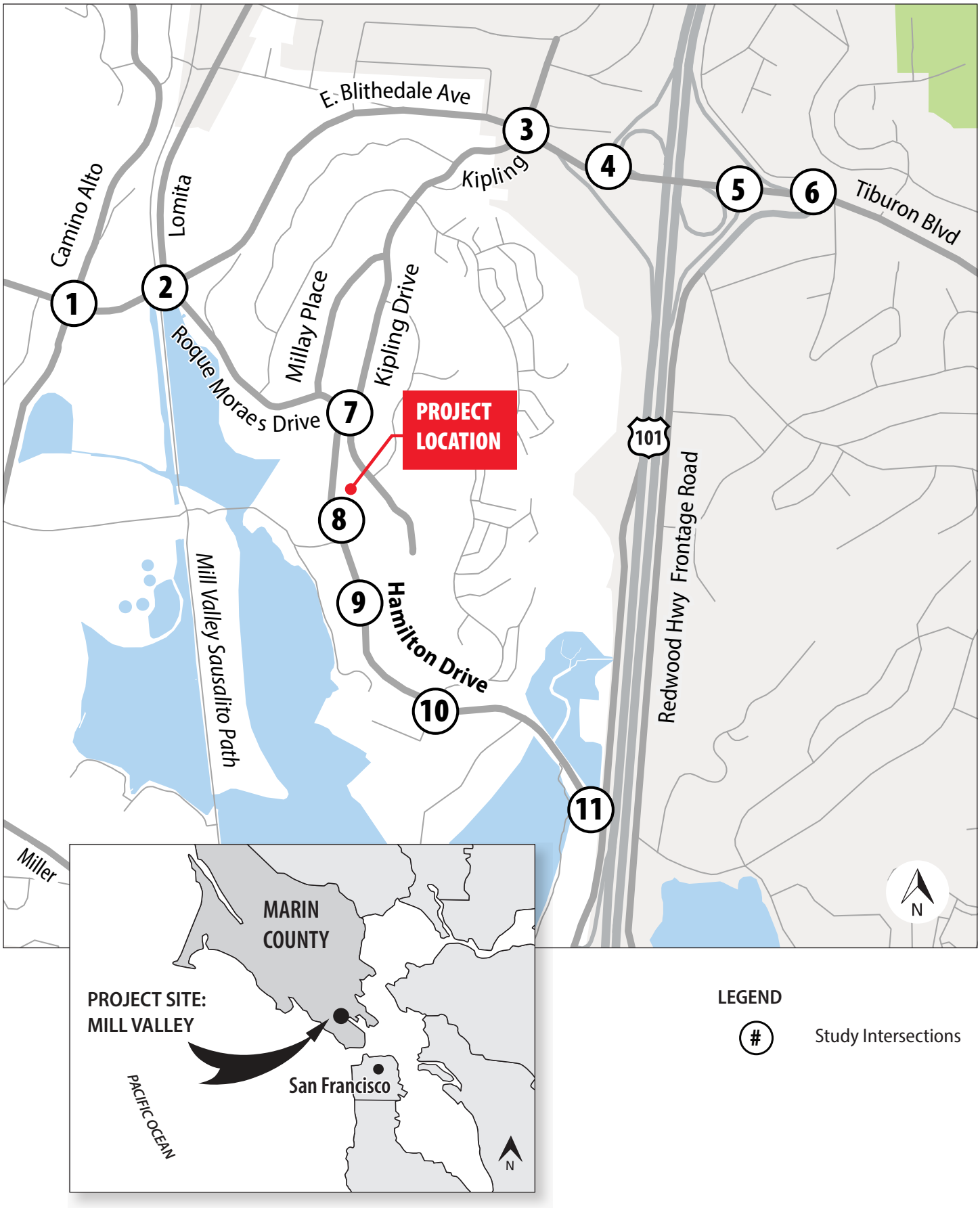


Figure 2-1: Study Intersections
One Hamilton Drive Transportation Impact Assessment

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2.3 TRANSIT FACILITIES

The Project study area is served by Marin Transit and Golden Gate Transit. Marin Transit provides fixed-route bus service throughout Marin County; the stop at East Blithedale Avenue and Roque Moraes Drive along Route 17 is located approximately 0.35 miles from the Project site. Route 17 connects San Rafael, Mill Valley, and Sausalito, and operates daily between 7 AM and 11 PM with service intervals of approximately 30 minutes during peak weekday periods and one hour outside peak periods.

Golden Gate Transit primarily serves Mill Valley by providing commuter bus service connection to San Francisco via Route 114. Route 114 incorporates a bus stop at East Blithedale Avenue and Roque Moraes Drive, 0.35 miles from the Project site. Route 114 operates Monday through Friday with four departures from Mill Valley to San Francisco in the morning, and five returning buses from San Francisco to Mill Valley in the afternoon.

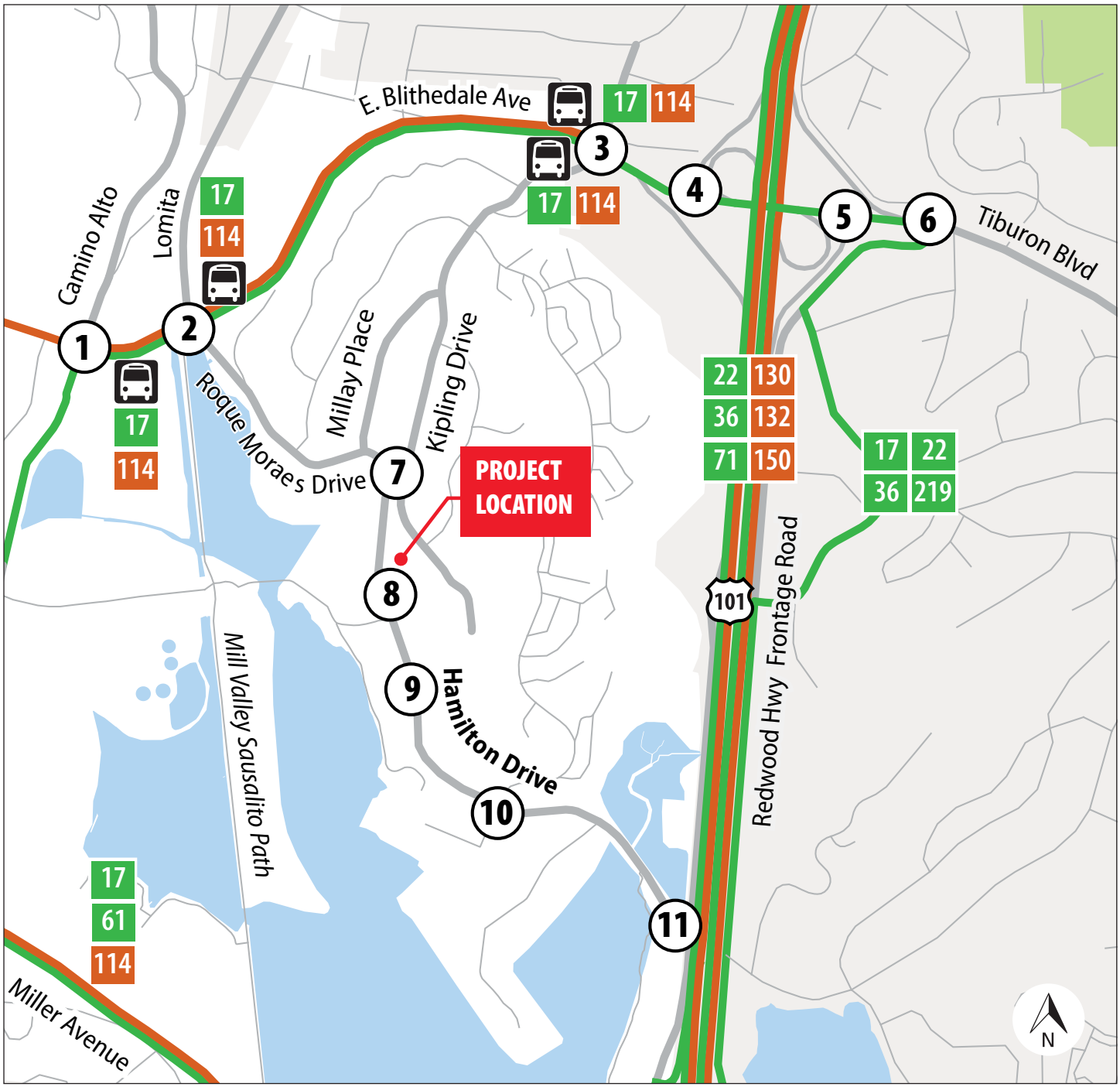
The Project site is also located 0.8 miles from the US Highway 101 at Seminary Drive southbound bus pad, and 0.9 miles from the corresponding US Highway 101 northbound bus pad. Bus stops at the US Highway 101 interchange with East Blithedale / Tiburon Boulevard are approximately the same distance from the Project site. These bus stops serve numerous Marin Transit and Golden Gate Transit routes. However, due to the distance from the Project site they are considered outside the study area for consideration in this analysis.

Transit services in the project vicinity are summarized in Table 2-2 and displayed in Figure 2-2.

Table 2-2: Transit Routes Serving Project

Line	Service Operator	Route	Day of Week	Service Times	Approximate Frequency
17	Marin Transit	Downtown San Rafael to Sausalito	Weekday	7 AM – 11 PM	7 AM – 10 AM: Every 30 mins 10 AM – 3 PM: Every 60 mins 3 PM – 6 PM: Every 30 mins 6 PM – 11 PM: Every 60 mins
			Weekend	8 AM – 11 PM	Every 60 mins
114	Golden Gate Transit	Mill Valley Commute Bus Route to San Francisco	Weekday	Southbound: 6 AM – 8 AM	Every 30 mins
			Weekday	Northbound: 3 PM – 7 PM	Every 60 mins

Source: Marin Transit; Golden Gate Transit, schedules as of May 30, 2023.



LEGEND

- (#) Study Intersections
- (#) Marin Transit Bus Route
- (#) Golden Gate Transit Bus Route
- Bus stops within 0.5 miles of Project Site

Figure 2-2: Transit Facilities in Project Vicinity
One Hamilton Drive Transportation Impact Assessment

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2.4 BICYCLE FACILITIES

Existing bicycle facilities in the Project study area include newly implemented bicycle lanes that are separated from the roadway using bollards along East Blithedale Avenue between Kipling Drive and Camino Alto, and the Mill Valley-Sausalito multi-use path, located on a paved right of way separate from the roadway network and connecting to Hauke Park. Bicycle Boulevards, designed to give bicyclist travel priority, are proposed in Mill Valley's Bicycle and Pedestrian Plan[1] along the Project frontage on Hamilton Drive as well as on Kipling Street and Roque Moraes Drive. On streets that are not designated as bicycle facilities, bicyclists are to share the roadway with motor vehicles as bicycling is not permitted on sidewalks in Mill Valley.

Table 2-3 summarizes the bikeway type classification system which is used to describe existing and proposed bicycle facilities in the Project study area according to Mill Valley's Bicycle and Pedestrian Plan in Table 2-4. Bicycle facilities are displayed in Figure 2-3.

Table 2-3: City of Mill Valley Bicycle Facility Classification

Classification	Description
Multi-Use Paths (Class 1 Bikeway)	Paved rights of way completely separated from streets
Bicycle Lanes (Class 2 Bikeway)	On-street facilities designated for bicyclists using stripes and stencils
Bicycle Routes (Class 3 Bikeway)	Streets assigned for bicycle travel and shared with motor vehicles, designated with "sharrow" pavement markings
Bicycle Boulevards (Class 3 Bikeway Variation)	Streets with low traffic volumes and speeds, designated and designed to give bicyclist travel priority
Separated Bike Lanes (Class 4 Bikeway)	Cycle track with physical separation from motor vehicle travel lanes by use of parked cars, curbs, bollards, or planter boxes

Source: City of Mill Valley 2017 Bicycle & Pedestrian Plan.

Bicycle parking at Hauke Park is available at the intersection of the Bayfront Park Pathway and Hamilton Drive, across from the PSB. There are two round tube wave-style bicycle racks with parking capacity for approximately 10 bicycles.

[1] City of Mill Valley, *2017 Bicycle & Pedestrian Plan.* Issued November 2017. https://www.millvalleylibrary.org/783/Bicycle-and-Pedestrian-Transportation. Accessed May 15, 2023.

Table 2-4: Existing and Planned Bicycle Facilities in Study Area

Circulation Network Segment	Existing Bicycle Facility	Planned Bicycle Facility
Bayfront Park Pathway, from Mill Valley-Sausalito Pathway to Hamilton Drive	Multi-Use Path	
Mill Valley-Sausalito Pathway, from City Limits (south) to Vasco Court	Multi-Use Path	
Hamilton Drive, from Shelter Bay Avenue to Redwood Highway Frontage Road	Bicycle Route	
East Blithedale Avenue from Kipling Drive to Ashford Avenue	Separated Bike Lane	
East Blithedale Avenue, Ashford Avenue to Roque Moraes Drive (Eastbound)	Separated Bike Lane	
Kipling Drive from East Blithedale Avenue, continuing on Hamilton Drive to Redwood Highway Frontage Road	None	Bicycle Boulevard
Roque Moraes Drive from East Blithedale Avenue to Hamilton Drive	None	Bicycle Boulevard

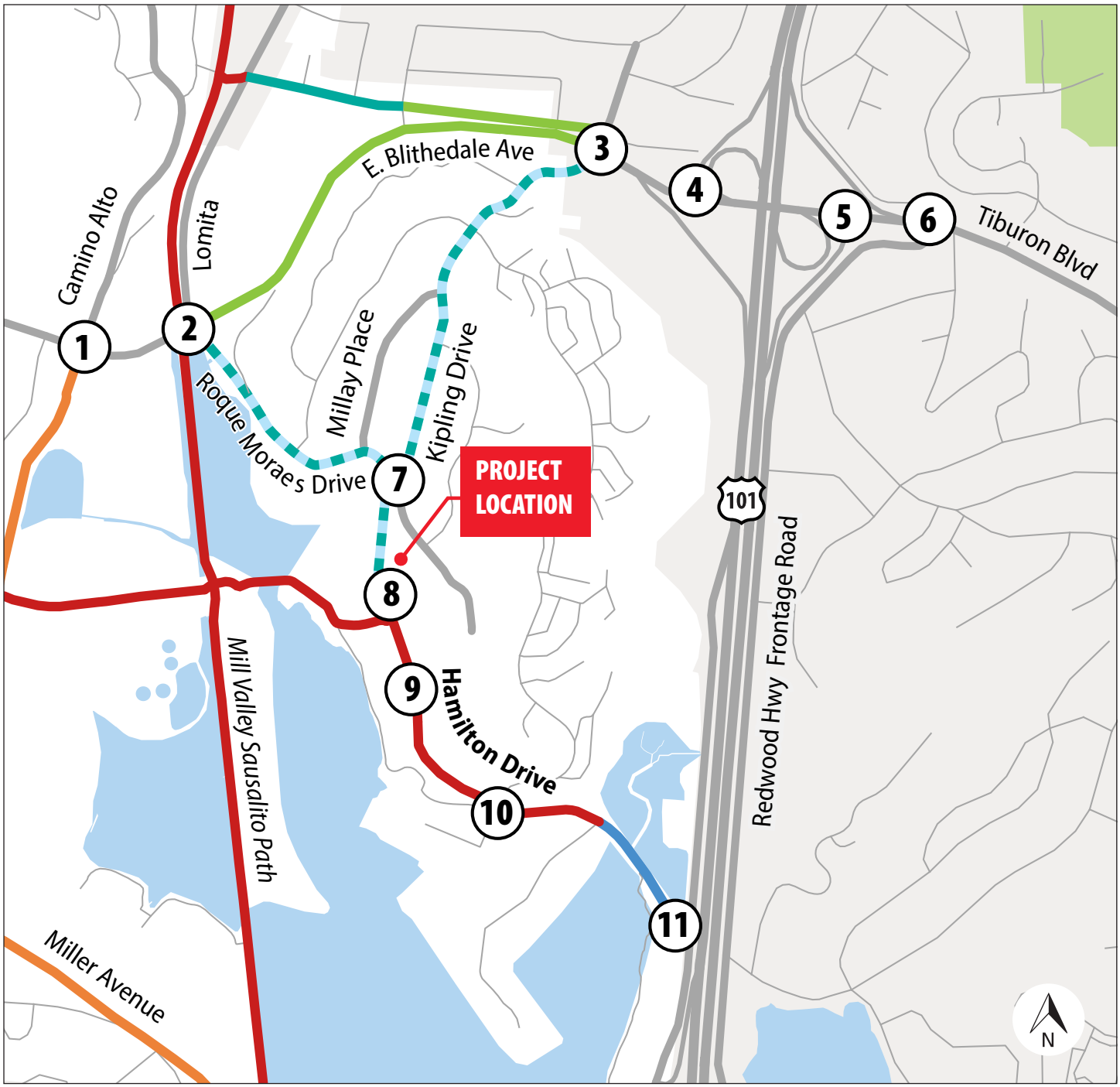
Source: City of Mill Valley 2017 Bicycle & Pedestrian Plan.

2.5 PEDESTRIAN FACILITIES

Pedestrian facilities in the vicinity of the Project site are largely characterized by historically rural development patterns around hillside topography. Sidewalks and crosswalks are commonly provided along flat roadways or at improved locations. Marked crosswalks, pedestrian pushbuttons and pedestrian signal heads are generally available at all signalized study intersections. Unsignalized study intersections nearer to the Project site are less likely to have marked crosswalks or be connected to sidewalks.

Sidewalks are present on the north side of Roque Moraes Drive and on both sides of the street along Kipling Drive south of Seaver Drive / Longfellow Road. Sidewalks are present on the east side of Hamilton Drive with the exception of the section between the two existing driveway entrances to the Hauke Park Main Parking Lot. The intersection of Roque Moraes Drive and Kipling Drive / Hamilton Drive contains two marked crosswalks connecting the Hauke Park playground with the Kipling Drive / Roque Moraes Drive and Hamilton Drive sidewalks. Two existing pedestrian crosswalks across Hamilton Drive connect the Hauke Park parking lot to Hauke Park. An additional pedestrian crosswalk across Hamilton Drive further to the south connects the Mill Valley PSB with the Bayfront Park Path, providing a pedestrian connection to the Mill Valley – Sausalito Path and other destinations.

An eight-foot-wide path transitioning to hillside steps connects Hamilton Drive south of the Bayfront Community Garden to Seaver Drive over a 550-foot stretch.



LEGEND

Existing	Proposed	
		Multi-Use Path (Class 1 Bikeway)
		Bicycle Lane (Class 2 Bikeway)
		Bicycle Route (Class 3 Bikeway)
		Bicycle Boulevard (Class 3 Bikeway Variation)
		Separated Bike Lane (Class 4 Bikeway)

(#) Study Intersections

Figure 2-3: Bicycle Facilities in Project Vicinity
One Hamilton Drive Transportation Impact Assessment

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2.6 VEHICLE PARKING

Parking spaces exist in parking lots and along roadways in the study area. There are four vehicle parking lots in the vicinity of the Project site, as described below:

- Hauke Park north gravel parking lot on PG&E easement: approximately 40 unmarked publicly accessible parking spaces;
- Hauke Park main parking lot: 38 marked publicly accessible spaces, including two ADA-accessible spaces and two electric vehicle charging spaces;
- Hamilton Drive parking lot: 11 marked publicly accessible spaces, including three ADA-accessible spaces;
- PSB parking lot: 33 marked parking spaces. The lot is reserved for police and fire employees only, and the driveway is marked by signs indicating that only authorized vehicles may enter.

With the exception of the Hauke Park north gravel parking lot, which is located on a PG&E utility easement, the remaining three vehicle parking lots are owned by the City of Mill Valley. The Hauke Park, PSB, and Hamilton Drive parking lots contain marked parking spaces. Parking spaces are unmetered in the vicinity. Parking supply for the Hauke Park north gravel parking lot is unmarked and estimated for purposes of this study.

On-street parking in the Project vicinity is unmarked and is generally restricted on the south and west sides of Roque Moraes Drive from East Blithedale Avenue to Hamilton Drive, and along Hamilton Drive from Kipling Drive to Eucalyptus Knoll Street North. Along Millay Place and Roque Moraes Drive between Kipling Drive and Keats Drive, on-street parking areas exist without curb or signed parking restrictions; due to the topography, narrow roadway, or lack of positive identification of legal parking, determination of adequacy to accommodate on-street parking appears to be up to individual vehicle operator discretion.

2.7 REGULATORY CONTEXT

Existing policies, laws and regulations that apply to the proposed Project are summarized below.

2.7.1 STATE

Senate Bill 743 (2013)

Senate Bill 743 mandated a change in CEQA guidelines to utilize vehicle miles traveled (VMT) as opposed to vehicle flow or traffic congestion as a more appropriate metric for assessing impacts associated with projects, in line with goals of helping to achieve climate commitments, improving health and safety, and prioritizing co-located land uses.

2.7.2 REGIONAL

Plan Bay Area 2050 (2021)

In 2021, the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2050 as the official regional long-range transportation and land use plan for the Bay Area.[2] Strategies in this plan include encouraging land use patterns that foster shared transportation modes, lessen the share of single-occupancy work commutes, and reduce greenhouse gas emissions.

TAM Congestion Management Program (2021)

The Transportation Authority of Marin (TAM) is the congestion management agency for Marin County and develops and updates its mandated short-range Congestion Management Program (CMP) every two years to describe strategies to assess and monitor the performance of the county's transportation system, address congestion and improve performance of a multimodal system among local jurisdictions.[3] Major developments that generate a net increase of more than 100 PM peak hour vehicle trips are subject to a CMP analysis and traffic impact study.

2.7.3 LOCAL

Local: Mill Valley General Plan (MV2040) Mobility Element (2013)

The MV2040 General Plan Mobility Element establishes a local framework to describe "the ability to move about" in the context of existing circulation infrastructure and travel purposes in Mill Valley.[4] The Mobility Element details the shift from promoting high automobile service levels at the expense of transit, bicycle and pedestrian movements, to the pursuit of a balanced, multi-modal transportation system. Maintaining and implementing non-motorized transportation systems is described as a key component of facilitating growth of walking and biking as a

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[2] Metropolitan Transportation Commission and Association of Bay Area Governments, *Plan Bay Area 2050, A Vision for the Future*. Adopted October, 2021.
[3] Transportation Authority of Marin, *2021 Congestion Management Program Final Draft Report.* Issued September 2021.
[4] City of Mill Valley, *Mill Valley General Plan MV 2040*. Adopted by the Mill Valley City Council October 2013.

preferred travel option. The document plans for the trend of transit capturing a larger share of daily trips through application of real-time transit data, traffic signal timing, and transit infrastructure improvements.

Goals listed in the Mobility Element that relate to the Project include the following:

- Goal M.9-7: Maintain a motor vehicle level of service (LOS) standard of "E+" at the intersection of East Blithedale Avenue and Camino Alto. LOS E+ means an average motorist delay of between 55 and 65 seconds during the morning (AM), after school, and evening (PM) one-hour peak periods on weekdays and during peak periods on weekends.
- Goal M.9-8: Maintain a motor vehicle level of service (LOS) standard of "D" at all other signalized intersections in the City of Mill Valley.
- Goal M.9-9: Consider replacing traditional motor vehicle-focused level of service standards with multi-modal considerations to ensure that roadway capacity is not overbuilt, and all modes of transportation are considered when assessing traffic impacts and planning improvements.
- Goal M.10-4: Facilitate access for people with access and functional needs on public rights-of-way throughout the City. Continue to review all projects for access for the physically disabled and require the installation of ramps and curb cuts in accordance with Title 24 of the California Administrative Code and the Americans with Disabilities Act of 1991.
- Goal M.11-3: Use the Bicycle and Pedestrian Master Plan as a guide in setting priorities for bicycle and pedestrian improvements that are consistent with network and facility programs and improvements for other modes of transportation.
- Goal M.11-4: Develop guidelines for crosswalk treatments to address pedestrian access and safety such as bulb-outs, paving, and striping, along with guidelines for using these treatments in both controlled and uncontrolled crossing locations.
- Goal M.17-9: Provide adequate public, on-street disabled/accessible parking spaces and an accessible path of travel to adjacent homes and shops.
- Goal M.17-6: Create opportunities to allow shared and reciprocal use of public and private parking spaces that serve more than a single location or use.
- Goal M.17-9: Require new multi-family, mixed-use, and commercial redevelopment projects to include secure bicycle parking and facilities.

- Goal M.17-10: Establish regulations that will accommodate innovations in alternative transportation, vehicles, and fuels, such as electric vehicle charging facilities and infrastructure, in all new and redeveloped public and private parking lots.

Local: Mill Valley Bicycle and Pedestrian Plan (2017)

The Mill Valley Bicycle and Pedestrian Plan seeks to encourage active transportation to promote healthy lifestyles, reduce traffic congestion, improve air quality, and better connect local destinations.[5] The Project is aligned with goals to create a safe and sustainable transportation network that balances the needs of pedestrians, bicyclists, motorists, and transit users. The Bicycle and Pedestrian Plan recommendations that involve facilities near the Project site include:

- Class III bicycle boulevard along Kipling Drive connecting Hauke Park to East Blithedale Avenue (0.58 miles)
- Class III bicycle route along Roque Moraes Drive between East Blithedale Avenue and Hamilton Drive (0.28 miles)

In addition to bicycle network facilities, the Bicycle and Pedestrian Plan includes recommendations for supporting infrastructure such as bike parking and wayfinding, as well as recommendations addressing existing and future bicycle programs that facilitate progress against overall plan goals. The Plan references the Mill Valley General Plan 2040 goal M.17-9 that requires new multi-family development projects to include secure bicycle parking and includes suggested guidelines for long-term and short-term bicycle parking provisions.

Mill Valley Complete Streets Policy (2013)

The Complete Streets Policy of City of Mill Valley, Resolution Number 2013-03, declares a policy to further ensure that Mill Valley streets provide safe and convenient travel options for all users.[6] Programs and infrastructure that facilitate alternative means of transportation is encouraged. The policy applies to all projects in all phases of development and encourages contextual evaluation of the transportation network to ensure travel for all ages and abilities is accommodated.

[5] City of Mill Valley, *Mill Valley Bicycle and Pedestrian Plan.* Issued November 2017.
[6] Mill Valley City Council, *Complete Streets Policy of City of Mill Valley Resolution*. Filed January 2013.

3. Existing Conditions

3.1 TRAFFIC DATA COLLECTION

Vehicle turning movement counts were collected for the study intersections on a representative weekday, Saturday, and Saturday when soccer games were hosted at Hauke Park in 2022. Weekday counts were conducted between hours of 7 AM – 9 AM and 4 PM – 6 PM, while Saturday counts were conducted between 12 PM – 2 PM. These times encompass the typical AM and PM weekday commute peak hours and Saturday midday peak hour. All vehicle turning movement data in this study is therefore listed for four periods:

1. AM Peak Hour: reflects traffic during the peak morning hour, typically during the morning commute period
2. PM Peak Hour: reflects traffic during the peak afternoon hour, typically during afternoon commute period
3. Saturday Peak Hour: reflects traffic during the peak hour on a Saturday when soccer games are not taking place at Hauke Park
4. Saturday with Soccer Peak Hour: reflects traffic during the peak hour on a Saturday when soccer games are being hosted at Hauke Park

Figure 3-1 displays existing conditions AM and PM peak hour vehicle turning movement volumes, and Figure 3-2 displays existing conditions Saturday and Saturday with Soccer peak hour vehicle turning movement volumes.

Figure 3-3 displays bicycle and pedestrian volumes for all four peak hour periods for study intersections in the immediate vicinity of the Project along Hamilton Drive.

Average Daily Traffic counts were collected over a seven-day period at key roadway segments in the immediate vicinity of the Project and are shown in Table 3-1.

Full vehicle turning volume and Average Daily Traffic data collected are included in Appendix B.

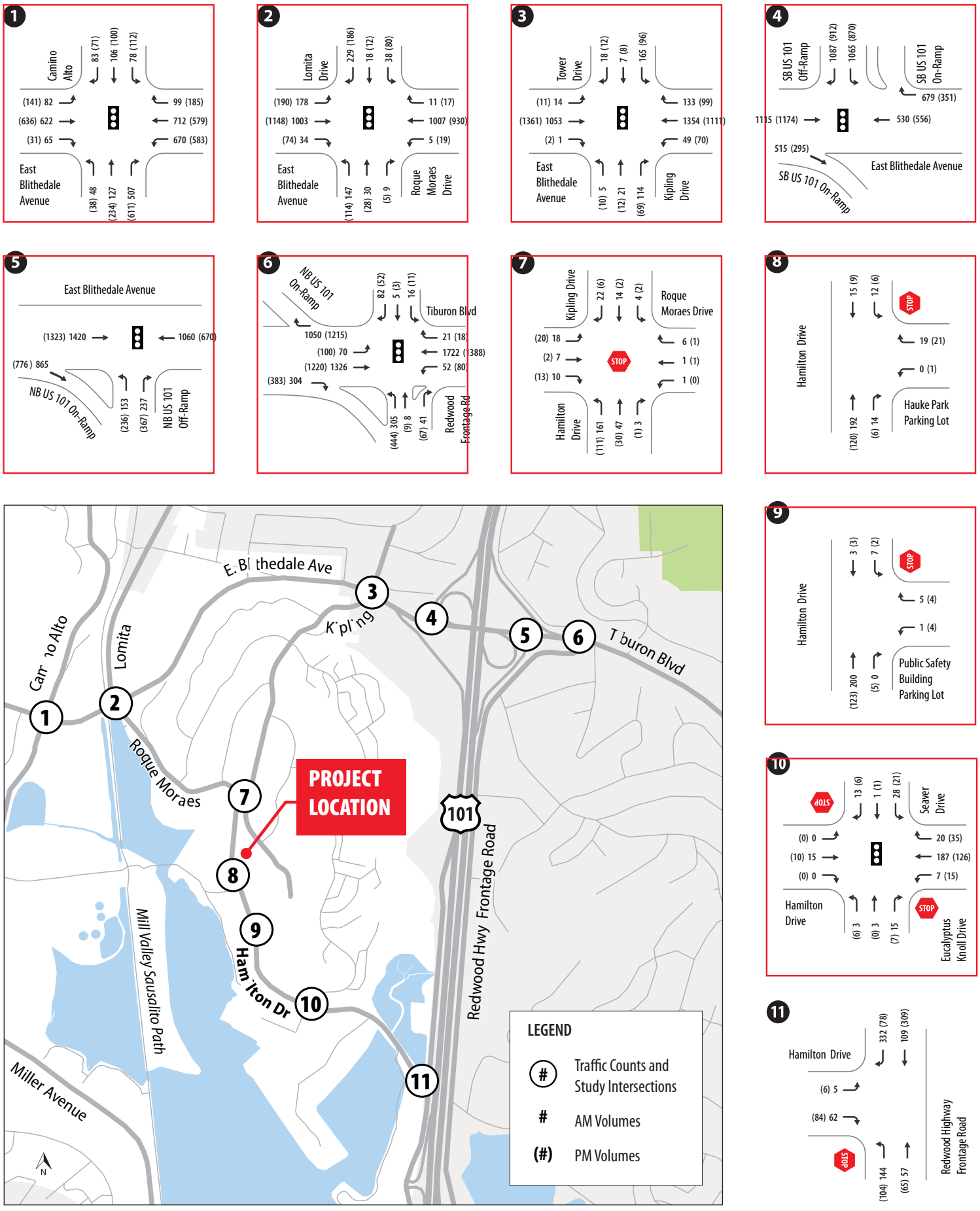


Figure 3-1: Existing Peak Hour Vehicle Volumes AM & PM
One Hamilton Drive Transportation Impact Assessment

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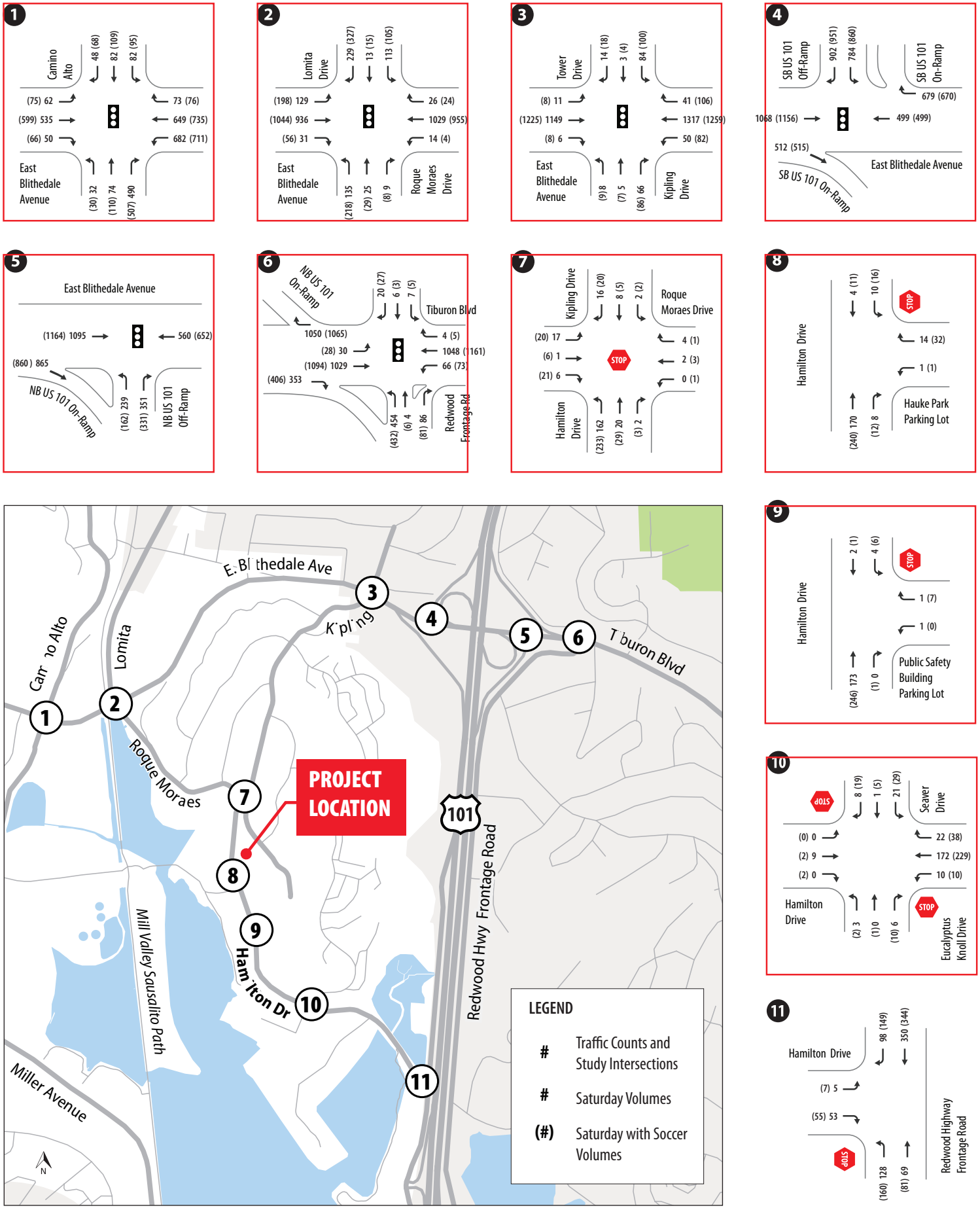


Figure 3-2: Existing Peak Hour Vehicle Volumes Saturday & Saturday w/ Soccer
One Hamilton Drive Transportation Impact Assessment

Par s TRANSPORTATION CONSULTING A DIVISION OF Parametrix

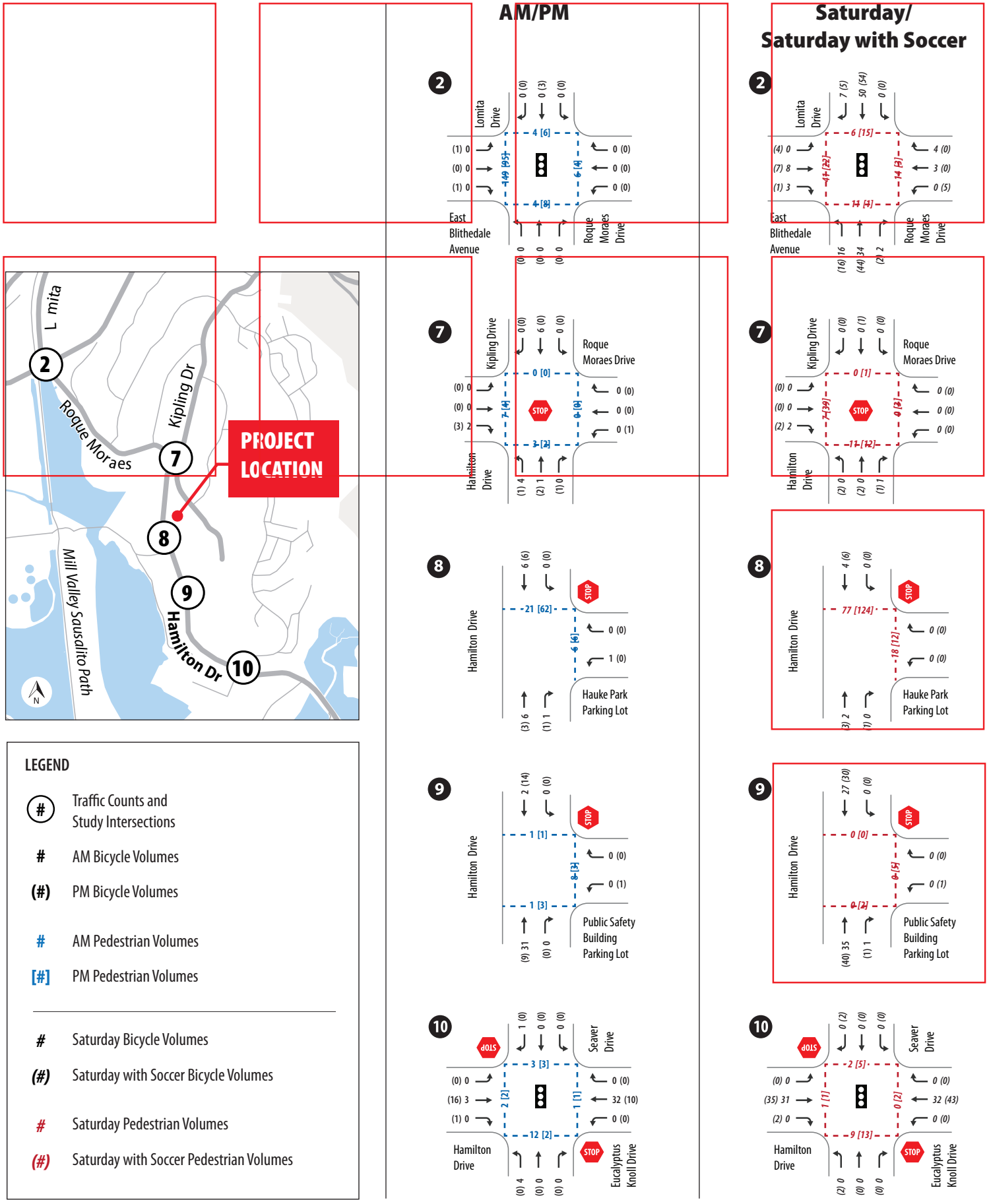


Figure 3-3: Existing Peak Hour Pedestrian & Bicycle Volumes
One Hamilton Drive Transportation Impact Assessment

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Table 3-1: Existing Average Daily Traffic Counts

		Average Daily Traffic		
Roadway Segment	**Direction**	**Average Weekday**	**Saturday**	**Saturday with Soccer**
Roque Moraes Drive west of Kipling Drive	Westbound	1,630	1,360	1,500
	Eastbound	470	420	500
	Total	**2,100**	**1,780**	**2,000**
Kipling Drive north of Roque Moraes Drive	Northbound	570	490	450
	Southbound	290	220	320
	Total	**860**	**720**	**780**
Hamilton Drive south of Roque Moraes Dives	Northbound	1,810	1,510	1,650
	Southbound	240	210	260
	Total	**2,050**	**1,720**	**1,910**
Hamilton Drive west of Seaver Drive	Westbound	1,650	1,340	1,430
	Eastbound	130	80	140
	Total	**1,780**	**1,420**	**1,580**

Source: Parisi Transportation Consulting, 2023.

3.2 LEVEL OF SERVICE METHODS

Level of Service (LOS) is a qualitative measurement that describes operating conditions and service measures experienced by vehicle roadway users. Intersection LOS is based on a weighted average vehicle stop delay at an intersection and is expressed on a scale from "A" to "F." LOS descriptions are included in Table 3-2 for signalized and unsignalized intersections.

Table 3-2: Intersection Level of Service Definitions

Level of Service	Description of Intersection Traffic Conditions	Average Delay (seconds per vehicle)	
		Signalized	Stop-Controlled
A	LOS A represents free-flow travel with excellent levels of comfort and convenience and the freedom to maneuver.	≤10	0 – 10
B	LOS B has stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.	>10 – 20	>10 – 15
C	LOS C has stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.	>20 – 35	>15 – 25
D	LOS D represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.	>35 – 55	>25 – 35
E	LOS E represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.	>55 – 80	>35 – 50
F	LOS F is used to define forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and go fashion.	>80	>50

Source: Highway Capacity Manual. Note: values displayed for stop-controlled intersections reflect the lengthiest average minor street approach delay.

3.3 MILL VALLEY LOS STANDARDS

The 2013 Mill Valley General Plan Mobility Element describes the application of LOS to traffic operations analysis in the City and recognizes that policies that promote high automobile service levels tend to favor vehicle mobility at the expense of transit, bicycle and pedestrian travel modes. The existing LOS standards seek to align local congestion management with the City's sustainable transportation goals and account for the needs of all modes of travel.

Acceptable automobile LOS conditions and average motorist delays during weekday and weekend peak hours for Mill Valley signalized intersections as defined in the General Plan Mobility Element are as follows:

- East Blithedale Avenue / Camino Alto: LOS E+ (delays of 65 seconds or less)
- All other signalized intersections: LOS D (delays of 55 seconds or less)

3.4 EXISTING INTERSECTION LEVEL OF SERVICE

Intersection operations analysis is evaluated for the following scenarios:

- Existing Conditions – Existing vehicle traffic volumes at the 11 study intersections based on traffic volumes from existing studies and counts collected in 2022.
- Cumulative (2040) Conditions – This cumulative scenario forecasts traffic volumes in the year 2040, based on buildout of approved, proposed, and future projects.
- Existing Plus Project Conditions – Project-generated traffic volumes are added to the Existing Conditions scenario to determine potential impacts of the Project compared to existing conditions.
- Cumulative (2040) Plus Project Conditions – Project-generated traffic volumes are added to the Cumulative Conditions scenario to determine potential impacts of the Project compared to future conditions.

Intersection operations analysis was performed following the approach contained in the *Highway Capacity Manual, 2000*.[7] Analysis was conducted using Synchro 11 software (Trafficware) based on physical roadway network infrastructure geometry and intersection signal control.

LOS was analyzed for the four time periods reflecting "Existing Conditions," corresponding to weekday AM Peak Hour, weekday PM Peak Hour, Saturday Peak Hour and Saturday with Soccer Peak Hour traffic volumes. Synchro intersection operations analysis yields intersection LOS results for the four Existing condition peak hours as displayed in Table 3-3.

The results indicate that signalized intersections in the study area operate acceptably at LOS B, C or D during all four peak periods (AM, PM, Saturday, and Saturday with Soccer). The unsignalized intersections operate acceptably at LOS A or B during all four peak periods. Appendix C includes detailed Synchro input and output flies for the four "Existing Conditions" peak periods.

[7] Transportation Research Board, *Highway Capacity Manual 2000.* As intersections 4, 5, and 6 reflect signal timing and lane configurations that are not compatible with more recent editions of the HCM, analysis has been standardized for this study according to a single methodology.

Table 3-3: Existing Intersection Peak Hour Level of Service

				AM Peak		PM Peak		Saturday Peak		Saturday with Soccer Peak	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	35.3	D	41.5	D	34.5	C	39.0	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	31.9	C	28.8	C	30.2	C	34.0	C
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	15.5	B	13.9	B	11.8	B	14.4	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	24.9	C	22.2	C	23.7	C	24.1	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	12.4	B	21.0	C	31.2	C	22.2	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	31.6	C	36.6	D	32.3	C	31.0	C
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.5	A	8.4	A	8.5	A	9.6	A
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	9.8	A	9.9	A	10.4	B	12.5	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.6	A	9.5	A	9.5	A	10.1	B
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.7	B	10.5	B	10.2	B	11.3	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	11.3	B	11.7	B	12.2	B	13.3	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

3.5 VEHICLE PARKING

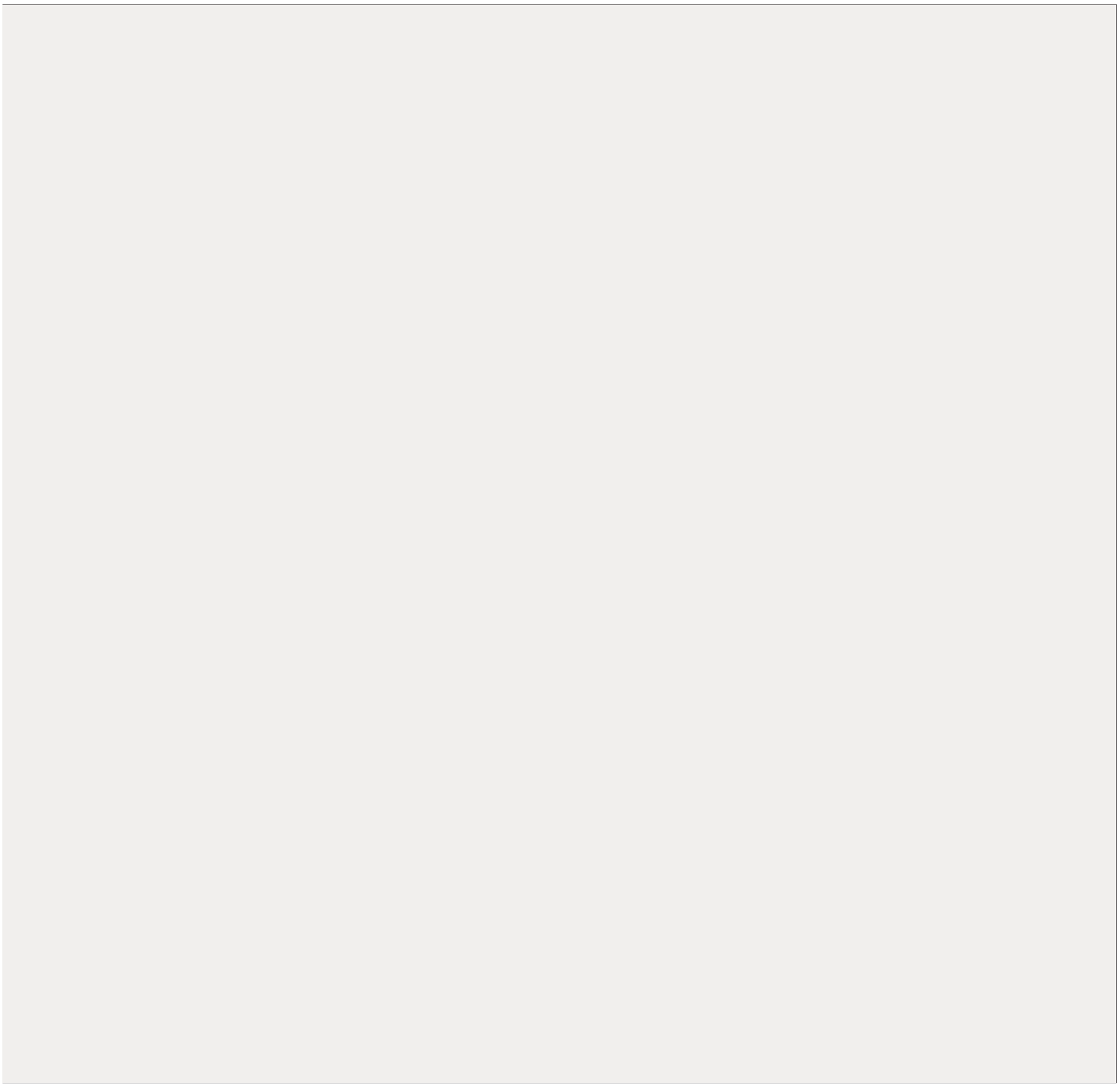
Parking supply and demand analysis was conducted for the four parking lots in the study area and along five street segments in the vicinity of the Project site (Figure 3-4). Parking observations were conducted on a representative weekday (Thursday, May 26, 2022), Saturday (Saturday, May 28, 2022), and Saturday when soccer games were hosted at Hauke Park (Saturday, September 10, 2022). During these observations, inventory of existing parking spaces and occupancy counts were collected hourly over a ten-hour period from 10:00 AM to 8:00 PM.

The Hauke Park North Parking Lot is an unimproved gravel lot, and on-street parking is not marked to delineate specific parking spaces. Therefore, for these parking locations the existing parking supply for vehicles was estimated using best judgement. Parking in the PSB parking lot is reserved for City employees and is not available for use by the public.

Overall parking supply and occupancy data collected for each supply location was averaged over the daily data collection period from 10:00 AM to 8:00 PM and summarized in Table 3-4. Parking occupancy by time of day for the two largest publicly accessible parking lots in the study area (Hauke Park North Gravel Lot and Hauke Park Main Parking Lot) are displayed in Figure 3-5 and Figure 3-6.

Publicly accessible parking occupancy in the study area is lowest on a weekday, higher on Saturday, and highest on a Saturday during soccer games. On Saturday during soccer games between 10:00 AM – 12:00 PM, the number of vehicles parked in the two Hauke Park parking lots exceeded capacity, reflecting vehicles parked in a non-compliant manner, and the eight parking spots in the Hamilton Drive Parking Lot were also occupied. The Hauke Park North Gravel Parking Lot was generally half-utilized on Saturday in the early afternoon and exhibited occupancy below 25% on Saturday morning, evening, and throughout the day on weekdays. The Hauke Park Main Parking Lot was relatively full on Saturdays before 5:00 PM and was typically one-third to one-half occupied throughout the day on weekdays before 5:00 PM.

In general, excess on-street parking exists in the Project vicinity. Average daily occupancy rates for all street segments were below 50 percent for the measured scenarios. On-street parking utilization in the study area was observed as exceeding 50 percent capacity in only two cases (along Millay Place during the evening hours on Saturday, when 16 of an estimated 31 on-street parking spaces were occupied, and along the north side of Roque Moraes Drive between East Blithedale and Kipling Drive during Saturday soccer games when 19 of an estimated 31 on-street parking spaces were occupied). No vehicles were observed to park along Roque Moraes Drive between Kipling Drive and Keats Drive except during the Saturday with Soccer observation period, when demand for parking at the Hauke Park lots was greater than supply.



LEGEND

(#) Traffic Counts and Study Intersections

Street Parking and

Parking Lot Study Areas

A – Hauke Park North Parking Lot (Gravel)

B – Hauke Park Main Parking Lot (Paved)

C – Hamilton Drive Parking (Along Roadway)

D – Public Safety Building Parking Lot (Restricted)

Figure 3-4: Parking Supply and Occupancy Data Collection Locations
One Hamilton Drive Transportation Impact Assessment

Parisi TRANSPORTATION CONSULTING A DIVISION OF Parametrix

Table 3-4: Parking Occupancy Daily Average Observation Results

		Average Vehicles Parked			Average Occupancy			Maximum Occupancy		
Parking Location	**Parking Supply**	**Weekday**	**Saturday**	**Saturday Soccer**	**Weekday**	**Saturday**	**Saturday Soccer**	**Weekday**	**Saturday**	**Saturday Soccer**
Hauke Park North Gravel Lot	40[1]	5.1	9.7	27.6	13%	24%	69%	28%	55%	110%
Hauke Park Paved Parking Lot[2]	34	12.4	21.3	21.9	35%	61%	63%	56%	103%	115%
Hamilton Drive Parking Lot[2]	8	4.2	6.2	5.9	53%	77%	74%	100%	113%	100%
Public Safety Building Parking Lot[3]	33	25.6	21.4	15.4	78%	65%	47%	88%	82%	55%
Roque Moraes Drive: East Blithedale Avenue to Kipling Drive	31	8.6	8.7	14.4	28%	28%	46%	35%	39%	61%
Roque Moraes Drive: Kipling Drive to Keats Drive	36	0.0	0.0	3.7	0%	0%	10%	0%	0%	14%
Millay Place: Roque Moraes Drive to 500 feet north on Millay Place	31	10.9	13.9	8.3	35%	45%	27%	42%	52%	35%
Kipling Drive: Roque Moraes Drive to 500 feet north on Kipling Drive	41	4.8	4.4	7.8	12%	11%	19%	15%	15%	29%
Hamilton Drive: Eucalyptus Knoll Street (north) to Seaver Drive	27	3.4	4.0	1.8	13%	15%	7%	26%	19%	15%

Source: Parisi Transportation Consulting, 2023. Notes: 1) Parking Supply at the Hauke Park North Gravel Lot and for on-street parking is estimated. 2) ADA-accessible parking spots and electric vehicle charging parking spots are not included in these totals. 3) The Police Department Parking Lot is reserved for City employees only.

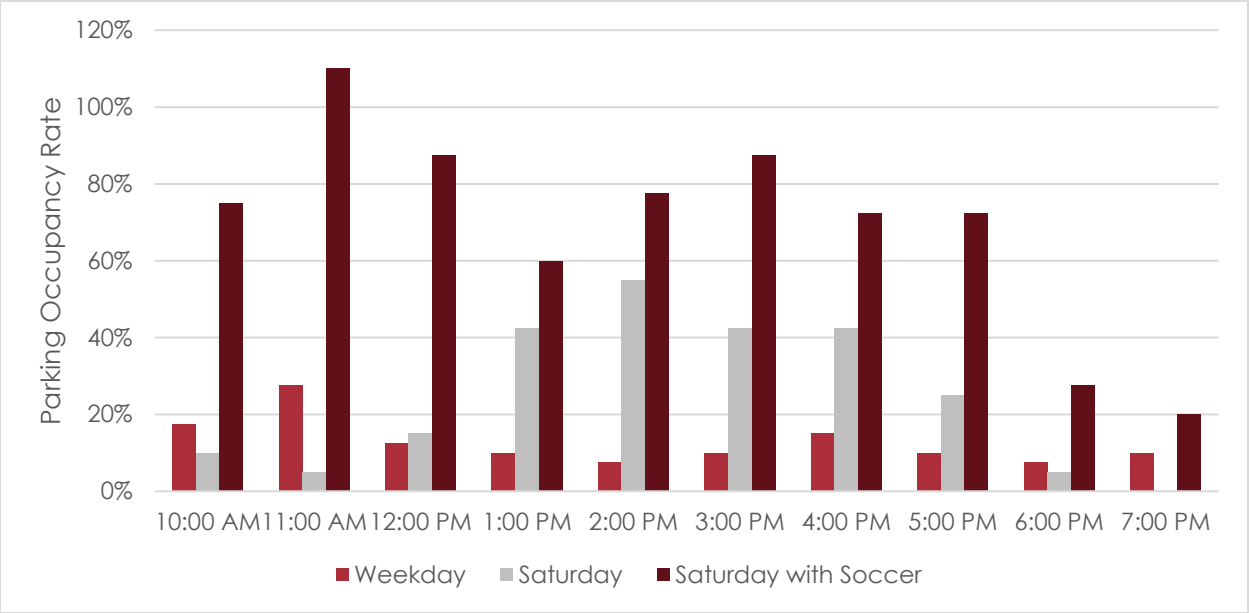


Figure 3-5: Hauke Park North Gravel Parking Lot Occupancy

Source: Parisi Transportation Consulting, 2023. Note: Parking supply is estimated. On Saturday during soccer games between 11:00 AM – 12:00 PM, the number of vehicles parked exceeded capacity, reflecting vehicles observed as parked in a non-compliant manner.

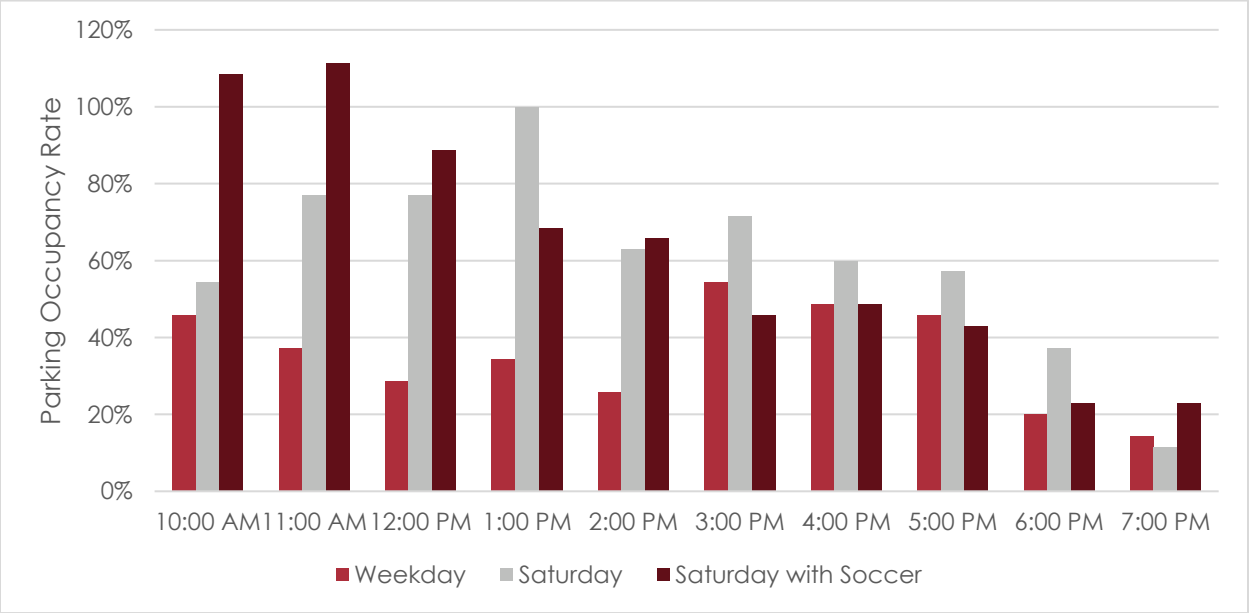


Figure 3-6: Hauke Park Main Parking Lot Occupancy

Source: Parisi Transportation Consulting, 2023. Note: On Saturday during soccer games between 10:00 AM – 12:00 PM, the number of vehicles parked exceeded capacity, reflecting vehicles observed as parked in a non-compliant manner.

3.6 COLLISION HISTORY ANALYSIS

Collision analysis was performed along three roadways in the vicinity of the Project. Data on reported collisions along Roque Moraes Drive, Kipling Drive, and Hamilton Drive for a five-year period between January 1, 2017, and December 31, 2021 was obtained using the Statewide Integrated Traffic Records System (SWITRS).[8]

There were six collisions in total recorded during the five-year period along the roadway sections (Table 3-5). None of the collisions resulted in severe injury or fatality.

None of the collisions involved pedestrians, and three collisions involved people riding a bicycle. In 2019, a collision occurred due to vehicle unsafe speed along Hamilton Drive near Redwood Highway Frontage Road resulting in visible injury to a bicyclist. In a 2021 collision on Roque Moraes Drive, a vehicle sideswiped a bicyclist while making an improper passing maneuver. An additional 2021 collision was the result of a bicyclist traveling at unsafe speed, impacting a fixed object near Hamilton Drive and Shelter Bay Avenue.

Full raw data tables from SWITRS are provided in Appendix G.

[8] California Highway Patrol Statewide Integrated Traffic Records System. https://iswitrs.chp.ca.gov/Reports/jsp/index.jsp. Accessed April 26, 2023.

Table 3-5: Study Area Reported Collisions (2016-2021)

Year	Road 1	Road 2	Collision Severity	Violation Category	Collision Type	Lighting	Pedestrian Collision	Bicycle Collision
2018	Kipling Drive	Roque Moraes Drive	Property Damage Only	Unsafe Speed	Sideswipe	Dark	No	No
2019	Hamilton Drive	Redwood Highway Frontage Road	Other Visible Injury	Unsafe Speed	Other	Dark	No	Yes
2020	Roque Moraes Drive	Longfellow Road	Property Damage Only	Improper Turning	Sideswipe	Daylight	No	No
2021	Hamilton Drive	Roque Moraes Drive	Complaint of Pain	Improper Passing	Sideswipe	Daylight	No	Yes
2021	Hamilton Drive	Shelter Bay Avenue	Other Visible Injury	Unsafe Speed	Overturned	Daylight	No	Yes
2021	Roque Moraes Drive	Longfellow Road	Property Damage Only	Unsafe Speed	Overturned	Daylight	No	No

Source: California Highway Patrol Statewide Integrated Traffic Records System, 2017-2021.

4. Cumulative Conditions

In order to assess the Project's potential impact against anticipated local and regional growth patterns, the daily traffic volumes at study intersections were forecasted to reflect 2040 traffic conditions. This "Cumulative Conditions" scenario accounts for buildout of approved, proposed, and future development projects through the year 2040, which could influence local and regional traffic patterns. Cumulative forecasts include approved projects identified from the City of Mill Valley website, as well as future projects such as housing unit growth identified in the Draft Housing Element Update (6th Cycle, 2023-2031).[9]

Future year 2040 traffic volume forecasting at each of the study intersections also accounts for background traffic volume increases according to the Mill Valley General Plan Circulation Element and transportation demand model inputs from the Transportation Authority of Marin. This Cumulative scenario represents future vehicle volumes and traffic conditions that would be expected under successful development of land uses identified in the General Plan in the year 2040. In general, traffic volumes were estimated to exhibit annual growth rates between 0.25 and 0.55 percent along study area roadways.

Figure 4-1 displays Cumulative AM and PM peak hour vehicle turning movement volumes, and Figure 4-2 displays Cumulative Saturday and Saturday with Soccer peak hour vehicle turning movement volumes.

4.1 CUMULATIVE CONDITIONS INTERSECTION LEVEL OF SERVICE

Cumulative intersection operations analysis results are displayed in Table 4-1. The results indicate that average delay at signalized intersections in the study area are expected to increase marginally over existing conditions due to the forecasted future increases in traffic volumes, and that all signalized intersections would continue to operate acceptably at LOS B, C or D during all four peak periods (AM, PM, Saturday, and Saturday with soccer). The unsignalized intersections would also continue to operate at LOS A or B during all four peak periods.

Appendix D includes detailed Synchro input and output flies for the four "Cumulative Conditions" peak periods (AM, PM, Saturday, and Saturday with Soccer).

[9] City of Mill Valley, *Housing Element Update 6th Cycle, 2023-2031, Revised Draft.* February 2023.

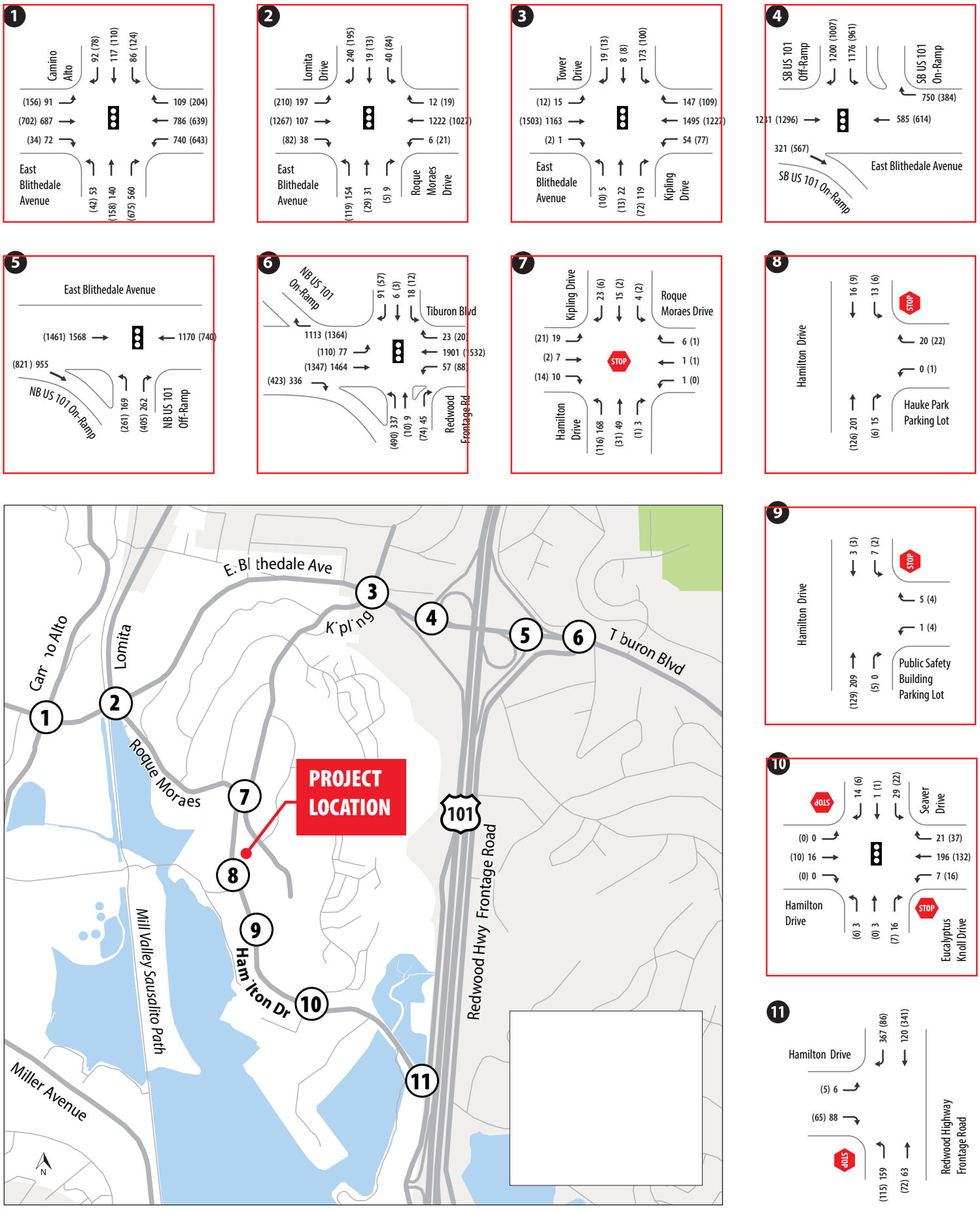


Figure 4-1: Cumulative Peak Hour Vehicle Volumes AM & PM
One Hamilton Drive Transportation Impact Assessment

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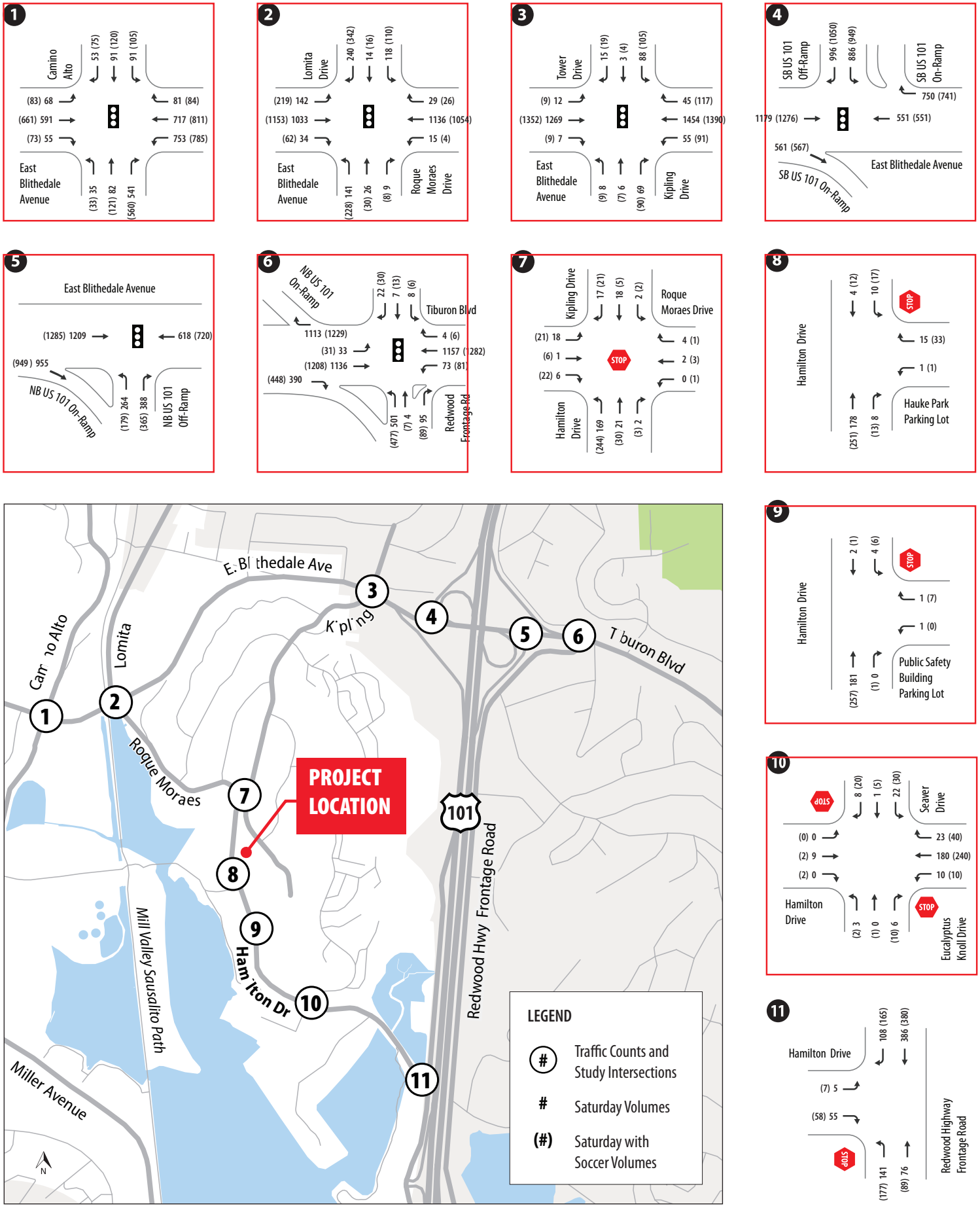


Figure 4-2: Cumulative Peak Hour Vehicle Saturday & Saturday with Soccer
One Hamilton Drive Transportation Impact Assessment

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Table 4-1: Cumulative Intersection Peak Hour Level of Service

				AM Peak		PM Peak		Saturday Peak		Saturday with Soccer Peak	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	39.1	D	48.9	D	37.6	D	42.5	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	33.1	C	30.1	C	31.2	C	35.9	D
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	17.6	B	15.5	B	12.2	B	15.2	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	27.6	C	24.1	C	24.3	C	25.8	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	13.5	B	22.8	C	37.2	D	23.9	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	36.4	D	44.5	D	37.2	D	36.5	D
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.6	A	8.5	A	8.6	A	9.9	A
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	9.9	A	10.0	B	10.5	B	12.7	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.7	A	9.6	A	9.5	A	10.2	B
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.8	B	10.6	B	10.3	B	11.5	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	11.7	B	12.2	B	12.8	B	14.2	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

5. Project Impacts

5.1 PROJECT VEHICLE TRIP GENERATION

Vehicle trips generated by the Project were estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th edition*, which provides trip generation rates for a variety of land use types.[10] The *Trip Generation Manual* describes the land use type "Multifamily Housing (Low-Rise)" (ITE Land Use Code 220) as a building containing two or three floors of housing units, and "Multifamily Housing (Mid-Rise)" (ITE Land Use Code 221) as a building that has between four and 10 floors of living space. As trip generation rates are higher for "Multifamily Housing (Low-Rise)", and this description most appropriately fits the Project plans, which contain three floors of living space, trip generation rates for "Multifamily Housing (Low-Rise)" were determined to represent the proposed Project land use and were selected for this analysis.

Alternative trip generation approaches were considered for comparative purposes. The ITE *Trip Generation Manual* also includes a dataset of trip generation rates for Affordable Housing (ITE Land Use Code 223). Numerous published academic studies have observed and derived trip generation rates of affordable housing developments in California. [11,12,13] The Los Angeles Department of Transportation has published trip generation rates for affordable housing projects in its transportation assessment guidelines.[14] These sources consistently indicate that daily trip generation rates of affordable housing developments are between 25 to 50 percent lower than similar market price housing units of identical household composition and location, and that application of traditional trip generation methods without adjustment is likely to overestimate vehicle trips. This is aligned with findings that affordable housing units exhibit lower rates of vehicle ownership, which influences trip generation.[15,16]

For the purposes of this analysis, estimated trip generation is conservatively based on market rate multifamily housing trip generation rates. These results should be interpreted as a very conservative scenario and likely to overestimate Project-generated trips.

As the Project site is currently utilized as a parking lot, and parking relocation is part of the Project, this analysis determines that the housing units would not displace existing uses, and no

[10] Institute of Transportation Engineers, *Trip Generation Manual, 11th edition*, 2021.
[11] Clifton et al., *Affordable Housing Trip Generation Strategies and Rates.* California Department of Transportation Technical Report. September, 2018.
[12] Currans, et al., *Improving Transportation Impact Analyses for Subsidized Affordable Housing Developments: A Data Collection and Analysis of Motorized Vehicle and Person Trip Generation.* Cities, 2020.
[13] Newmark and Haas, *Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy*. Center for Neighborhood Technology. December 2015.
[14] Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, July 2020. Trip Generation Rates for Affordable Housing Projects are listed in Table 3.3-2.
[15] Howell et al., *Transportation Impacts of Affordable Housing: Informing Development Review with Travel Behavior Analysis*. The Journal of Transport and Land Use, Vol 11 No. 1, January 2018.
[16] Research on affordable housing correlation with trip generation is further expounded upon in Appendix A.

existing use trip credits were applied to the project trip generation estimates. Trip generation rates account for trips made by all residents and are listed in Table 5-1.

The ITE *Trip Generation Manual* does not list Saturday trip generation rates for the Multifamily Housing (Low-Rise) land use. Analysis of other residential land use categories such as Single-Family Detached Housing and Multifamily Housing (Mid-Rise) determines that Saturday daily and Saturday peak hour trip generation is commensurate with weekday daily and PM peak hour trip generation rates. Hence, this study applies weekday daily and PM peak hour trip generation rates for Saturday daily and Saturday peak hour Project trip generation.

ITE lists residential trip generation rates as either an average rate over the range of dwelling units, or as a best fit regression equation. For Multifamily Housing (Low-Rise), trip generation rates are higher when applying the best fit regression equation for a development with 50 dwelling units compared to the average rate. This study conservatively applies the best fit regression equation for daily, AM peak, and PM peak trip generation.

Table 5-1: Project Vehicle Trip Generation Rates

			Daily	AM Peak Hour			PM and Saturday Peak Hour		
Land Use	**Source**	**Units**	**Rate**	**Rate**	**% In**	**% Out**	**Rate**	**% In**	**% Out**
Multifamily Housing (Low-Rise) (ITE 220)	ITE 220	DU	7.92	0.76	24%	76%	0.84	63%	37%

Source: Institute of Transportation Engineers, *Trip Generation Manual, 11th Edition*, 2021. DU = Dwelling Units.
Rates based on regression equations applied for 50 dwelling units as follows, where T = trips, and x = dwelling units:
Daily: T=6.41x+75.31. AM Peak Hour: T=0.31x+22.85. PM Peak Hour: T=.43x+20.55.

Based on the Project development plans for 50 dwelling units and daily trip generation rate of 7.92 trips per dwelling unit, the Project would generate a maximum of 396 trips per day, as displayed in Table 5-2. Of these, up to 38 vehicle trips would be expected to occur during the AM peak hour and a maximum of 42 trips during the PM peak hour. As noted previously, these are conservative, i.e., "worst-case", estimates.

Table 5-2: Project Vehicle Trip Generation

			Daily	AM Peak Hour			PM and Saturday Peak Hour		
Scenario	**Quantity**	**Units**	**Trips**	**Trips**	**In**	**Out**	**Trips**	**In**	**Out**
Project	50	DU	396	38	9	29	42	26	16

Source: Parisi Transportation Consulting, 2023. DU = Dwelling Units.

5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

Project trip distribution through study area gateways was estimated based on existing traffic patterns on roadways in the study area, access to activity centers and other land uses along the study roadway network, and with consideration for Project operational influences such as weekend soccer games and other events at Hauke Park. Vehicle trip distribution gateways were identified for the Project study area, and trips were assigned to gateways based on trip distribution patterns (Table 5-3).

Table 5-3: Project Vehicle Trip Distribution Across Study Area Gateways

	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Study Area Gateway	**Trip %**	**Trip %**	**Trip %**
US 101 north of Tiburon Boulevard	35%	34%	34%
US 101 south of Tiburon Boulevard	20%	13%	20%
Tiburon Boulevard east of US 101	8%	13%	8%
Redwood Highway Frontage Road	2%	5%	3%
Lomita Drive north of East Blithedale Avenue	7%	8%	5%
Camino Alto south of East Blithedale Avenue	13%	14%	15%
East Blithedale Avenue west of Camino Alto	15%	13%	15%

Source: Parisi Transportation Consulting, 2023.

Trip route consideration was made for the one-way directional restriction on Hamilton Drive south of the existing PSB parking lot entrance. As a result, all vehicle trips would be expected to exit the Project site northward along Hamilton Drive toward the intersection with Roque Moraes drive. A majority of vehicle trips originating from the US Highway 101, Tiburon Boulevard, or Redwood Highway Frontage Road origins enter the Project site from the south, accessing Hamilton Drive from Redwood Highway Frontage Road, and a smaller proportion of trips from these origins enter the Project site from the north, according to average gateway trip route duration estimates for each peak hour time period.

5.3 EXISTING PLUS PROJECT LEVEL OF SERVICE

Project-only turning volumes were added with existing volumes to characterize existing conditions plus Project generated trips. "Existing Plus Project" estimated peak hour intersection turning movement volumes are shown in Figure 5-1 and Figure 5-2.

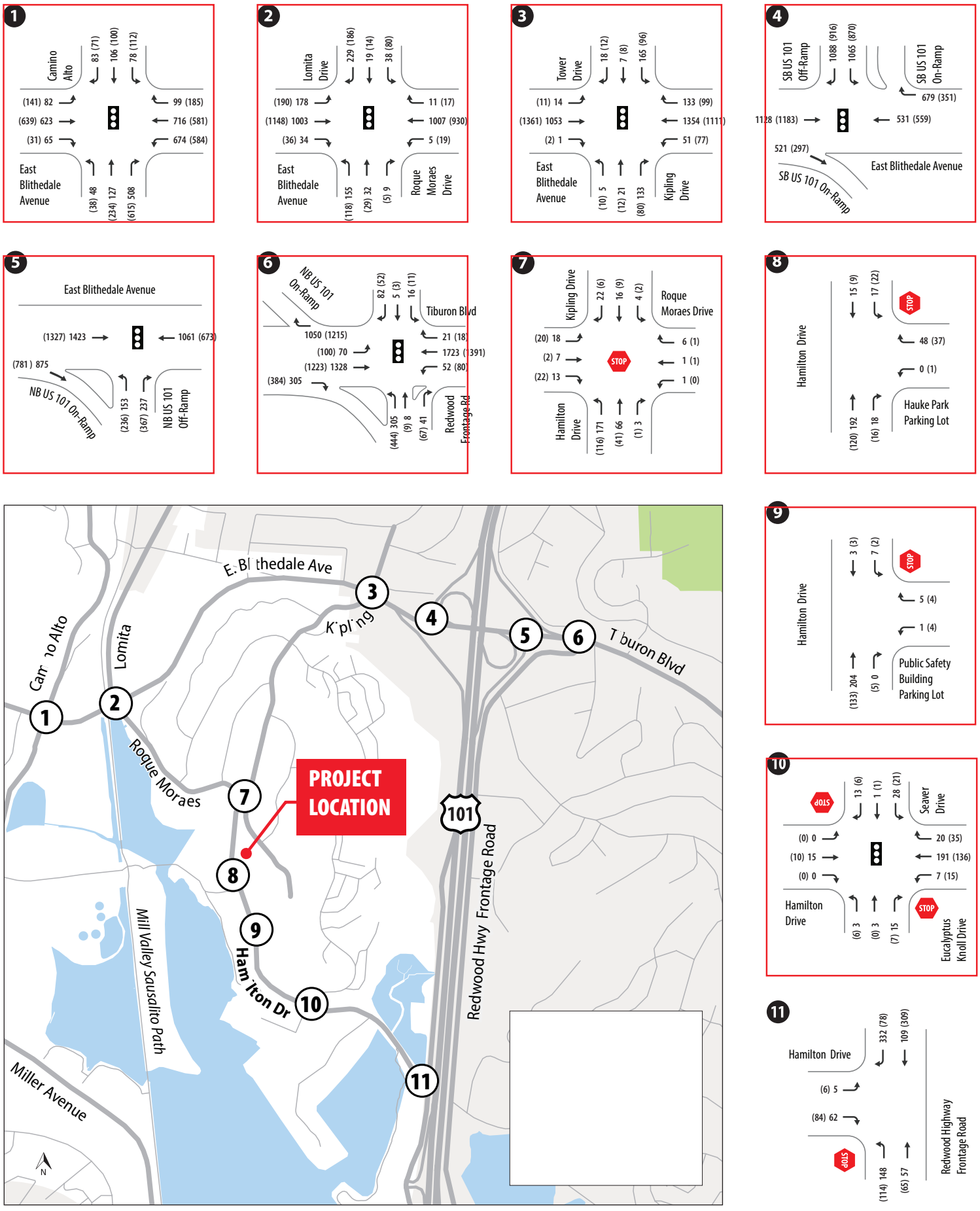


Figure 5-1: Existing Plus Project Peak Hour Vehicle Volumes AM & PM
One Hamilton Drive Transportation Impact Assessment

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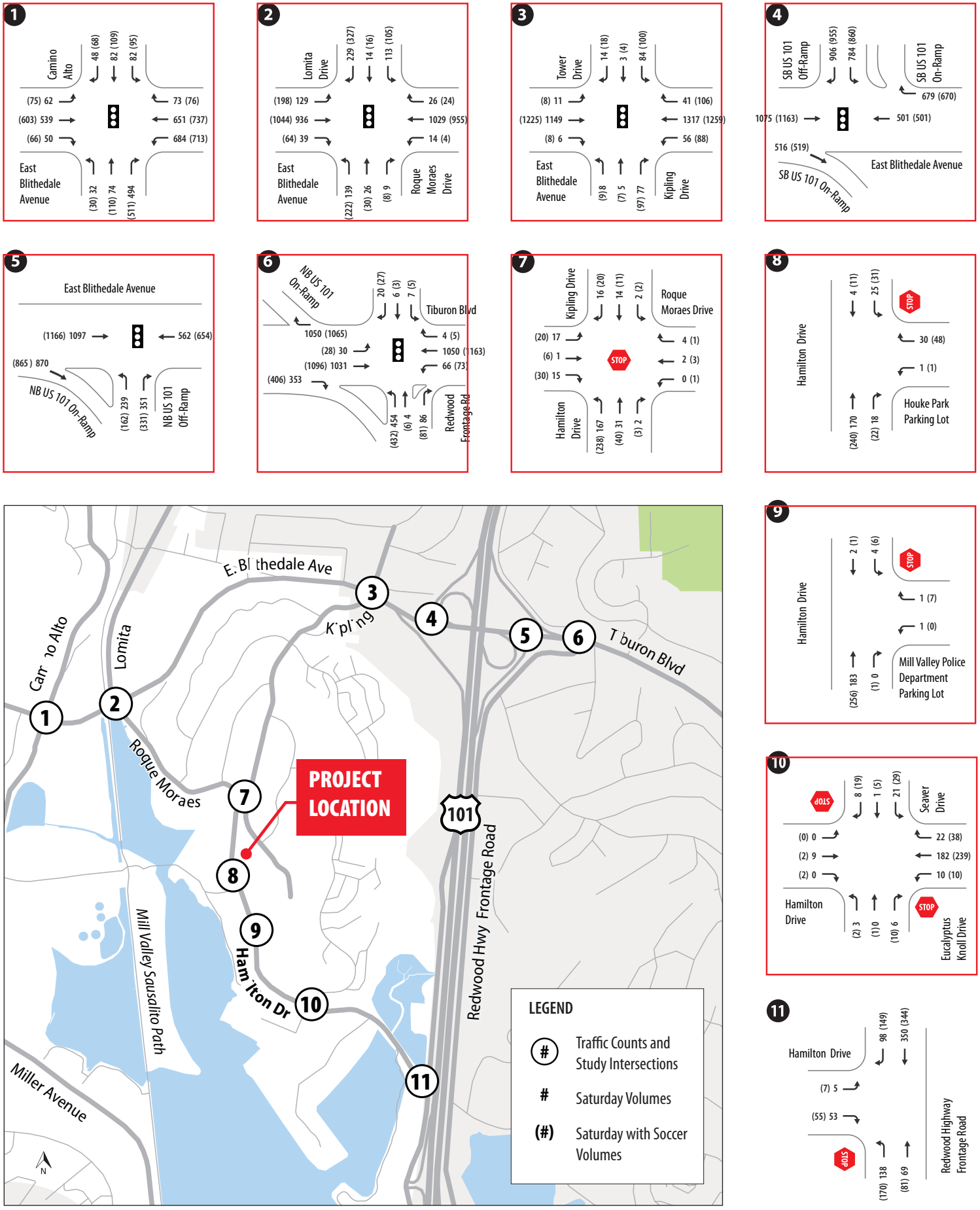


Figure 5-2: Existing Plus Project Peak Hour Vehicle Volumes Saturday & Saturday w/ Soccer
One Hamilton Drive Transportation Impact Assessment

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"Existing Plus Project" LOS analysis results for weekday AM and PM peak hours are displayed in Table 5-4, and in Table 5-5 for Saturday and Saturday with Soccer peak hours. These tables compare intersection delay for Existing conditions against Existing Plus Project conditions.

The results indicate that average vehicle delay at all intersections in the study area would be expected to increase slightly, by less than one-half second, due to the traffic generated by the Project. All signalized intersections would continue to operate at LOS B, C or D during all four peak periods (AM, PM, Saturday, and Saturday with Soccer). The unsignalized intersections would also continue to operate at LOS A or B during all four peak periods.

Appendix E includes detailed inputs and outputs from Synchro for the four "Existing Plus Project" peak periods (AM, PM, Saturday, and Saturday with Soccer).

Table 5-4: Existing and Existing Plus Project Intersection Level of Service – AM & PM Peak Hour

				AM Peak				PM Peak			
				Existing		Existing Plus Project		Existing		Existing Plus Project	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	35.3	D	35.5	D	41.5	D	41.7	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	31.9	C	32.2	C	28.8	C	29.0	D
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	15.5	B	15.6	B	13.9	B	14.1	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	24.9	C	25.0	C	22.2	C	22.6	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	12.4	B	12.4	B	21.0	C	21.0	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	31.6	C	31.6	C	36.6	D	36.7	D
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.5	A	8.7	A	8.4	A	8.6	A
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	9.8	A	10.1	B	9.9	A	10.2	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.6	A	9.7	A	9.5	A	9.6	A
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.7	B	10.7	B	10.5	B	10.6	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	11.3	B	11.3	B	11.7	B	11.7	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

Table 5-5: Existing and Existing Plus Project Intersection Level of Service – Saturday & Saturday with Soccer Peak Hour

				Saturday Peak				Saturday with Soccer Peak			
				Existing		Existing Plus Project		Existing		Existing Plus Project	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	34.5	C	34.6	C	39.0	D	39.1	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	30.2	C	30.4	C	34.0	C	34.2	C
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	11.8	B	12.1	B	14.4	B	14.7	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	23.7	C	23.7	C	24.1	C	24.1	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	31.2	C	31.1	C	22.2	C	22.2	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	32.3	C	32.4	C	31.0	C	31.0	C
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.5	A	8.6	A	9.6	A	9.9	A
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	10.4	B	10.7	B	12.5	B	13.2	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.5	A	9.5	A	10.1	B	10.2	B
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.2	B	10.3	B	11.3	B	11.4	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	12.2	B	12.2	B	13.3	B	13.4	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

5.4 CUMULATIVE PLUS PROJECT LEVEL OF SERVICE

Project-only turning volumes were added with Cumulative traffic volumes to characterize future conditions in the year 2040 including Project generated trips. "Cumulative Plus Project" estimated peak hour intersection turning movement volumes are shown in Figure 5-3 and Figure 5-4.

"Cumulative Plus Project" LOS analysis results for weekday AM and PM peak hours are displayed in Table 5-6 and results for Saturday and Saturday with Soccer peak hours are displayed in Table 5-7. These tables compare intersection delay for Cumulative conditions against Cumulative Plus Project conditions.

The results indicate that average delay at all intersections in the study area would be expected to increase slightly, by less than one-half second, due to the traffic generated by the Project. All signalized intersections would continue to operate at LOS B, C or D during all four peak periods (AM, PM, Saturday, and Saturday with Soccer). The unsignalized intersections would also continue to operate at LOS A or B during all four peak periods.

Appendix F includes detailed inputs and outputs from Synchro for the four "Cumulative Plus Project" peak periods (AM, PM, Saturday, and Saturday with Soccer).

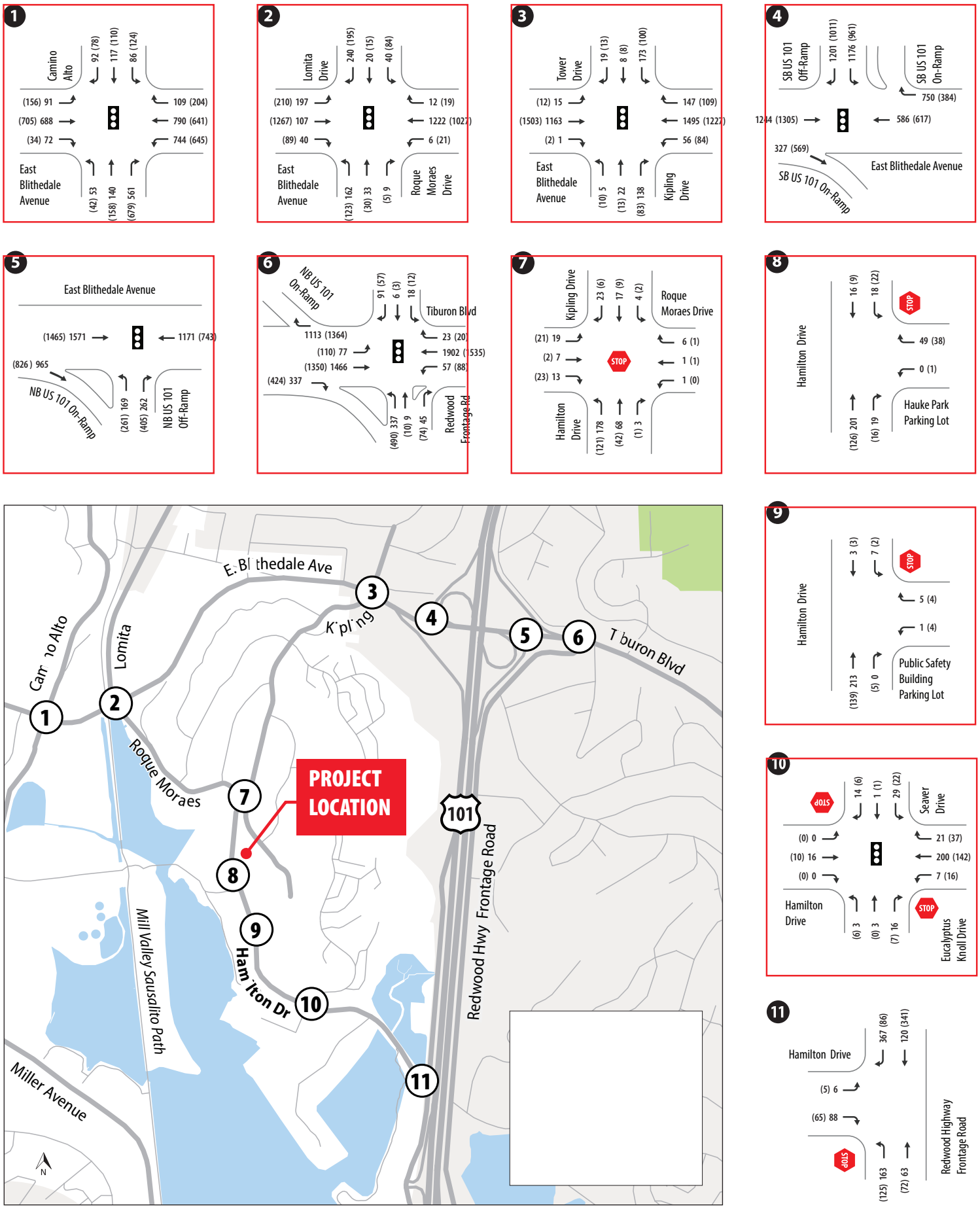


Figure 5-3: Cumulative Plus Project Peak Hour Vehicle Volumes AM & PM
One Hamilton Drive Transportation Impact Assessment

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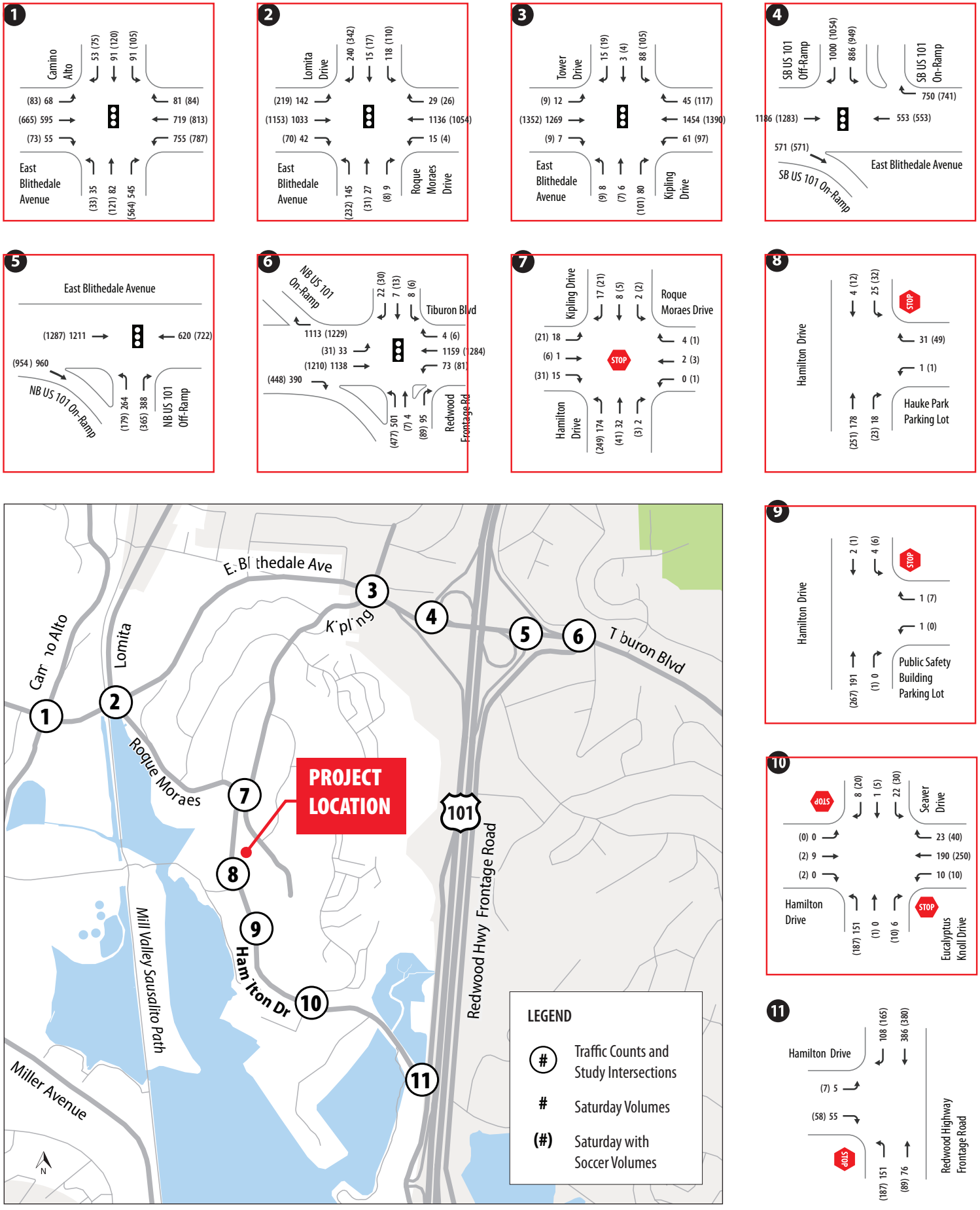


Figure 5-4: Cumulative Plus Project Peak Hour Vehicle Saturday & Sunday with Soccer
One Hamilton Drive Transportation Impact Assessment

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Table 5-6: Cumulative and Cumulative Plus Project Intersection Level of Service – AM & PM Peak Hour

				AM Peak				PM Peak			
				Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	39.1	D	39.3	D	48.9	D	49.4	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	33.1	C	33.4	C	30.1	C	30.3	D
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	17.6	B	17.6	B	15.5	B	16.5	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	27.6	C	27.9	C	24.1	C	23.9	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	13.5	B	13.5	B	22.8	C	22.8	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	36.4	D	36.4	D	44.5	D	44.7	D
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.6	A	8.8	A	8.5	A	8.7	A
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	9.9	A	10.2	B	10.0	B	10.3	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.7	A	9.7	A	9.6	A	9.7	A
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.8	B	10.8	B	10.6	B	10.7	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	11.7	B	11.7	B	12.2	B	12.2	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

Table 5-7: Cumulative and Cumulative Plus Project Intersection Level of Service – Saturday & Saturday with Soccer Peak Hour

				Saturday Peak				Saturday with Soccer Peak			
				Cumulative		Cumulative Plus Project		Cumulative		Cumulative Plus Project	
#	Road 1	Road 2	Control	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	East Blithedale Avenue	Camino Alto	Signal	37.6	D	37.7	D	42.5	D	42.6	D
2	East Blithedale Avenue	Lomita Drive / Roque Moraes Drive	Signal	31.2	C	31.4	C	35.9	D	36.1	D
3	East Blithedale Avenue	Kipling Drive / Tower Drive	Signal	12.2	B	12.5	B	15.2	B	15.5	B
4	Tiburon Boulevard	Highway 101 Southbound Off-Ramp	Signal	24.3	C	24.3	C	25.8	C	25.9	C
5	Tiburon Boulevard	Highway 101 Northbound Off-Ramp	Signal	37.2	D	37.1	D	23.9	C	23.8	C
6	Tiburon Boulevard	Redwood Highway Frontage Road	Signal	37.2	D	37.2	D	36.5	D	36.5	D
7	Roque Moraes Drive	Kipling Drive / Hamilton Drive	AWSC	8.6	A	8.7	A	9.9	A	10.2	B
8	Hamilton Drive	Hauke Park Parking Lot	OWSC	10.5	B	10.7	B	12.7	B	13.4	B
9	Hamilton Drive	Mill Valley Police Department Parking Lot	OWSC	9.5	A	9.6	A	10.2	B	10.3	B
10	Hamilton Drive	Seaver Drive / Eucalyptus Knoll Street	TWSC	10.3	B	10.4	B	11.5	B	11.6	B
11	Hamilton Drive	Redwood Highway Frontage Road	OWSC	12.8	B	12.8	B	14.2	B	14.3	B

Source: Parisi Transportation Consulting, 2023. Notes: Delay is measured in average seconds per vehicle. LOS = Level of Service. AWSC = All-way stop-controlled. TWSC = Two-way stop-controlled. OWSC = One-way stop-controlled. Values displayed for Signalized and AWSC intersections reflect the average delay for all vehicles approaching the intersection. Values displayed for TWSC and OWSC intersections reflect the worst minor street approach delay.

5.5 PROJECT PARKING IMPACTS

5.5.1 APPLICABLE PARKING REQUIREMENTS

As per the City of Mill Valley's Municipal Code, the minimum off-street parking requirement for multifamily dwellings is as follows:[17]

> *2 parking spaces per dwelling unit plus 1/4 of a parking space for each unit for guest parking when on-street parking is not available along the immediate frontage of the property. In development of more than 4 units, the guest parking shall be provided on the site. With the following exceptions:*
>
> *a. Lots 25 feet in width or less shall not be required to provide guest parking.*
>
> *b. Parking requirements for a multi-family efficiency unit shall require 1 parking space.*

In addition, as the Project would be comprised of 100% affordable units, the Project would be entitled to adjusted parking requirements under the State of California Density Bonus Law, which take precedence over the City's Municipal Code requirements. [18] Under this provision, the maximum number of parking spaces that may be required of a Project by a city or county government are as follows:

- Zero to one bedroom: one onsite parking space
- Two to three bedrooms: one and one-half parking spaces
- Four and more bedrooms: two and one-half onsite parking spaces

Whereas the City of Mill Valley requirement is a parking minimum, the Density Bonus Law is a parking requirement maximum. The maximum number of parking spaces can be required of the Project according to the Density Bonus Law is 65, as shown in Table 5-8.

Table 5-8: Maximum Required Off-Street Parking Spaces

		Density Bonus Law Maximum Parking Spaces Required	
Housing Unit Type	**Project Dwelling Units**	**Per Dwelling Unit**	**Total**
1-bedroom apartment	20	1	20
2-bedroom apartment	18	1.5	27
3-bedroom apartment	12	1.5	18
Total	**50**		**65**

Source: Density Bonus Law, California Government Code Section 65915.

[17] City of Mill Valley Municipal Code, Section 20.60.090, Parking Space and Car Storage
[18] California Government Code, Section 65915, Density Bonus Law.

5.5.2 ESTIMATED PARKING DEMAND

Parking demand generated by the Project was estimated using the Institute of Transportation Engineers (ITE) *Parking Generation Manual, 5th edition*, which provides parking generation rates for a variety of land use types.[19] The *Parking Generation Manual* describes the land use type "Multifamily Housing (Low-Rise)" (ITE Land Use Code 220) as a building containing one or two levels of living space, and "Multifamily Housing (Mid-Rise)" as a building containing between three and ten levels of living space. The ITE *Parking Generation Manual* also includes a dataset of parking generation rates for Affordable Housing (ITE Land Use Code 223). This dataset indicates that daily parking generation rates of affordable housing developments are between 15 to 25 percent lower than similar market price housing units, and that application of the "Multifamily Housing (Mid-Rise)" land use parking generation methods without adjustment is likely to overestimate parking demand. This is aligned with research demonstrating that affordable housing units exhibit lower rates of vehicle ownership, which influences parking generation.[20]

This study conservatively applies the highest parking generation rate of these three ITE land use types. As parking generation rates are highest for "Multifamily Housing (Mid-Rise)", and this description appropriately fits the Project plans which contain three floors of living space, parking generation rates for "Multifamily Housing (Mid-Rise)" were selected for this analysis.

The ITE *Parking Generation Manual's* listed rates for Multifamily Housing (Mid-Rise) weekday parking generation is derived from a compilation of over 70 parking studies; however, Saturday parking generation is based on a small sample size of three studies and resulting parking generation rate is less than the weekday daily parking demand maximum rate. This study conservatively employs the higher weekday daily parking generation rates for Saturday parking demand in addition to weekday parking demand. Table 5-9 displays the parking generation rate and estimated peak parking demand generated based on the Project's 50 proposed dwelling units.

Table 5-9: Project Parking Generation Rate and Demand

				Weekday	
Land Use	**Source**	**Units**	**Project Number**	**Peak Demand Rate**	**Parking Demand**
Multifamily Housing (Mid-Rise)	ITE 221	Dwelling Units	50	1.31	66
		Bedrooms	92	0.75	69

Source: Institute of Transportation Engineers, *Parking Generation Manual, 5th Edition*, 2019.

[19] Institute of Transportation Engineers, *Parking Generation Manual, 5th edition*, 2019.
[20] Research on affordable housing correlation with vehicle ownership and parking generation is further expounded upon in Appendix A.

As shown in Table 5-9, parking demand for the Project is estimated to be 66 parking spaces calculated on the basis of number of dwelling units, and 69 parking spaces calculated on the basis of number of bedrooms. For the purposes of this analysis, the higher derived parking demand of 69 parking spaces is applied. As with most residential parking demand surveys, the peak period of parking utilization is overnight between 12 AM and 5 AM on weekdays, and between 12 AM and 7 AM on weekends.

The Project plans currently include provision of 64 vehicle parking spaces on the first-floor podium level of the residential development. This value is one parking space less than the maximum number of parking spaces, 65, that can be required of the Project under the Density Bonus Law (Table 5-8). The Project's planned 64 vehicle parking spaces are five spaces less than the estimated maximum overnight parking demand, 69, generated by the Project (Table 5-9).

The ITE *Parking Generation Manual* includes parking demand over the course of a typical weekday and weekend for the Multifamily Housing (Mid-Rise) land use type. Figure 5-5 shows this time-of-day distribution for parking demand applied to the Project's estimated maximum parking demand.

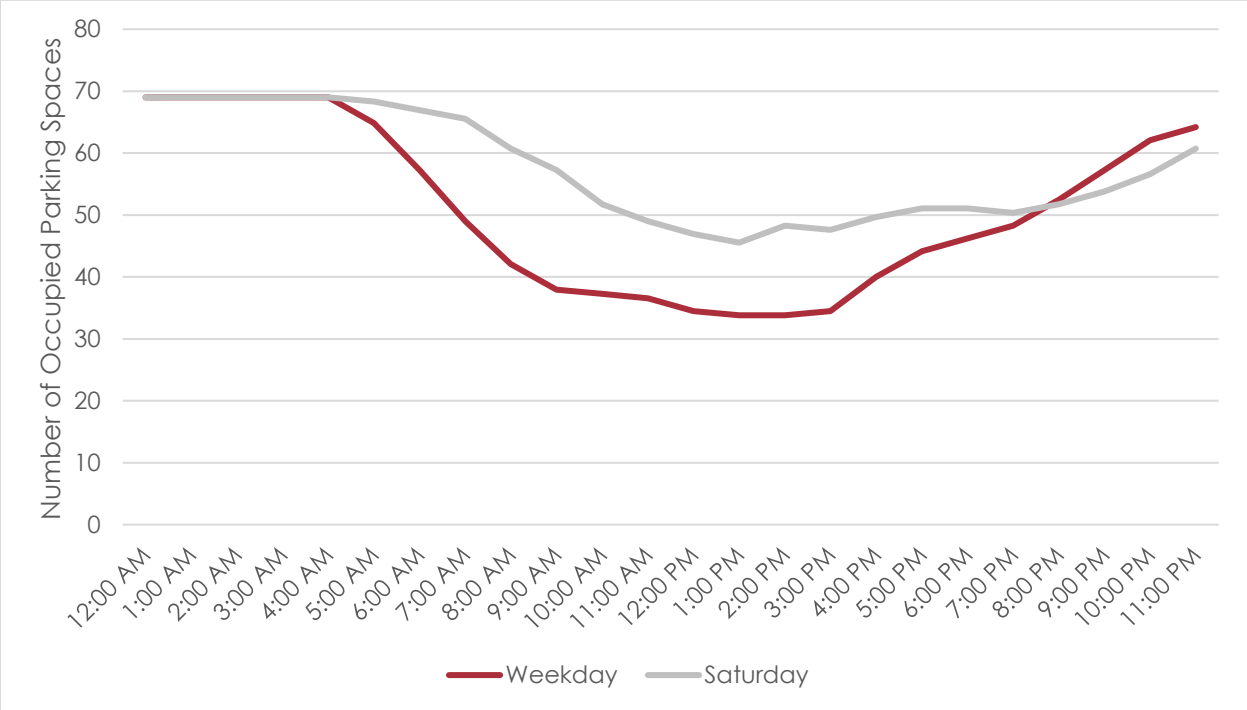


Figure 5-5: Estimated Project Parking Demand
Source: Parisi Transportation Consulting, 2023.

As displayed in Figure 5-5, it is estimated that the maximum demand for 69 parking spaces would occur during the overnight hours between 12 AM and 5 AM, when the greatest number of

residents would be at home. During the morning commute hours, vehicles leaving the Project site would outnumber incoming vehicle trips, and the number of unoccupied parking spaces would increase to over 30 spaces at midday on weekdays and 20 spaces on Saturdays. The projected time-of day estimated Project parking demand makes the Project residences a likely candidate to share parking that otherwise may serve land uses with parking demand outside of the hours of 11 PM – 5 AM.

The Project also includes relocation of the Hauke Park Main Parking Lot existing parking facilities, including 34 regular vehicle parking spaces, two ADA-accessible spaces, and two electric vehicle spaces, to a reconfigured Hauke Park / PSB Public Parking Lot. Project plans include reconfiguring and expanding the existing PSB parking lot to accommodate up to 50 vehicle parking spaces including relocated ADA-accessible and electric vehicle charging facilities. This rearrangement would result in an overall increase of parking accessible to the public by approximately 12 regular parking spaces, to a total of approximately 50 parking spaces.

Parking survey results for the existing Hauke Park Main Parking Lot, shown in Figure 3-6, reveal an opposite time-based parking demand effect compared to residential time-of-day use. The periods of high public parking demand for Hauke Park occur during daytime hours, and parking lot occupancy drops to below 20 percent in the evening hours on both weekdays and weekends.

The residential characteristics of the Project and the daytime public use of Hauke Park are complimentary land uses in terms of parking demand. During peak parking demand by Project residents, the parking spaces at the Hauke Park / PSB Public Parking lot would have low utilization rates. Analysis of parking impacts was conducted according to the approach outlined in the Urban Land Institute's *Shared Parking, 3rd edition*, which sums the parking supply available at the Project site and in the proposed updated configuration of the publicly accessible Hauke Park / PSB Public Parking Lot and compares this to the aggregated time-of-day parking demand for all land uses.[21]

Shared parking analysis results indicate that during the overnight period between 12 AM- 5 AM when residential parking demand is highest, there would be an estimated shortfall of five parking spaces in the first-floor parking lot underneath Project residences. At this same time, at least 40 unoccupied and publicly available parking spaces in the upgraded Hauke Park / PSB Public Parking Lot would be available to meet residential parking demand. During Saturdays when soccer games are being hosted at Hauke Park, which would represent the highest overall parking demand hours for all land uses combined, there would still be over 10 parking spaces empty in the Hauke Park / PSB Public Parking Lot.

[21] Urban Land Institute, *Shared Parking, 3rd edition*. 2020.

5.5.3 PARKING IMPACTS SUMMARY

Project parking demand of 69 parking spaces is based on conservative application of ITE parking generation rates and is also conservatively not adjusted to reflect studies that demonstrate parking demand of affordable housing developments to be substantially lower than market rate units. Therefore, Project parking demand of 69 parking spaces should be interpreted as a likely overestimation of Project-generated vehicle parking.

The Project plans to include 64 parking spaces on the first floor of the residential building is five parking spaces fewer than the maximum estimated parking demand of 69 spaces between the overnight hours of 12 AM – 5 AM. In accordance with the Density Bonus Law, the maximum number of parking spaces that can be required of the Project is 65.

The shared parking analysis indicates that sufficient shared parking would be available to meet parking demand of future Project residents at all timeframes by utilizing available parking in the vicinity. Maximum Project parking generation occurs between the overnight hours of 12 AM – 5 AM, during which time vehicle parking demand would be met by the 64 parking spaces on the first floor of the residential building, and by five public parking spaces in the vicinity.

Overall, the Project would increase the number of publicly accessible parking spaces in the vicinity by approximately 12 parking spaces, resulting in greater parking availability for all users at all timeframes after accounting for Project residential parking demand. Given these results, it is concluded that proposed parking as developed by the Project would be sufficient to meet estimated Project residential parking demand and would expand overall public parking opportunities.

5.6 ACTIVE TRANSPORATION IMPACTS

This section summarizes the Project's potential impact to active transportation modes in the Project vicinity, and accounts for observed existing bicycle and pedestrian counts (Section 3.1), and recent reported collisions (Section 3.6).

5.6.1 PEDESTRIAN FACILITIES

High numbers of pedestrians cross at the intersection of East Blithedale Avenue and Roque Moraes Drive / Lomita Drive along the Mill Valley-Sausalito Pathway (eastbound East Blithedale Avenue intersection approach). Weekday AM and PM peak hour pedestrian crossings (121 and 87, respectively) were greater than Saturday and Saturday with soccer peak hour pedestrian crossings (41 and 22, respectively), which may indicate substantial use of this travel path by commuters or use of the pedestrian crossing by transit users accessing the Marin Transit and Golden Gate Transit stops at the intersection.

At the intersection of Roque Moraes Drive and Kipling Drive / Hamilton Drive, increased pedestrian crossings were observed during Saturdays when soccer games take place at Hauke Park. The number of pedestrians using the marked pedestrian crossing at the eastbound Roque Moraes Drive approach increased from seven on Saturday without soccer games, to 39 on Saturday with soccer games, which aligns with higher on-street parking occupancy observed along Roque Moraes Drive and Kipling Drive when soccer games take place (Section 3.5).

The numbers of pedestrians crossing Hamilton Drive at the two existing Hauke Park Parking Lot entrances is also highest on Saturdays during soccer games (124). Pedestrian crossings are lower on Saturdays without soccer games (77) and weekday afternoons (62), and lowest on weekday mornings (21). These values reflect the intensity of activities taking place at the Hauke Park fields and corresponding utilization of the Hauke Park Parking Lot.

The highest peak hour vehicle traffic counts along Hamilton Drive are also observed on Saturdays when Soccer games take place, when approximately 265 vehicles traveling on Hamilton Drive approach the Hauke Park Parking Lot. During this period, approximately 90% of vehicles on Hamilton Drive travel northward from the Redwood Highway Frontage Road, and these vehicles generally continue past the Hauke Park Parking lot toward the intersection with Roque Moraes Drive. However, most vehicles traveling south on Hamilton Drive turn left into the Hauke Park Parking Lot, due to the upcoming transition of Hamilton Drive into a one-way street. Following this pattern, 32 of 33 vehicles exiting the Hauke Park Parking Lot turned right toward Roque Moraes Drive during the Saturday with Soccer peak hour (Figure 3-2).

Crosswalks adjacent to the Project site are shown on Figure 5-6. The Project would consolidate the two Hauke Park vehicle Parking Lot entrances into a relocated driveway serving the reconfigured Hauke Park Main Parking Lot and the Project parking lot underneath the residences. The Project would install continuous sidewalk on Hamilton Drive along the Project

frontage, including new ADA-compliant curb ramps for Crosswalk 1 and Crosswalk 2 on the east side of Hamilton Drive. This configuration would have an increased offset from the proposed driveway entrance to the southern pedestrian crosswalk across Hamilton Drive, which would result in greater (improved) reaction time for motorists exiting the Project driveway and public parking lot to yield to pedestrians crossing Hamilton Drive. Further south, Crosswalk 3 between the PSB building and the Hamilton Drive Parking Lot and the Bayfront Park Pathway would also remain in place.



Figure 5-6: Crosswalks Adjacent to the Project Site
Source: Parisi Transportation Consulting, 2023.

The Federal Highway Administration's *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* offers pedestrian crossing safety countermeasures to consider given the characteristics of the pedestrian crossing.[22] The conditions along Hamilton Drive in the Cumulative Plus Project scenario (average daily traffic between 2,000-3,000 vehicles, posted speed limit 25 miles per hour, two vehicle travel lanes) indicate that high-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs should be considered based upon engineering judgment.

As parking is restricted along Hamilton Drive, and accounting for traffic and roadway characteristics along Hamilton Drive, the following improvement recommendation is included to ensure proper pedestrian safety and encourage vehicle speeds to not exceed 25 miles per hour.

> **Improvement Recommendation 1: Pedestrian Safety Upgrades**
> The pedestrian crossings across Hamilton Drive between the Project and Hauke Park shall include high-visibility crosswalk markings, advanced pavement warning markings, and reflective crossing warning signs in accordance with the City standard in place at the time of development.

[22] Federal Highway Administration, U.S. Department of Transportation. *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*, 2018.

5.6.2 BICYCLE FACILITIES

Bicycle and pedestrian use and circulation patterns were discerned from counts reflecting weekday AM and PM peak hours, and Saturday with and without soccer games at Hauke Park (Figure 3-3). Most people riding bicycles in the Project vicinity follow a route starting at the Mill Valley-Sausalito Pathway, along the Bayfront Park Pathway eastward, and then entering onto Hamilton Drive and continuing southward toward the Redwood Highway Frontage Road. Very few bicyclists travel along Hamilton Drive along the Project frontage, which lies north of the intersection of Hamilton Drive and the Bayfront Park Pathway. As an example, of the 40 bicycles that traveled northward on Hamilton Drive through the intersection with the PSB parking lot on the observed Saturday, only eight continued to travel along Hamilton past the Project, while the rest exited the roadway onto the Bayfront Park Pathway. This similar pattern was observed in both directions during all four periods of observation.

The Project would have a minor impact on vehicle traffic along Hamilton Drive south of the Project site. Due to the one-way restriction in vehicle traffic south of the PSB parking lot entrance, the Project would not generate any southbound traffic on Hamilton Drive. The Project would generate 10 northbound trips in the PM and Saturday peak hours, translating to an average of one vehicle per six minutes. This increase is not estimated to impact bicycle traffic operations or bicycle safety along Hamilton Drive from the Redwood Highway Frontage Road to the Bayfront Park Pathway. Future planned bicycle boulevards along Hamilton Drive and Roque Moraes Drive would implement designs to give travel priority to bicyclists and facilitate use of the roadway network by Project-generated bicycle trips and bicycle trips that pass through the Project vicinity.[23]

The Mill Valley General Plan Mobility Element Goal M.17-9 suggests requiring new multi-family development projects to include secure bicycle parking. Though City parking standards have not been modified to include this requirement in the municipal code, the Mill Valley Bicycle and Pedestrian Plan includes recommended guidelines for bicycle parking associated with new development. These guidelines recommend that a minimum of one bicycle parking space that is located in a covered and secure area be included for every five dwelling units of a multifamily residential development. The Project would meet this guideline by providing at least 10 bicycle parking spaces.

Current Project plans include 28 on-site bicycle parking spaces within an inside secure bicycle storage and repair room, accessible from the building lobby. Additionally, outside bicycle racks would provide parking for three bicycles near the lobby entrance. This exceeds the recommended bicycle parking provision in the Mill Valley Bicycle and Pedestrian Plan and would encourage more future resident and visitor trips to be made by bicycle.

[23] City of Mill Valley, *2017 Bicycle & Pedestrian Plan.* Issued November 2017.

5.7 CONSTRUCTION IMPACTS

A Project Construction Management Plan that includes construction phasing scopes and describes proposed measures to manage local impacts of construction-generated vehicle activity is included in Appendix I. This section evaluates the impact of proposed construction activities within the vicinity of the Project. Construction-related vehicular activity would not be anticipated after completion of the Project, and steady-state vehicle Project impacts are addressed in Section 5.3 and Section 5.4.

5.7.1 CONSTRUCTION OVERVIEW

The anticipated phases would occur during construction of the Project:

- Phase 1: Rear police and fire department parking to east of PSB building, utilities, EV charging stations, security gates and landscaping
- Phase 2: New public parking lot to north of PSB building, new restroom, and EV charging stations
- Phase 3: Demolition of existing public restrooms, grading, utilities and construction of housing building and all site development

Based on construction estimates, Phases 1 and 2 would last approximately two months each, and Phase 3 would be between 16-18 months. Construction associated with the Project would be required to conform to the Mill Valley Municipal Code restrictions on construction hours between 6 PM and 7 AM.[24] Construction hours that potentially generate noise would take place Monday through Friday between 8 AM and 5 PM.

Construction activity would be required to make every effort to not obstruct the vehicle travel lanes on Hamilton Drive, nor the sidewalk on the east side of Hamilton Drive from the PSB to Roque Moraes Drive, and to park all construction-related vehicles on-site or in the PSB parking lot. Parking on site for workers would be limited, and individuals would carpool to site from an identified off-site parking location.

5.7.2 CONSTRUCTION TRUCK TRIP GENERATION

Construction phases were assessed to determine activities that would generate the highest volumes of truck traffic accessing the site. The temporary construction traffic generation and travel patterns was evaluated to determine whether construction traffic would adversely affect the existing transportation system and surrounding neighborhoods.

Each phase of construction would generate differing numbers of delivery trucks and worker trips. It was determined that the highest number of truck trips would be generated during the phases

[24] Mill Valley Municipal Code, Title 7, Chapter 7.16, Section 7.16.090(D), Special Noise Limits for Construction Projects.

associated with export of removed base material. Base material export would take place shortly after the start of construction Phase 3 for an estimated 40 working days.

It is estimated that a total of 9,451 cubic yards of base material from the field would be exported from the site during those 40 days. Assuming a dump truck capacity of 14 cubic yards per truckload, an estimated 675 truckloads would travel to and from the Project site during this period. As each truckload would account for two total trips (one inbound and one outbound) over a 40-day period, and assuming relatively even distribution of trucks throughout base material export activities and eight working hours of each workday, this would result in an average of 17 truckloads and 34 truck trips per day, or 2.1 truckloads and 4.2 truck trips per hour. The number of trips would be higher or lower on some days and during different hours.

Project information indicates that on-site crews would be required to park at a remote location such as the Manzanita Park & Ride and carpool to the worksite. Based on a maximum crew size of 12 and assuming vehicle occupancy of three workers traveling per vehicle from the remote parking location, this would equate to an additional four arriving vehicle trips to the Project site in the morning and four departing vehicle trips in the afternoon. The worker trips would take place outside of the hours of construction truck trips, as crew instructions are to arrive prior to 8 AM and depart after 5 PM.

The highest frequency of daily truck trips for the Project would occur during 40 days of base material export, when an average of 4.2 truck trips per hour would access the Project site. During these peak traffic generating periods of the Project, up to an additional four worker passenger vehicle trips would take place in the morning and afternoon each day. The number of truck and passenger vehicle trips added to the roadway network by the Project is not anticipated to substantially impact neighborhood traffic operations.

5.7.3 CONSTRUCTION TRAFFIC ROUTE

Construction truck access to the Project site from the public roadway network would be provided via fence and gate off of Hamilton Drive. According to the Project's Construction Management Plan, trucks would access the Project site from the south by turning onto Hamilton Drive from the Redwood Highway Frontage Road. Trucks exiting the site would be required to turn north onto Hamilton Drive, west onto Roque Moraes, and east onto East Blithedale Avenue to access the US-101 access ramps. Contractors operating construction trucks would be instructed of the required haul route.

Construction truck route alternatives accounting for roadway width, driveway entrances, existing traffic patterns, and other characteristics were evaluated as part of this assessment. It was determined that the proposed construction truck haul routes would utilize roadways with sufficient travel width, eliminate incoming and exiting trucks utilizing the same travel path, and

minimize potential truck conflicts with other roadway users and neighborhood driveway entrances.

Due to the lack of on-site space, construction trucks would be staged offsite while waiting to enter the Project site. In consultation with the City's Department of Public Works, the Project would be required to identify staging locations that are at least 200 feet from residences, schools, and other sensitive receptors before drivers are notified by radio that they are allowed to enter the Project site. Fire apparatus access to the rear station entrance must be maintained throughout construction phases.

Construction traffic effects on the circulation network would include temporary capacity reduction on the streets in the study area due to construction vehicle turning movements or delayed truck starts at signalized intersections. Based on the forecast trips associated with construction activities, this addition of truck trips is not estimated to adversely impact the traffic operations of the roadway network.

5.7.4 CONSTRUCTION TRAFFIC SAFETY

The Construction Management Plan includes provisions to minimize traffic safety hazards along public roadways due to the temporary construction-related traffic and parking restrictions. The plan includes temporary signage and provisions for a certified traffic control flagger to be assigned at the intersections of Hamilton Drive / Roque Moraes Drive and Hamilton Drive / Bayfront Park Pathway during periods of active truck haul traffic. Implementation of the Haul Route and Truck Access Traffic Control Plan would require approval from the City of Mill Valley prior to commencing construction activity. In order to ensure truck drivers are made aware of Project site-specific safety aspects ranging from idling limitations to pedestrians and bicyclists accessing the Bayfront Park Pathway, Improvement Recommendation 2 is included.

> **Improvement Recommendation 2: Construction Truck Driver Training**
> The Project shall ensure that all construction truck drivers receive Project-specific training prior to operating haul trips in support of construction activities. Training shall address haul route restrictions, required truck staging locations, truck idling limitations, bicyclist and pedestrian activity and safety, communication with flaggers, site entry and exit protocol, and other topics as deemed necessary.

Access to the Project site would be restricted to the public, and the site would be delineated with construction fence panels. Additional traffic control and fencing would encompass the extent of construction during work on the Project frontage sidewalk, curb and gutter, and utility connections. Access to the Bayfront Park Pathway from Hamilton Drive would remain throughout the duration of all construction phases.

The construction equipment staging area would be located within the boundaries of the Project site, primarily on the new Hauke Park / PSB parking lot during construction Phase 3. Any roadway

impacts, lane closures, would require an approved Road Impact Permit approved by the City department of Public Works. This permit application requires appropriate travel path provision for pedestrians and bicyclists protected from worksite hazards.

5.7.5 CONSTRUCTION IMPACTS SUMMARY

This section summarized the transportation assessment planned Project construction activities. The assessment determined that truck trip generation and routing will not adversely impact the surrounding roadways. Considering that the Construction Management Plan would require approval from the City prior to commencing construction activity, and based on assessment of Project plans and documents, it is determined that potential construction traffic impacts would be sufficiently addressed after the implementation of Improvement Recommendation 2.

6. CEQA Analysis

Senate Bill 743, signed into law in 2013, mandated a change in California Environmental Quality Act (CEQA) guidelines to utilize vehicle miles traveled (VMT), as opposed to vehicle flow or traffic congestion, as a more appropriate metric for assessing impacts associated with projects, in line with goals of helping to achieve climate commitments, improving health and safety, and prioritizing co-located land uses. VMT is calculated based on the sum of individual vehicle trips generated and their associated trip lengths. The use of VMT as a performance measure allows for the evaluation of fuel consumption by motor vehicles for distances traveled and impacts associated with greenhouse gas (GHG) emissions.

The State of California gives the lead agency discretion in selecting an appropriate methodology and significance threshold for VMT impacts.[25] In December 2018, OPR published its *Technical Advisory on Evaluating Transportation Impacts in CEQA* ("*Technical Advisory*").[26] These guidelines direct lead agencies on how to evaluate project transportation impacts on the basis of VMT, as required by Senate Bill 743. The Transportation Authority of Marin (TAM) has made available a memo that includes suggestions for VMT thresholds of significance to be incorporated into its travel demand forecasting model for use by local lead agencies.[27]

6.1 CEQA SIGNIFICANCE CRITERIA

This analysis utilizes the sample environmental significance criteria checklist form included in the CEQA guidelines that may be used to foster agency review.[28] The Project would result in a significant transportation impact if it would:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities
- Conflict or be inconsistent with CEQA Guidelines Section 15063.4, Subdivision (b) regarding vehicle miles traveled (VMT)
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), or
- Result in inadequate emergency access

[25] CEQA Guidelines, California Code of Regulations, Title 14, Division 6, Chapter 3, *Guidelines for Implementation of the California Environmental Quality Act*, Article 5, §15064.3(b). December 28, 2018.
[26] California Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Issued December 2018. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed April 26, 2023.
[27] Transportation Authority of Marin, *2015 & 2040 TAMDM Marin County VMT Estimates*. Issued November 2, 2020.
[28] CEQA Guidelines, California Code of Regulations, Title 14, Division 6, Chapter 3, *Guidelines for Implementation of the California Environmental Quality Act*, Appendix G. December 28, 2018

6.2 CEQA IMPACT ANALYSIS RESULTS

Table 6-1 provides a summary of the Project CEQA determination for each of the significance criteria that could constitute potential transportation environmental impacts. A discussion of each finding follows.

Table 6-1: CEQA Checklist Impact Determination

Impact	Question	CEQA Determination
TRA-1	Would the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less Than Significant Impact
TRA-2	Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less Than Significant Impact
TRA-3	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)?	Less Than Significant Impact
TRA-4	Would the project result in inadequate emergency access?	Less Than Significant Impact

Source: Parisi Transportation Consulting, 2023.

6.2.1 TRA-1: CONSISTENCY WITH PLANS AND POLICIES

Transportation aspects of land use projects are shaped by adopted plans and policies at various levels of government and agencies. These plans and policies are consulted as part of the assessment to evaluate against applied principles and efforts to mitigate environmental effects. Discussion of this Project with respect to the framework established by state, regional, and local plans and policies for purpose of mitigating significant environmental effects is presented in this section. This section includes rationale behind the conclusion that the proposed Project does not conflict with any described plans and policies and presents no CEQA impact. Policies and plans addressing the transportation aspects of this Project include:

State: Senate Bill 743 (2013)

Senate Bill 743 mandated a change in CEQA guidelines to utilize VMT as opposed to vehicle flow or traffic congestion as a more appropriate metric for assessing impacts associated with projects, in line with goals of helping to achieve climate commitments, improving health and safety, and prioritizing co-located land uses. This Project ensures compliance with CEQA guidelines by following the California OPR *Technical Advisory* in its VMT analysis.

Regional: Plan Bay Area 2050 (2021)

In 2021, the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2050 as the official regional long-range

transportation and land use plan for the Bay Area.[29] Strategies in this plan include encouraging land use patterns that foster shared transportation modes, lessen the share of single-occupancy work commutes, and reduce greenhouse gas emissions. The Project's provision of affordable multifamily housing with access to transit is in line with the emission reduction objectives of Plan Bay Area 2050.

Regional: TAM Congestion Management Program (2021)

The Transportation Authority of Marin (TAM) is the congestion management agency for Marin County and develops and updates its mandated short-range Congestion Management Program (CMP) every two years to describe strategies to assess and monitor the performance of the county's transportation system, address congestion and improve performance of a multimodal system among local jurisdictions.[30] Major developments that generate a net increase of more than 100 PM peak hour vehicle trips are subject to a CMP analysis and traffic impact study. As shown in Table 5-2, the Project would generate 26 total PM peak hour trips, and a CMP analysis is not required.

Local: Mill Valley General Plan (MV2040) Mobility Element (2013)

The MV2040 General Plan Mobility Element establishes a local framework to describe "the ability to move about" in the context of existing circulation infrastructure and travel purposes in Mill Valley.[31]

The Mobility Element details the shift from promoting high automobile service levels at the expense of transit, bicycle and pedestrian movements, to the pursuit of a balanced, multi-modal transportation system. Maintaining and implementing non-motorized transportation systems is described as a key component of facilitating growth of walking and biking as a preferred travel option. The document plans for the trend of transit capturing a larger share of daily trips through application of real-time transit data, traffic signal timing, and transit infrastructure improvements.

The Project proposal aligns with multiple goals of the Mobility Element, including supporting compact development that encourages alternative modes of transportation, providing immediate walk and bike access to the established Bayfront Park and Mill Valley-Sausalito Paths, providing parking that can be shared between multiple users, and being located less than 0.5 miles from transit stops that provide access to Marin County and San Francisco.

Local: Mill Valley Bicycle and Pedestrian Plan (2017)

The Mill Valley Bicycle and Pedestrian Plan seeks to encourage active transportation to promote healthy lifestyles, reduce traffic congestion, improve air quality, and better connect local

[29] Metropolitan Transportation Commission and Association of Bay Area Governments, *Plan Bay Area 2050, A Vision for the Future*. Adopted October, 2021.
[30] Transportation Authority of Marin, *2021 Congestion Management Program Final Draft Report.* Issued September 2021.
[31] City of Mill Valley, *Mill Valley General Plan MV 2040*. Adopted by the Mill Valley City Council October 2013.

destinations.[32] The Project is aligned with goals to create a safe and sustainable transportation network that balances the needs of pedestrians, bicyclists, motorists, and transit users.

The proposed Project would establish a primary land use near the bicycle circulation network and be generally consistent with the tenants of the Bicycle and Pedestrian Plan.

Mill Valley Complete Streets Policy (2013)

The Complete Streets Policy of City of Mill Valley, Resolution Number 2013-03, declares a policy to further ensure that Mill Valley streets provide safe and convenient travel options for all users.[33]

Any off-site improvements initiated by the proposed Project would be in accordance with City requirements and would facilitate provision of infrastructure and programs that encourage alternative means of transportation, is sensitive to local context, and follows the implementation consultation and consistency framework which is consistent with the principles contained in the Complete Streets Policy.

6.2.2 TRA-2: VEHICLE-MILES TRAVELED ANALYSIS

VMT Analysis Methods

Based on CEQA Guidelines Section 15064.3, Subdivision (b), vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. As the City of Mill Valley has not yet established VMT significance thresholds for CEQA analysis, thresholds consistent with the OPR *Technical Advisory* will be applied to the Project, which account for local geographic and land use considerations.

The first step in conducting a VMT analysis is to compare a project against VMT screening thresholds. In *Technical Advisory*, the OPR includes guidelines for agencies to establish VMT screening thresholds to facilitate rapid identification of projects that are expected to cause a less-than-significant impact. If projects meet any of the screening criteria, they are considered to be "screened-out," and it is presumed that VMT impacts for the project would be less-than-significant, and a detailed VMT analysis is not required for transportation CEQA analysis purposes. The following screening thresholds are applied:

- Small projects: projects that generate fewer than 110 vehicle trips per day;
- Projects located in low-VMT generating areas: residential and office projects located in areas with average VMT less than 15 percent below the existing County average;

[32] City of Mill Valley, *Mill Valley Bicycle and Pedestrian Plan.* Issued November 2017.
[33] Mill Valley City Council, *Complete Streets Policy of City of Mill Valley Resolution*. Filed January 2013.

- Projects near transit stations: projects within ½ mile of high-quality transit (either a rail station, or a bus stop with service at least every 15 minutes during the AM and PM peak periods);
- Affordable residential development: projects containing 100 percent affordable residential development; and
- Local-serving retail projects: projects consisting of less than 30,000 square feet of development and determined by the City to be local-serving.

If none of the screening thresholds are met, a detailed VMT analysis is undertaken. As the Project consists of residential land use development only, the following threshold of significance for the detailed VMT analysis is applied:

- For residential projects, a proposed project that exceeds a project generated level of 15 percent below existing County average home-based VMT per resident may indicate a significant transportation impact.

VMT Screening Assessment

The VMT screening assessment determined that the Project meets the screening criterion for affordable housing. Thus, the Project is considered to cause a less-than-significant impact and is exempt from a detailed CEQA analysis. Results of the Project VMT screening assessment are displayed in Table 6-2, and associated description for each screening criteria based on OPR guidance in *Technical* Advisory and Project assessment are included in this section.

Table 6-2: VMT Screening Analysis Results

Screening Criteria	Screening Criteria Description	Screening Criteria Met?
Small Project	Project generates less than 100 daily vehicle trips	No
Low-VMT Area	Project is located within a low-VMT area	No
Near Transit Station	Project is located within 0.5 mile of major transit stop	No
Affordable Housing	Project consists of 100 percent affordable housing	Yes
Local Serving Retail	Project consists of local serving retail uses	N/A

Source: Parisi Transportation Consulting, 2023.

Small Projects Screening

To assess vehicle trip generation, the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*[34] was used to estimate the number of trips the Project would generate. Trip generation approach and results are discussed in detail in Section 5.1. The project would be

[34] Institute of Transportation Engineers, *Trip Generation Manual, 11th edition*, 2021.

estimated to generate a maximum of 396 vehicle trips (Table 5-2) and as a result the Project would not meet the screening criteria for small projects.

Low-VMT Area Screening

Projects located in an area with low VMT as determined by comparison to the thresholds of significance and incorporating similar characteristics of land use and multi-modal transportation accessibility exhibited by the existing built environment, can be presumed to cause a less-than-significant transportation impact. Comparison with the thresholds of significance is made according to the Project transportation analysis zone (TAZ). A metric of home-based VMT per resident is used for screening and is compared to 15 percent below the Marin County average.

Average 2020 daily VMT per resident for Marin County and the proposed Project TAZ based on data from TAM[35] is included in Table 6-3 below.

Table 6-3: Results for Low-VMT Area Screening Criteria

	2020 VMT per Resident		
Project Location	**County Average**	**Threshold of Significance**	**Project TAZ**
1 Hamilton Drive, Mill Valley, CA	15.6	13.3	17.6

Source: Transportation Authority of Marin, 2023.

The average 2020 daily VMT per resident in the Project TAZ is 17.6 miles, which is above the threshold of significance (15 percent below the regional average) of 13.3 miles. As such, the Project would not meet screening criteria based on location within a low-VMT area.

Near Transit Station Screening

Projects proposed within 0.5 miles of an existing major transit stop or existing stop along a high-quality transit corridor are presumed to have less-than-significant impact on VMT. The 2021 CEQA Statue defines a Major Transit Stop as containing any of the following: [36]

a) An existing rail or bus rapid transit (BRT) station.
b) A ferry terminal served by either a bus or rail transit service.
c) The intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

The Project site at 1 Hamilton Drive is located approximately 0.35 miles from the nearest bus stop at the intersection of Roque Moraes Drive and East Blithedale Avenue. Though this stop accommodates services from multiple bus lines operated by Marin Transit and Golden Gate

[35] Transportation Authority of Marin, Marin County Vehicle Miles Traveled Forecasts. https://www.tam.ca.gov/travel-demand-model-traffic-monitoring/. Accessed May 3, 2023.
[36] CEQA Statue. *California Public Resources Code, Division 13, §21064.3*. Published Jan 1, 2022.

Transit, the most frequent fixed-route service interval is every 30 minutes during peak periods, which does not meet the CEQA definition of a Major Transit Stop. The Project would not meet screening criteria for proximity to a Major Transit Stop.

Affordable Housing Screening

Research has demonstrated that affordable housing projects in infill locations reduces VMT by shortening commutes through improved employment proximity to housing. OPR suggests that residential development projects consisting of 100 percent affordable housing units in infill locations may be presumed to result in less than significant impacts.

The Project includes development of 50 housing units, all of which would be made affordable to low-income and very low-income households according to median income limits established by the U.S. Department of Housing and Urban Development. The Project is located within the developed area of Mill Valley and not on an urban growth boundary and would be considered infill development. On this basis, the Project would meet the affordable housing screen, and would be assumed to result in a less than significant impact.

Local Serving Retail Screening

The Project does not include a retail component, and as such this screening criteria is not relevant in determining potential environmental impact.

VMT Analysis Summary

The Project would meet the VMT screening threshold of 100 percent affordable residential infill development. As such, the Project would be presumed to result in a less than significant transportation impact on the basis of VMT. The Project would be consistent with CEQA Guidelines Section 15064.3, Subdivision (b).

6.2.3 TRA-3: HAZARDS DUE TO GEOMETRIC DESIGN OR INCOMPATIBLE USES

The Project would include changes to the existing Hauke Park Parking Lot and vehicle entrances. A reconfigured design would consolidate vehicle access to a single public parking lot and access to first-floor resident parking under the Project residences. Safety considerations for driveway entrance alterations including geometric design would be accounted for during the engineering phase and are subject to approval through the City permit process.

Motorist sight distances at the Project driveway were evaluated according to sight distance criteria contained in the Caltrans *Highway Design Manual*.[37] For urban driveway minor street approaches, criteria for stopping sight distance applies. Stopping sight distance is the minimum sight distance needed to allow a driver traveling at the design speed of the major roadway to see an obstacle ahead and decelerate to avoid a collision. Applying a design speed of 25 mph along Hamilton Drive, the minimum sight distance required is 150 feet. Vehicles traveling

[37] California Department of Transportation, *Highway Design Manual, Seventh Edition.* 2019.

northbound toward the proposed Project driveway have clear sight lines of over 500 feet, and vehicles traveling southbound toward the proposed Project driveway have clear sight lines of over 200 feet. As such, required sight lines for the Project driveway are determined to be sufficient.

The Project would not alter the roadway width along Hamilton Drive. The Project is near other residential uses. Vehicle trips generated by the Project would be primarily personal vehicle trips similar to existing uses along the roadway, and do not introduce or present an incompatible transportation use.

As the Project is not incompatible with existing surrounding residential land uses, sight distances approaching the Project driveway are adequate, and off-site road geometric design alterations would not increase hazards, the Project results in a less-than-significant CEQA impact.

6.2.4 TRA-4: EMERGENCY ACCESS

Emergency access requirements applicable to the Project are included in the Fire Code of the City of Mill Valley, which adopts the California Fire Code with amendments.[38]

Aerial fire apparatus access roads require 26 feet in unobstructed width, though an exception for driveways serving fewer than five structures may reduce the required unobstructed width to 16 feet. Primary emergency access to the Project site is from Hamilton Drive, and secondary access is from the drive aisle of the reconfigured Hauke Park/PSB parking lot. Fire apparatus access to the Project site shall be included in the fire safety plan and undergo review and approval from the Fire Department.

Primary fire apparatus path of travel from the Fire Station garage onto Hamilton Drive upon an emergency event would be from the front garage entrance. The Project would also accommodate emergency vehicle access to the rear Fire Station garage entrance within the Project boundary. Project plans indicate the reconfigured Hauke Park/PSB parking lot would contain sufficient width for fire apparatus access and through travel. Fire apparatus access through the drive aisles of the reconfigured Hauke Park/PSB parking lot would be limited and not intended for emergency access. Public parking lot utilization of the reconfigured Hauke Park/PSB parking lot drive aisles would not present a conflict with the intended fire apparatus use of these drive aisles.

Vehicle volumes in the year 2040 including additional vehicle trips generated by the Project are estimated in the "Cumulative Plus Project" scenario (Section 5.4). Analysis of this scenario indicate that the Project would not result in additional emergency response vehicle delay.

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[38] City of Mill Valley, *Fire Code of the City of Mill Valley*. https://library.qcode.us/lib/mill_valley_ca/pub/municipal_code/item/title_15-chapter_15_04-15_04_120. Accessed April 28, 2023.

Potential impacts to roadway emergency access during construction would be addressed through the construction traffic control plan, which would be reviewed and approved by appropriate City departments.

Since adequate emergency access is required as part of the Fire Code of the City of Mill Valley and Project plans would be reviewed by local fire officials as part of design review, the Project would have a less-than-significant CEQA impact with respect to emergency access.

7. Conclusion

This report contains results of a Transportation Impact Assessment conducted for the proposed Project affordable housing development at 1 Hamilton Drive in Mill Valley, California. Conclusions of this assessment include the following:

- The Project involves a multifamily affordable housing development of up to 50 units, consisting of 20 one-bedroom, 18 two-bedroom, and 12 three-bedroom units. The Project also involves removal of 38 existing public parking spaces, restrooms, and electric vehicle charger from the Hauke Park Main parking lot, and replacement of these facilities in the Public Safety Building (PSB) parking lot, which will also incorporate approximately 12 parking spaces additional to the replacement of the 38 spaces.
- Between 2016-2020, there were four collisions in total recorded during the five-year period in the vicinity of the Project. None of the collisions resulted in severe injury or fatality, and one involved a bicyclist.
- Project vehicle trip generation estimates were developed according to conservative application of the ITE *Trip Generation Manual, 11th Edition* and do not reflect research that demonstrates vehicle trip generation rates of affordable housing units to be substantially (25 – 50 percent) lower than similar market rate housing units. The Project would generate a maximum of 396 daily vehicle trips, including 38 AM and 42 PM peak hour vehicle trips, which should be interpreted as a likely overestimation of Project vehicle trip generation.
- Intersection traffic analysis for "Existing" and "Existing Plus Project" conditions indicate that all signalized study intersections operate at Level of Service "B," "C," or "D," and all stop-controlled study intersections operate at Level of Service "A" or "B" during AM, PM, and Saturday Peak hours. The Project would not adversely impact intersection LOS.
- Site access for vehicles would be accommodated by provision of a new street access entrance along Hamilton Drive.
- The anticipated Project parking demand was estimated according to conservative application of the *ITE Parking Generation Manual, 5th Edition*, and do not reflect research that demonstrates vehicle parking generation rates of affordable housing units to be substantially (15 – 25 percent) lower than similar market rate housing units. A shared parking analysis with the Hauke Park / PSB parking lot indicates that proposed parking as developed by the Project would be sufficient to meet estimated Project residential parking demand and would expand overall public parking opportunities.

- Pedestrian and bicyclist facilities would be sufficient through implementation of Improvement Recommendation 1.
- The Project would result in a less-than-significant CEQA transportation impact.

7.1 IMPROVEMENT MEASURES SUMMARY

A combined list of all recommendations from this report is included below.

Improvement Recommendation 1: Pedestrian Safety Upgrades
The pedestrian crossings across Hamilton Drive between the Project and Hauke Park shall include high-visibility crosswalk markings, advanced pavement warning markings, and reflective crossing warning signs in accordance with the City standard in place at the time of development.

Improvement Recommendation 2: Construction Truck Driver Training
The Project shall ensure that all construction truck drivers receive Project-specific training prior to operating haul trips in support of construction activities. Training shall address haul route restrictions, required truck staging locations, truck idling limitations, bicyclist and pedestrian activity and safety, communication with flaggers, site entry and exit protocol, and other topics as deemed necessary.

Appendix A Affordable Housing VMT, Trip and Parking Generation

Over the past 10 years, numerous academic publications have addressed the subject of affordable housing travel behavior analysis. Studies have collected observed and derived vehicle trip generation and parking generation rates of affordable housing developments across California, [39,40,41,42,43] and detailed affordable housing trip generation studies have been performed in Los Angeles[44] and San Diego.[45] The ITE *Trip Generation Manual* also includes a dataset of vehicle trip generation rates based on sample affordable housing data collection studies in its Affordable Housing land use (ITE Land Use Code 223).

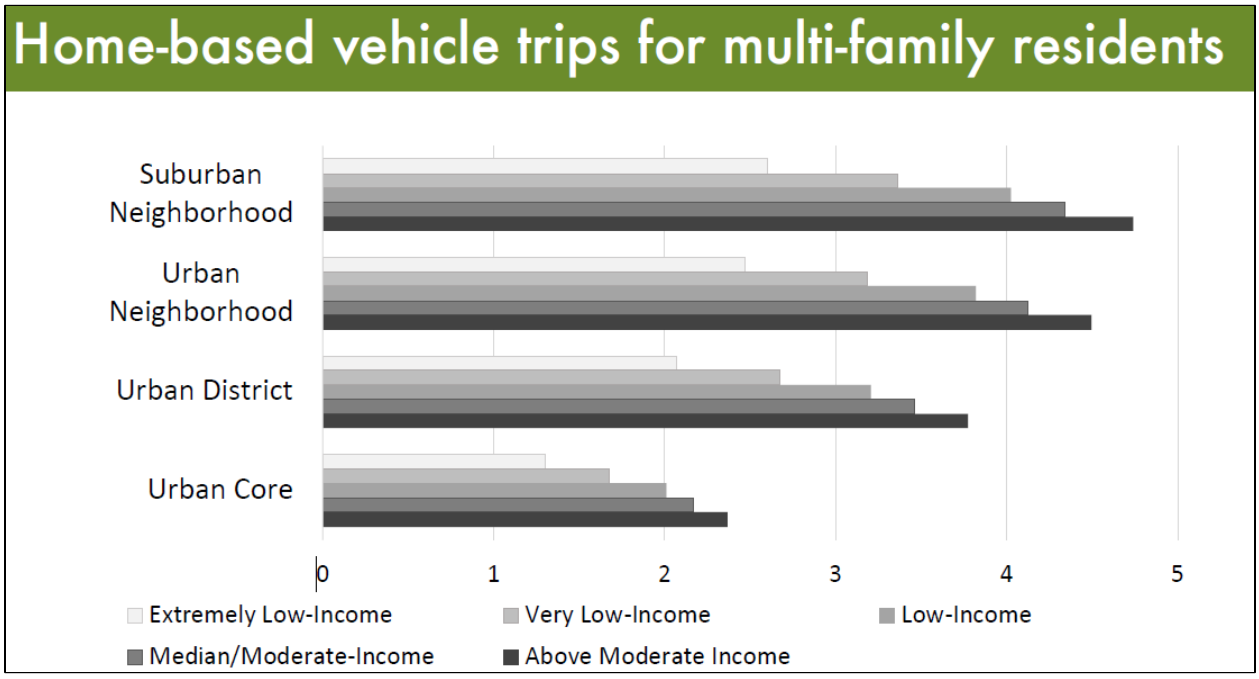
These sources consistently indicate that daily and peak hour trip generation rates of affordable housing developments are at least between 25 to 50 percent lower than similar market price housing units of identical household composition and location (Appendix Figure 1).

In response to the growing confidence in scholarly evidence on the topic, several agencies have issued guidelines that summarize a data-based approach to assessing and permitting of affordable housing developments. The Los Angeles Department of Transportation has published specific vehicle trip generation rates for affordable housing projects in its transportation assessment guidelines.[46] The OPR Technical Advisory supports a presumption of less than significant VMT impact for 100 percent affordable residential development in infill locations, and suggests that VMT analyses for projects with an affordable residential unit mix account for the affordability effect on VMT reduction generated by those units. OPR recommends further analysis of projects that may otherwise appear to reduce VMT (such as being located near a major transit station) if the project also results in an overall replacement of affordable residential units with market-rate units, as this condition may actually result in an increase in overall VMT.[47]

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[39] Clifton et al., *Affordable Housing Trip Generation Strategies and Rates.* California Department of Transportation Technical Report. September 2018.
[40] Currans, et al., *Improving Transportation Impact Analyses for Subsidized Affordable Housing Developments: A Data Collection and Analysis of Motorized Vehicle and Person Trip Generation.* Cities, 2020.
[41] Newmark and Haas, *Income, Location Efficiency, and VMT: Affordable Housing as a Climate Strategy*. Center for Neighborhood Technology. December 2015.
[42] Chappele et al. *Developing a New Methodology for Analyzing Potential Displacement*, 2017. https://ww2.arb.ca.gov/sites/default/files/classic/research/apr/past/13-310.pdf. Accessed Feb 15, 2023.
[43] Chris Benner & Alex Karner. *Low-wage jobs-housing fit: identifying locations of affordable housing shortages, Urban Geography, DOI*. 2016
[44] City of Los Angeles, *Infill and Complete Streets: Capturing VMT Impacts & Benefits Pursuant to CEQA.* 2017. This study includes data collection at 42 100% affordable housing sites.
[45] Fehr & Peers. *Affordable Housing and SB743 VMT – Screening Considerations*. December 2021. This
[46] Los Angeles Department of Transportation, *Transportation Assessment Guidelines*, July 2020. Trip Generation Rates for Affordable Housing Projects are listed in Table 3.3-2.
[47] California Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Issued December 2018.

The California Air Pollution Control Officers Association (CAPCOA) suggests a GHG emissions reduction factor for housing developments based on percentage integration of housing units permanently dedicated as affordable or below market rate.[48]



Appendix Figure 1: Home-Based Vehicle Trips by Income Level

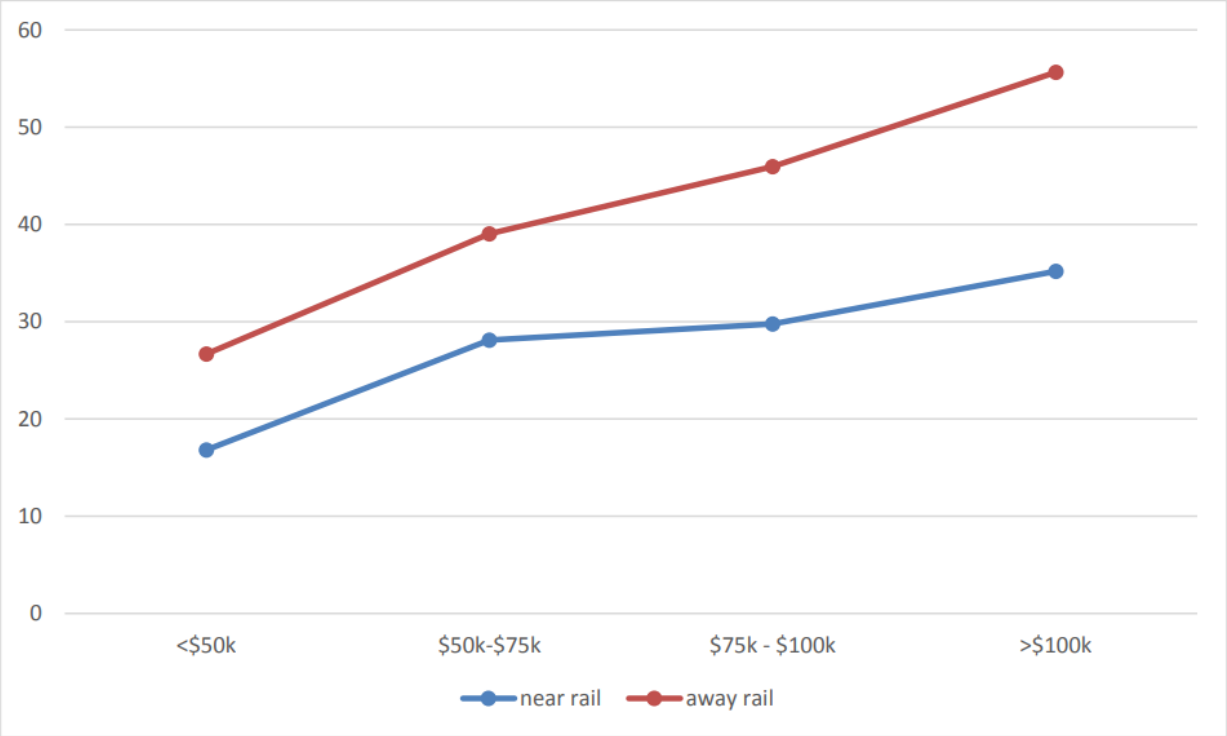
Source: Howell, Amanda, "Transportation Impacts of Affordable Housing: Informing Development Review with Travel Behavior Analysis." 2018. TREC Friday Seminar Series. 148. https://pdxscholar.library.pdx.edu/trec_seminar/148, accessed February 20, 2023.

A significant contributing factor influencing trip generation rates is derived from research results indicating that vehicle ownership for multi-family residents increases with income level across suburban and urban built environment contexts.[49] The number of household vehicles for households of above moderate income is between 60 to 90 percent higher than extremely low-income households. While the number of total person-trips (trips made by any mode of transportation, including driving, walking, biking, or public transit) only varies slightly with household income, substantial difference in vehicle ownership rate results in significant difference in vehicle-trip generation by income, as shown in the figure below.

Other factors influence the income level variation in vehicle trips and VMT, such as improved proximity of housing to job locations when affordable housing is more widely available and geographically dispersed. This improved geographic proximity and shortened commute

[48] California Air Pollution Control Officers Association, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity.* December 2021.
[49] Howell et al., *Transportation Impacts of Affordable Housing: Informing Development Review with Travel Behavior Analysis*. The Journal of Transport and Land Use, Vol 11 No. 1, January 2018.

distance effect is particularly notable in VMT calculations, as VMT is a product of vehicle trips and vehicle trip distance. Regardless of proximity to transit, low-income households exhibit lower VMT than high-income households (Appendix Figure 2).



Appendix Figure 2: Average Daily Household VMT by Income Level and Rail Access
Source: Chris Benner & Alex Karner. Low-wage jobs-housing fit: identifying locations of affordable housing shortages, Urban Geography. 2016. Results are based on California Household Travel Survey, reflecting all California metro areas.

A similar dynamic is observed regarding parking generation of affordable housing developments. A number of the aforementioned studies as well as the ITE *Parking Generation Manual* also includes a dataset of parking generation rates for Affordable Housing (ITE Land Use Code 223). ITE indicates that daily parking generation rates of affordable housing developments are between 15 to 25 percent lower than similar market price housing units, and other studies show a more significant differential.

Due to significant differences in vehicle ownership and travel patterns across income levels, application of traditional trip and parking generation methods without adjustment for housing affordability mix is likely to overestimate vehicle trip, parking generation, and VMT estimates of affordable housing developments.

Incorrect assumptions can lead to unsuitable outcomes for affordable housing developments, such as provision of too much parking, improper roadway or intersection improvements, and overestimation of transportation impact fees. This transportation impact assessment does not

utilize affordable housing trip or parking generation rates from ITE's Affordable Housing land use type, but the interpretation and assessment of results should be made with the recognition of the conservative and likely overestimation of trip and parking generation in mind, so as to avoid undesired outcomes.

Appendix B Vehicle Volume Data

Appendix C Existing Conditions Synchro Level of Service Worksheets

Appendix D Cumulative Conditions Synchro Level of Service Worksheets

Appendix E Existing Plus Project Synchro Level of Service Worksheets

Appendix F Cumulative Plus Project Synchro Level of Service Worksheets

Appendix G SWITRS Crash Records

Appendices B, C, D, E, F, and G of the Transportation Impact Assessment were excluded from Volume II, Appendices of the Draft EIR for brevity purposes. The full appendices are available for viewing at the City's project website: https://www.cityofmillvalley.org/931/Hamilton-Drive.