PLANNING COMMISSION AGENDA REPORT

Meeting Date: May 26, 2022

From: Julia Ayres, Senior Planner

Subject: 3998 Bayshore Boulevard; Use Permit 2021-UP-1, Grading Review 2021-EX-2, Habitat Conservation Plan Compliance 2021-HCP-1; SCRO-1 Zoning District; Construction of new 3,714 sq ft single-family home on a vacant lot; Xie Guan, applicant; Dryfast LLC, owner.

REQUEST: The applicant requests approval of the above-referenced permits to develop a vacant 9,040 sq ft lot with a three-story, 3,714 sq ft single-family dwelling with an attached two-car garage and two parking spaces in the driveway. The project includes a combined 346 cubic yards of soil cut and fill, and export of 144 cubic yards of soil from the site. The lot is located within the San Bruno Mountain Habitat Conservation Plan (HCP) area.

RECOMMENDATION: Approve Use Permit 2021-UP-1, Grading Review 2021-EX-2, Habitat Conservation Plan Compliance 2021-HCP-1 via adoption of Resolution 2021-UP-1/2021-EX-2/2021-HCP-1 containing the findings and conditions of approval.

ENVIRONMENTAL DETERMINATION: The project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) per Sections 15303(a), 15304(c), and 15332 - this project falls within a class of projects which the State has determined not to have a significant effect on the environment. The exceptions to the categorical exemptions referenced in Section 15300.2 of the CEQA Guidelines do not apply, as confirmed by the biological resources assessment attached to this agenda report.

APPLICABLE CODE SECTIONS: Brisbane Municipal Code (BMC) Chapter 17.16, SCRO-1 Southwest Bayshore Commercial District; Chapter 17.40, Use Permits; §17.32.220, Grading Permit- When Required. The San Bruno Mountain Area Habitat Conservation Plan (HCP) governs development of properties within the Southwest Bayshore subarea (part of Administrative Parcel 2-03 of the HCP). The Operating Program for Administrative Parcel 2-03 establishes the general obligations applicable to properties and property owners in regards to HCP compliance.

ANALYSIS AND FINDINGS:

Existing Conditions and Site Context

The property is located in the SCRO-1 zoning district and Administrative Parcel 2-03 (Brisbane Acres) of the HCP. The 9,040 sq ft vacant lot is accessed via Bayshore Boulevard from the front (east) property line and San Bruno Avenue via McLain Road (a private, 26 ft. wide vehicular access easement) at the rear (west). The property slopes up (westward) from Bayshore Boulevard, with a relatively level pad within the first 50-60 ft. of the front property line and a sharp rise of approximately 10 ft. approaching the middle of the property, sloping more gradually to the rear property line for an overall slope of 20% measured per BMC Section 17.02.730. The 26 ft. McLain Road easement and a 40-foot utility easement in favor of the San

Francisco Public Utilities Commission (SFPUC) collectively encumber the rear 66 ft of the property.

The biological resources assessment (Attachment E) finds the property dominated by nonnative and invasive species, including Eucalyptus trees and French broom, with native vegetation covering approximately two percent of the parcel. No host plants for the HCP-protected butterfly species are present and there is no or low likelihood for any other State or Federally listed species to occur on the property. One mature Eucalyptus tree located in the project footprint is proposed to be removed. Eucalyptus trees are invasive and not protected under the Private Tree Ordinance, BMC Chapter 12.12, which allows removal of up to two non-protected mature trees per year without a permit (seven-day notice is required).

Project Description

The applicant proposes to construct a 3,714 square foot, three-story home on the property with driveway access from Bayshore Boulevard. Two covered parking spaces are provided in the garage, and two within the driveway. The driveway includes a turnaround space to allow cars to pull out forward onto Bayshore Boulevard as required by BMC Chapter 17.34. An automatic entry gate is proposed.

The applicant's plans comply with all development regulations of the SCRO-1 zoning district, including FAR, lot coverage, building height, setbacks, and landscaping (see Attachment B). The upper floors are set back from the lower levels as the building steps up the hillside, and a roof deck at the third level provides views to San Francisco Bay to the east. Exterior materials include beige stucco siding, steel balcony railings, wood trim at doors and windows, and metal and glass-finished doors at the garage and main entry.

The proposed 14-foot driveway fronting Bayshore Boulevard and a new sidewalk within the property frontage comply with the City Engineer's requirements in regards to width and slope. The applicant has prepared a conceptual landscape plan that calls for several new trees on the site, including one Coast Live Oak and several climate-adapted strawberry trees, in addition to native shrubs and perennials. The final landscape plan will be subject to approval by the HCP Plan Operator (San Mateo County Parks) prior to building permit issuance to ensure compatibility with the provisions of the HCP (Condition of Approval A.1).

The project plans were transmitted to the Public Works Director/City Engineer, Building Division, and North County Fire Authority, who provided conditions of approval applicable to the grading and building permits. The biological assessment and draft operating program were transmitted to the HCP Plan Operator (San Mateo County Parks Dept.), US Fish and Wildlife Service, and California Dept. of Fish and Wildlife, who concurred with the findings of the biological assessment. The project has received approval from the SF PUC's Natural Resources and Lands Management Division (see Attachment G), which has imposed several conditions of

approval on the project included in Exhibit A to the attached Resolution 2021-UP-1/2021-EX-2/2021-HCP-1.

Analysis

Use Permit

A. …The planning commission shall consider and give due regard to the nature and condition of all adjacent uses and structures, and to general and specific plans for the area in question.

The SCRO-1 District is a mixed-use district with a variety of existing commercial and residential uses. Adjacent development includes a two-story single-family home at 4000 Bayshore Blvd. to the south and a single-story commercial property at 3994 Bayshore Blvd. to the north (both zoned SCRO-1), and to the west by a vacant Residential-Brisbane Acres, R-BA zoned site previously owned by the Brisbane Housing Authority. A vicinity map is provided in Attachment H.

The proposed residential use of this property is consistent with the mixed commercial and residential character of the Southwest Bayshore subarea. Due to the narrow width of the lot (40 feet), the 5 foot, 9 inch north side setback provides a reasonable buffer from the commercial structure to the north in excess of the minimum requirement of 5 feet without unduly constraining the footprint of the structure.

As designed, the structure will be separated from the adjacent propane storage use at 3994 Bayshore by approximately 85 feet. BMC §15.44.160 requires new aboveground fuel storage facilities to be separated from residentially zoned properties by 200 feet. The existing above-ground propane storage tanks at 3994 Bayshore are not subject to the buffering requirement in the Code, and similarly the Code does not require new residential development to be buffered from existing aboveground tanks. Nonetheless, the project design incorporates greater than the minimum required side setback from the north property line to minimize potential impacts. The North County Fire Authority reviewed the project plans and will require several conditions of approval relative to fire safety (see conditions of approval A.3-A.8).

The home is setback from Bayshore Boulevard by approximately 75 feet. The proposed landscaping and tree plantings in the rear and side yards would screen views from or to adjacent properties. An acoustical study will be required prior to building permit issuance to confirm the structure is designed to reduce intrusion of traffic noise from Bayshore Boulevard (Condition of Approval F).

B. The planning commission shall determine whether or not the establishment, maintenance or operation of the use applied for will, under the circumstances of the particular case, be detrimental to the health, safety, comfort and general welfare of the persons residing or working in the neighborhood of such proposed use, or whether it will be injurious or detrimental to property and improvements in the neighborhood or the general welfare of the city. If the planning commission finds that the aforementioned conditions will not result from the particular use applied for, it may grant the use permit.

The site design accommodates the required four on-site parking spaces (two covered in the attached garage, and two uncovered in the driveway), as required by BMC Chapter 17.34, and the driveway provides on-site turnaround to ensure cars will not back out onto Bayshore Boulevard. As required by the General Plan and conditions of approval, noise insulation measures will be incorporated into the project design for the benefit of those residing in the structure. To reduce conflicts with uses on the adjoining properties, the living areas are set back from the front, side, and rear property lines in excess of the minimum requirements of the SCRO-1 district. The project will require a building permit, and its design and construction shall be subject to compliance with current California Building Code requirements for health and safety, including installation of fire sprinklers, CALGreen requirements for energy efficiency, and the City's local "reach" Code requirements related to energy conservation and generation.

The building will be located low on the hillside relative to the ridgelines above and its stepped profile will mitigate its perceived height from Bayshore Boulevard. A conceptual landscaping plan calls for planting new native shrub and perennial species as well as one Coast Live Oak and several climate-adapted, noninvasive strawberry trees in the front yard and one manzanita in the rear yard, to screen the structure from Bayshore Boulevard and introduce plant species appropriate to the site, compared to its present disturbed state.

The SF PUC has reviewed the project application and will impose several requirements during construction to avoid impacts to underground facilities within its the 40 foot easement in the rear yard. Outside of specific construction safety requirements, the SF PUC has not raised long-term safety concerns for residents of the property due to existence of the easement. This easement impacts most of the properties along Bayshore Boulevard, and the SF PUC works directly with property owners when access to facilities within the easement for maintenance or repairs are required. The easement is reflected in the property deed and will be disclosed to future property owners prior to purchase as part of typical real estate due diligence.

Grading Review

The proposed grading is minimized to the footprint of the driveway (location of proposed fill) and the structure (location of proposed cut), and the home is designed to step up the hillside and fit comfortably with the natural topography. The largest exposed retaining wall is approximately five feet above grade at parking space #4 in the front yard, while other proposed

retaining walls in the front yard range from one to four feet above grade. No street trees or protected trees are proposed to be removed. With adoption of the draft HCP Operating Program, the proposed grading complies with the terms of the San Bruno Mountain Area Habitat Conservation Plan Agreement and Section 10(a) Permit.

HCP Compliance and Operating Program Analysis

As required by the General Plan and the HCP, a biological resources assessment of the site was conducted consistent with the methodology adopted by the Plan Operator (San Mateo County). An HCP Operating Program was drafted based on the specific findings of the assessment and circulated for review by the US Fish & Wildlife Service and the State Department of Fish & Wildlife. Neither agency raised issues with the conclusions of the biological assessment.

Based on the biological resources assessment's findings of no larval habitat or nectaring plants for the butterflies protected by the HCP, no on-site habitat restoration is proposed for this site. Consistent with the HCP's requirements for Administrative Parcel 2-03, Brisbane Acres, the draft Operating Program requires payment of a fee to fund habitat acquisition elsewhere in the HCP area (Condition of Approval B). This fee will be required prior to building permit issuance. The property owner must also become signatory to the San Bruno Mountain Area Habitat Conservation Plan Agreement by signing an "Agreement to Comply with Terms and Conditions of the Agreement with Respect to the San Bruno Mountain Area Habitat Conservation Plan and Section 10(a) Permit", including the requirement to participate in the HCP funding program, which must be recorded with the San Mateo County Recorder's office prior to occupancy of the property (Condition of Approval I).

ATTACHMENTS

A. Draft Resolution 2021-UP-1/2021-EX-2/2021-HCP-1
B. Zoning Conformance Review
C. General Plan Conformance Review
D. Visual Impact Analysis
E. Biological Resources Assessment prepared by Coast Ridge Ecology
F. Geotechnical Investigation prepared by Romig Engineers
G. SF PUC Project Review Certificate
H. Aerial vicinity map
I. Assessor's parcel map
J. Applicant's plans

Julia Ayres
Julia Ayres, Senior Planner

John Swiecki
John Swiecki, Community Development Director

Attachment A

Draft
RESOLUTION 2021-UP-1/2021-EX-2/2021-HCP-1
A RESOLUTION OF THE PLANNING COMMISSION OF BRISBANE
CONDITIONALLY APPROVING USE PERMIT 2021-UP-1, GRADING REVIEW 2021-EX-2, HABITAT CONSERVATION PLAN COMPLIANCE 2021-HCP-1 FOR A NEW SINGLE-FAMILY DWELLING AT 3998 BAYSHORE BOULEVARD

WHEREAS, Xie Guan, the applicant, applied to the City of Brisbane for approval of a Use Permit, Grading Review, and San Bruno Mountain Habitat Conservation Plan (HCP) Compliance for development of a single-family dwelling with attached two-car garage at 3998 Bayshore Boulevard; and

WHEREAS, on May 26, 2022, the Planning Commission conducted a public hearing on the application, publicly noticed in compliance with Brisbane Municipal Code Chapters 1.12 and 17.54, at which time any person interested in the matter was given an opportunity to be heard; and

WHEREAS, the Planning Commission reviewed and considered the staff memorandum relating to said applications, the applicant's plans and supporting materials, and the written and oral evidence presented to the Planning Commission in support of and in opposition to the application; and

WHEREAS, the Planning Commission finds that the proposed project is categorically exempt from the provisions of the California Environmental Quality Act; pursuant to Sections 15303(a), 15304(c), and 15332 of the State CEQA Guidelines; and

WHEREAS, the Planning Commission of the City of Brisbane hereby makes the findings attached herein as Exhibit A in connection with the application.

NOW THEREFORE, based upon the findings set forth hereinabove, the Planning Commission of the City of Brisbane, at its meeting of May 26, 2022, did resolve as follows:

> Use Permit 2021-UP-1, Grading Review 2021-EX-2, Habitat Conservation Plan Compliance 2021-HCP-1 are approved per the findings and conditions of approval attached herein as Exhibit A.
>
> The Operating Program for Management Unit 2-03-25 is hereby adopted, as attached herein as Exhibit B.

ADOPTED this 26th day of May, 2022, by the following vote:

AYES:

NOES:
ABSENT:

_____
DOUGLAS GOODING
Chairperson

ATTEST:

_____
JOHN A SWIECKI, Community Development Director

Draft
EXHIBIT A

Action Taken: Conditionally approve Use Permit 2021-UP-1, Grading Review 2021-EX-2, Habitat Conservation Plan Compliance 2021-HCP-1 per the staff memorandum with attachments, via adoption of Resolution 2021-UP-1/2021-EX-2/2021-HCP-1.

Findings:

2021-UP-1

1. The planning commission shall consider and give due regard to the nature and condition of all adjacent uses and structures, and to general and specific plans for the area in question.

The proposed single-family residential use of this property is consistent with the mixed commercial and residential character of the Subregional Commercial/Retail/Office (SCRO) land use designation in the Southwest Bayshore subarea and SCRO-1 District, a mixed-use district with a variety of existing commercial and residential uses. Adjacent development includes a two-story single-family home at 4000 Bayshore Blvd. to the south and a single-story commercial property at 3994 Bayshore Blvd. to the north (both zoned SCRO-1), and to the west by a vacant Residential-Brisbane Acres, R-BA zoned site previously owned by the Brisbane Housing Authority.

The proposed setbacks from property lines, in excess of the minimum requirements of the SCRO-1 district, will ensure the structure is adequately buffered from the adjacent retail propane commercial use and Bayshore Boulevard. The structure will be set back approximately 75 feet from Bayshore Boulevard, and 5 feet, 9 inches from the adjacent commercial property at 3994 Bayshore Boulevard. The above-ground propane storage tanks at the adjacent commercial property are located approximately 86 feet to the north of the proposed structure. The proposed landscaping and tree plantings in the front and side yards would screen the new home from adjacent properties. As required by the General Plan and memorialized in Condition of Approval F, an acoustical study will be required prior to building permit issuance to confirm the structure is designed to reduce intrusion of traffic noise from Bayshore Boulevard.

Chapter 12 of the General Plan contains a number of policies and programs that apply specifically to development within the Southwest Bayshore subarea. The proposed residential use of the property and the applicant's site design and architectural plans are consistent with the applicable General Plan policies, including the Southwest Bayshore subarea policies, as shown in the General Plan compliance analysis provided in Attachment ___ to the May 26, 2022 Planning Commission agenda report.

A visual impact analysis was prepared (Attachment ___) that finds that the building will be located low on the hillside relative to the ridgelines above, that its stepped profile will mitigate its perceived height from Bayshore Boulevard, and that both existing and proposed landscaping will screen the building and blend with the surrounding hillside. A conceptual landscaping plan calls for planting new native shrub and perennial species as well as one Coast Live Oak and several climate-adapted, noninvasive strawberry trees in the front yard and one manzanita in the rear yard, to screen the structure from Bayshore Boulevard and introduce plant species appropriate to the site, compared to its present disturbed state.

2. The planning commission shall determine whether or not the establishment, maintenance or operation of the use applied for will, under the circumstances of the particular case, be detrimental to the health, safety, comfort and general welfare of the persons residing or working in the neighborhood of such proposed use, or whether it will be injurious or detrimental to property and improvements in the neighborhood or the general welfare of the city.

The site design accommodates four on-site parking spaces (two covered in the garage, and two uncovered on the driveway), as required by BMC Chapter 17.34, and the driveway is designed to provide on-site turnaround capability to ensure cars will not back out onto Bayshore Boulevard. As required by the General Plan and conditions of approval contained herein, noise insulation measures will be incorporated into the project design for the benefit of those residing in the structure. To reduce conflicts with uses on the adjoining properties, the living areas are set back from the front, side, and rear property lines in excess of the minimum requirements of the SCRO-1 district. The project will require a building permit, and its design and construction shall be subject to compliance with current California Building Code requirements for health and safety, including installation of fire sprinklers, as well as CALGreen requirements for energy efficiency and the City's local Building Code requirements for either rooftop solar systems or "cool roof" design (per BMC Chapter 15.80).

The SF PUC has reviewed the project application and will impose several requirements during construction to avoid impacts to underground facilities within the easement it owns in the front of the property. Outside of specific construction safety requirements, the SF PUC has not raised long-term safety concerns for residents of the property due to existence of the easement.

3. Adequate measures have been taken to protect workers and residents from the twenty-four (24) hour noise generated by traffic on Bayshore Boulevard.

An acoustical study will be required prior to building permit issuance to confirm the structure is designed to reduce intrusion of traffic noise (Condition of Approval F).

4. The design for projects with residential uses has incorporated measures to buffer the units from potential adverse impacts from nearby and adjacent non-residential uses.

The proposed setbacks from property lines, in excess of the minimum requirements of the SCRO-1 district, will ensure the structure is adequately buffered from the adjacent commercial use and Bayshore Boulevard. The 75 foot front setback places the structure to the rear and beyond of the adjacent commercial building at 3994 Bayshore Boulevard, and 5 foot, 9 inch setback from the north side property line ensures the building wall will be setback approximately 85 feet from the above-ground propane storage tanks. Additionally, the building pad of the home will be approximately 32 feet above the elevation of Bayshore Boulevard.

5. The design for projects with residential uses includes outdoor areas, such as courts, yards or decks, securely separated from the street.

The project design includes a 373 square foot roof deck accessed from the third story, and a large rear yard spanning the 40 foot SF PUC easement, for a total of over 1,600 square feet of outdoor area for

residents of the single-family home. The deck is located approximately 75 feet to the west and 32 feet above Bayshore Boulevard.

6. The improvements have been designed in a manner that will make adequate provision for on-site parking and traffic circulation and safe ingress to and egress from the site.

The site design will accommodate four on-site parking spaces (two covered in the attached garage, and two uncovered in the driveway), as required by BMC Chapter 17.34, and the driveway is designed to provide on-site turnaround capability to ensure cars will not back out onto Bayshore Boulevard. The automatic vehicle entry gate shall be equipped with a Knox box and its final design and installation will be subject to review and approval by the North County Fire Authority through the building permit process to ensure emergency vehicles have sufficient access to the property.

7. The improvements have been designed to be compatible with the topography and soils of the hillside.

The proposed grading is limited to the footprint of the driveway and the structure itself. The proposed fill is required to ensure the driveway grade does not exceed the maximum of 15 percent required by the City Engineer due to the significant grade differential at the midpoint of the driveway and the garage building pad of approximately 40%. This approach balances the amount of cut and fill on-site to create a gentle upslope and minimizes the volume of cut that would otherwise be required to reduce the garage pad elevation adequately to ensure a 15% driveway slope. The home is set into and steps up the hillside, fitting comfortably with the natural topography such that the home does not exceed more than two stories in height in any segment. Proposed retaining walls are limited to the building foundation and driveway, and range from one to five feet above grade. A soils report was submitted for review by the Deputy Building Official and City Engineer/Public Works Director and found sufficient to support the proposed grading plan. The City Engineer will require a geotechnical report to be submitted with the grading permit application; this is included as Condition of Approval H.

2021-EX-2

8. As discussed in Finding G above, the proposed grading is minimized and designed to reflect or fit comfortably with the natural topography of the site.

9. As discussed in Finding G above, the proposed grading is designed to avoid large exposed retaining walls.

10. The proposed grading will not require removal of existing street trees or California Bay, Laurel, Coast Live Oak or California Buckeye trees on the site. One mature eucalyptus tree is proposed to be removed due to its location in the footprint of the home. Under Chapter 12.12 of the BMC, removal of up to two non-protected mature trees is allowed without requiring permit approval from the City; only a seven-day notice prior to removal is required. While replacement trees are not required under BMC Chapter 12.12, the applicant has identified several new trees in the conceptual landscaping plan, including a Coast Live Oak (native) and several climate-adapted, noninvasive strawberry trees.

11. With the Conditions of Approval contained in this Exhibit A to this Resolution 2021-UP-1/2021-EX-2/2021-HCP-1, and adoption of the Operating Program as contained in Exhibit B to this Resolution, the proposed grading complies with the terms of the San Bruno Mountain Area Habitat Conservation Plan Agreement and Section 10(a) Permit.

2021-HCP-1

12. The single-family residential development of the subject property (HCP Management Unit 2-03-25) complies with the terms of the San Bruno Mountain Area Habitat Conservation Plan Agreement and Section 10(a) Permit, given the conditions of approval contained herein and HCP Operating Program contained in Exhibit B this Resolution 2021-UP-1/2021-EX-2/2021-HCP-1.

Conditions of Approval:

Prior to Issuance of a Building Permit:

A. The applicant shall obtain a building permit and a grading permit prior to proceeding with construction. Plans submitted for the building and grading permits shall substantially conform to plans on file in the City of Brisbane Planning Department, with the following modifications:

   1. A final landscape plan shall be submitted demonstrating compliance with the requirements of Brisbane Municipal Code §17.16.040.G, to the satisfaction of the Community Development Director. The landscape plan shall incorporate water-conserving, non-invasive landscaping of sufficient size at maturity to provide screening of the structure in the rear yard from Bayshore Boulevard. The landscape plan shall be subject to review and acceptance by the HCP Plan Operator and the SF PUC, relative to landscaping within the 40 foot SF PUC easement, prior to final approval by the Community Development Director.
   2. Plans submitted for grading permit review shall be subject to standard review procedures by the Department of Public Works.
   3. The home shall be fire sprinklered.
   4. Plans shall show that a fire hydrant is within 400’ of all portions of the building as measured by an approved route around the building.
   5. Plans shall show that fire-flow is adequate for the fire protection requirements per CFC Appendix B; and location and number of fire hydrants conforms with CFC Appendix C.
   6. Plans shall show that all portions of the first story of the building are within 150’ of the fire apparatus access road as measured by an approved route around the exterior of the building.
   7. Plans shall show illuminated address identification.
   8. Doors shall be easily openable in one motion without special knowledge, key or effort per CBC. Use of thumb operated deadbolts prohibited unless integrated with latch.
   9. The garage door shall be automatic sectional roll-up design per Brisbane Municipal Code Chapter 17.34.
   10. All glass and metal finishes shall be nonreflective, and all exterior lighting shall be located so as not to cast glare upward or onto surrounding streets or properties.
   11. Water and sanitary sewer service and storm drainage details shall be subject to approval by the City Engineer.

12. Drawings depicting all work completed and proposed shall be provided to the satisfaction of the City. Exposure of covered work may also be required to demonstrate compliance with building code requirements.

B. A one-time habitat conservation fee shall be paid to the City for habitat acquisition in lieu of designation of 40% of the parcel as conserved habitat. This mitigation shall be computed by multiplying the "mitigation fee land area" (40% of the property acreage) by the "mitigation fee market value" (the highest or most recent per square foot sales price, whichever is greater) within Administrative Parcel 2 -03-02 purchased by the City for purposes of open space preservation, as adjusted for inflation. This fee shall be paid prior to issuance of a grading permit from the City of Brisbane.

C. The applicant shall obtain an encroachment permit from the Department of Public Works for all proposed construction activity and private improvements within the public right-of-way. Requirements for specific street improvements shall be subject to the discretion of the City Engineer.

D. The property owner shall enter into standard landscape maintenance agreements with the City.

E. An agreement shall be recorded between the owner and the City whereby the owner waives the right to protest the inclusion of the property within an underground utility district.

F. Plans submitted for the building permit shall include a professionally-prepared acoustical analysis report, showing that the proposed design will limit exterior noise to 45 dB in any habitable room per applicable California Building Code requirements. Closed windows and fresh air supply systems or air conditioning may be required per the report.

G. Plans submitted for the building permit shall include details to the satisfaction of the Community Development Director as to how any proposed exterior mechanical equipment shall be sound insulated to effectively mitigate sound emissions distinctly detectable from any off-site location and shall be screened, fenced, painted or landscaped to mitigate off-site visibility.

H. A final soils/geotechnical report prepared by an engineer licensed to perform geotechnical analysis shall be submitted for approval by the City Engineer. The report shall provide recommendations for site grading operations, a building foundation analysis, stability of existing on-site ground slopes and calculation of any required pavement sections. The building permit plans shall be approved by the soils engineer consistent with the submitted soils report and shall be subject to the recommendations of the soils report.

I. As required by the Plan Operator (San Mateo County), the property owner shall become a signatory to the San Bruno Mountain Area Habitat Conservation Plan Agreement by signing an "Agreement to Comply with Terms and Conditions of the Agreement with Respect to the San Bruno Mountain Area Habitat Conservation Plan and Section 10(a) Permit" and shall record a Declaration of Covenants and Restrictions per Exhibit G of the Agreement with Respect to the San Bruno Mountain Area Habitat Conservation Plan, which shall include the requirement to participate in the HCP funding program.

J. Adequate details shall be submitted to the satisfaction of the North County Fire Authority to demonstrate how emergency vehicle access to the site will be provided in the automatic vehicular entry gate.

K. The applicant shall demonstrate completion of the following requirements of the SF PUC as contained in the Project Review Certificate dated 10/19/2021 for project 21.08RW69.00:

1. The project sponsor will contact and coordinate with SFPUC-WSTD Land Engineering staff to obtain SFPUC infrastructure data within the project area (contact Stacie Feng, Senior Engineer, at sfeng@sfwater.org or (650) 871-2037).
2. The project sponsor will provide updated plans and exhibits to SFPUC-WSTD Land Engineering staff for review at each design milestone (e.g. 35%, 65%, 95%, etc.), including an overlay of SFPUC infrastructure and the SFPUC easements within the project area (contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).
3. If work is proposed in the SFPUC easement area, the project sponsor will obtain a consent letter from SFPUC-WSTD Land Engineering to pothole each SFPUC pipeline at the project site. A cross section detail showing the distance between the finished grade and the top of each pipeline will be submitted with revised engineering plans (for more information, contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).
4. The project sponsor will obtain a consent letter from SFPUC-WSTD Land Engineering for use of the project area within the SFPUC easement. If no work occurs within the SFPUC easement, SFPUC-WSTD Land Engineering staff will conduct a courtesy review (contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).
5. The project applicant will submit to SFPUC RES staff, the preliminary title report (please provide to Chris Wong, Principal Administrative Analyst, at cjwong@sfwater.org).

During Construction:

L. The applicant shall demonstrate completion of the following requirements of the SF PUC as contained in the Project Review Certificate dated 10/19/2021 for project 21.08RW69.00:

1. The project sponsor and/or its contractor will notify SFPUC staff at least five (5) business days prior to commencing the project (contact Albert Hao, construction inspector, at ahao@sfwater.org or (650) 871-3015 and Emily Read, SFPUC ROW Manager, at eread@sfwater.org).
2. The project sponsor and its contractors will notify SFPUC Millbrae Dispatch, at (650) 872-5900, at project commencement and project completion.
3. If work is proposed in the SFPUC easement area, the project sponsor and/or its contractors will ensure that all construction debris is removed from the SFPUC easement area and disposed of properly and legally. In addition, the project sponsor will arrange for a post-construction site inspection by SFPUC staff (contact Albert Hao, construction inspector, at ahao@sfwater.org or (650) 871-3015).

M. Consistent with the biological resources assessment prepared by Coast Ridge Ecology, LLC, the following restrictions shall apply to demolition and construction activity on the site:

1. Avoidance of Nesting Birds including Raptors. If feasible, vegetation removal and ground disturbance should be conducted outside of the nesting bird season (February 1 to August 31).
2. Pre-Construction Nesting Bird Surveys including Raptors. If removal of vegetation is to occur during the nesting season (February 1 to August 31), it is recommended that surveys for nesting birds (including special status raptors) be conducted prior to any vegetation removal by a qualified biologist. Surveys should be conducted no more than one week (seven days) prior to vegetation removal or ground disturbance. If active nests are found, vegetation removal should only be

conducted after the young have left the nest and the nest is no longer considered active (i.e. in use).

3. Implementation of Nesting Bird Buffer Zones. If active nests are found within the survey area, suitable buffer zones should be established in consultation with CDFW to ensure nesting birds are not impacted by project activities. A buffer zone of 250' is recommended for raptors, and a buffer of 100' is recommended for passerines and other nesting birds. Buffer zones should be kept in place until nests are determined inactive by a qualified biologist. Prior to demolition activity and tree removal, a qualified biologist shall conduct a visual inspection of features for potential roosting features and sign of roosting bats no more than three (3) days prior to disturbance of such features. The survey methodology shall comply with the requirements of the biological resources assessment. If no sign of bats roosting is observed, work may proceed. If bats are detected during the survey or during work activities all work will stop in the immediate vicinity of the roost, CDFW will be contacted, and the following additional conditions shall be implemented consistent with the biological resources assessment.

N. All construction activities within the 40-foot wide easement owned by the San Francisco Public Utilities Commission (SFPUC) shall conform to the restrictions, limitations, and requirements of the SFPUC. No construction activities on the SFPUC easement may proceed without written authorization from the SFPUC to the property owner to confirm that the proposed work complies with all performance criteria and standards as may be required by the SFPUC. A copy of the SFPUC's written authorization shall be submitted to the City of Brisbane.

O. All grading shall be contained on the site and shall comply with the provisions of Brisbane Municipal Code Chapter 15.01, San Mateo Countywide Stormwater Pollution Prevention program best management practices, and the Bay Area Air Quality Management District's standard construction dust control measures.

P. Prior to construction of the building foundation, the soils engineer shall submit a Final Grading Observation Report to the City summarizing conformance of the grading operations to the soils report.

Q. Any prehistoric Native American cultural resources found during the course of construction shall be conserved in accordance with State and Federal requirements (refer to Appendix K of the State CEQA Guidelines and page 248 of Vol. II, 1994 Brisbane General Plan EIR).

R. All utilities shall be undergrounded, subject to the discretion of the City Engineer per BMC §17.32.030.

Prior to Occupancy:

S. Prior to issuance of the occupancy permit, all site landscaping and invasive plant species removal shall be completed, consistent with the adopted HCP Operating Program for Management Unit 2-03-25, subject to site inspection by the Plan Operator and/or Community Development Department staff.

T. The height, location and design of fencing proposed in the building permit application shall be consistent with the open iron fencing details contained in the planning application materials. Any revisions to the fencing materials submitted in the building permit shall maintain sufficient openness to allow passage of butterflies while remaining consistent with building code requirements, subject to review by the Plan Operator and final approval by the Community Development Director.

U. At time of final inspection, the HCP Plan Operator shall be notified of the issuance of the Certificate of Occupancy in order to begin the annual assessment. Upon occupancy, the Landowner shall pay an

annual assessment to the San Bruno Mountain Conservation Fund. The annual assessment shall be as provided in HCP Chapter V-B.

Other Conditions

V. The property owner shall abide by the provisions of the adopted Operating Program for HCP Management Unit 2-03-25, the Habitat Conservation Plan, Habitat Conservation Plan Agreement and Section 10(a) Permit.

W. The required covered and uncovered parking spaces shall not be used or converted to any other use that would impair their basic use as parking for motor vehicles per Brisbane Municipal Code Chapter 17.34.

X. The permittees agree to indemnify, defend and hold the City and its officers, officials, boards, commissions, employees and volunteers harmless from and against any claim, action or proceeding brought by any third party to attack, set aside modify or annul the approval, permit or other entitlement given to the applicant, or any of the proceedings, acts, or determinations taken, done or made prior to the granting of such approval, permit, or entitlement.

Y. Minor modifications may be approved by the Community Development Director in conformance with all requirements of the Municipal Code.

Z. Pursuant to BMC §17.48.010, the Use Permit approval shall become null and void two years from its effective date (at the end of the appeal period) if a Building Permit has not been issued for the approved project.

EXHIBIT B: HCP Operating Program

2-03-25. 3998 Bayshore Boulevard (APN # 007-560-080). This Management Unit is located within the Southeast Ridge (2) Planning Area, Brisbane Acres Administrative Parcel (03). The site is located at 3998 Bayshore Boulevard (APN 007-560-080). The property is 9,040 square feet (0.21 acre) in size. This Management Unit is undeveloped. A single family residential development is proposed for the site that would consist of a single-family residential home development in the center of the parcel, including a driveway into the parcel from Bayshore Boulevard and landscaping.

Coast Ridge Ecology, LLC prepared the Biological (Environmental) Assessment Report for the site in January 2021 that concluded that the site did not have any potential to support the Mission blue butterfly, Callippe silverspot butterfly and/or any other special status species and/or sensitive plant communities.

Obligations: The landowner/developer has the following obligations:

1. Habitat Conservation Fee. A one-time habitat conservation fee shall be paid to the City for habitat acquisition in lieu of designation of 40% of the parcel as conserved habitat. This mitigation shall be computed by multiplying the "mitigation fee land area" (40% of the property acreage – approximately 0.083 acres (3,616 square feet) by the "mitigation fee market value" (the highest or most recent per square foot sales price), whichever is greater) within Administrative Parcel 2 -03 purchased by the City for purposes of open space preservation, as adjusted for inflation. This fee shall be paid prior to issuance of a grading permit from the City of Brisbane.

2. HCP Funding Program. Upon occupancy of the home, the landowner shall pay an annual assessment to the San Bruno Mountain Conservation Fund consistent with the funding program described in HCP Chapter V-B.

3. Undeveloped portions of the site are required to have invasive species removed and natural vegetation is to be retained (where applicable). Planting of invasive species on portions to be developed is prohibited, and aerial or large-scale spraying of pesticides without the prior approval by the Plan Operator is prohibited.

4. Buffer Area. The Landowner must establish and maintain a fire buffer around the residence to protect it from fire. The buffer area must be approved by the City of Brisbane.

Attachment B: Zoning Conformance Review

Development Standard	Existing	Proposed	Min/Max	Status
Lot Area	9040 SF	n/a	7500 SF	Certificate of Compliance CC-1-16
Lot Slope	20%			
Lot Coverage		1879 SF or 21%	70%	Complies
Floor Area		3714 SF or 0.41 FAR	2.8 FAR	Complies
Setbacks				
NS		5' 9"	5'	Complies
SS		6'	5'	Complies
Rear		83' 4"	10'	Complies
Front		75' 9"	10'	Complies
Height		31' 6"	35'	Complies
Parking		4 (2 covered)	4 (2 covered)	Complies
Landscaping		446 sf permanently irrigated in front yard; 1600 sq ft non-irrigated in rear	10% of lot area or 904 SF	Exempt from BMC 15.70; CoA to submit detailed irrigation plan with building permit to identify areas of permanent irrigation.
Fencing		6' security fencing in front yard	6’	Complies

Attachment C: General Plan Conformance Analysis

3998 Bayshore Boulevard; 2021-UP-1/2021-EX-2/2021-HCP-1

GENERAL PLAN POLICY/PROGRAM	PROJECT COMPLIANCE
Southwest Bayshore Subarea Policies	
Program SWB.1.c: Require visual impact analysis for all construction on steep slopes.	The building will be located low on the hillside relative to the ridgelines above, that its stepped profile will mitigate its perceived height from Bayshore Boulevard. Proposed landscaping will screen the building and blend with the surrounding hillside.
Subarea Policy SWB.4 and General Plan Programs 149e, 152a & 152c: Require soils and geotechnical analysis	A geotechnical investigation prepared for the project provides recommendations for the foundation and structure design based on the soil and geologic conditions. The report finds no history of landslide activity on the site and determines that the project is feasible subject to incorporation of recommended foundation design criteria. Per the project Conditions of Approval, the final geotechnical report shall be subject to review and acceptance by the City Engineer and Building Official and the engineer of record shall observe site grading and foundation design plans to confirm compliance with the final report's recommendations.
Policy SWB.5 Require a buffer between fuel storage and other uses as determined by the Fire Marshall.	BMC §15.44.160 requires new aboveground fuel storage facilities to be separated from residentially zoned properties by 200 feet. The existing above-ground propane storage tanks at 3994 Bayshore are not subject to the buffering requirement in the Code, and similarly the Code does not require new residential development to be buffered from existing aboveground tanks. Nonetheless, the project design incorporates greater than the minimum required side setback from the north property line to minimize potential impacts, resulting in a buffer of approximately 85 feet between the proposed structure and the existing above-ground tanks. Existing residential properties at 105-107 McLain Road are within approximately 100 feet of the above-ground tanks. The North County Fire Authority reviewed the project plans and will require several conditions of approval relative to fire safety (see conditions of approval A.3-A.8, Resolution 2021-UP-1/2021-EX-2/2021-HCP-1).
Policy SWB.6: Requires new development to reduce intrusion of traffic noise	An acoustical study will be required prior to building permit issuance to confirm the structure is designed to reduce intrusion of traffic noise (Condition of Approval F).
Policy SWB.7: Use landscape and/or other materials to mitigate noise and screen buildings from Bayshore Boulevard.	A conceptual landscaping plan is provided in the applicant's plans that calls for planting several new trees, including a Coast Live Oak in the front yard, strawberry trees in the front and side yards, and a manzanita in the rear yard to screen the structure from Bayshore Boulevard and adjacent properties.
Community Character and Land Use	
Policy 16: Acknowledge the mountain setting and the proximity to the Bay as central factors in forming the physical character of the City.	The proposal will not block views of the Bay from above, nor will it break the natural ridgeline of the Mountain, as discussed in the visual impact analysis (Attachment D to the May 26, 2022 Planning Commission agenda report).

Policy 17: Preserve the ridgelines and hilltops in their open state.	
Policy 18: Respect the topography of the Mountain in design and construction.	The stepped design of the home will reduce the amount of grading necessary on this sloped site. Per the applicant's grading plan, 245 cubic yards of soil cut is proposed to set the structure within the hillside, and 101 cubic yards of soil fill will be utilized for the new driveway to achieve the required 15 percent maximum slope per the City Engineer. New retaining walls associated with the driveway will range from one to five feet in height.
Program 37a: Require that unrecorded lots be surveyed and a parcel map recorded before permitting new improvements to be constructed or existing improvements intensified on the property.	The City granted a certificate of compliance (CC-1-16) in 2016 based on the information provided in the chain of title demonstrating that the lot's creation conformed to the requirements of the Subdivision Map Act and San Mateo County subdivision regulations at the time of its creation.
Policy C.33: Maximize safe pedestrian facilities and access to all areas of the City, as reasonable and feasible. Policy C.34: Require pedestrian amenities with new development and expansion of existing uses, as appropriate.	No pedestrian facilities currently exist within the property frontage. Per the conditions of approval, project construction will include construction of a new sidewalk within the property frontage, subject to the design requirements of the City Engineer at the time of building permit review.
Policy 137: Conserve pre-historic resources in accordance with State and Federal requirements.	Condition of approval Q requires any prehistoric or Native American cultural resources found during the course of construction to be conserved in accordance with State and Federal requirements.
Programs 156d: Take advantage of technology to require built-in fire safety systems using appropriate materials and technology.	A building permit is required for the project. Current California Building and Fire Code requires residential fire sprinklers for the project, and the North County Fire Authority will require the building permit application to conform to several conditions of approval relative to fire safety.
Habitat Conservation Plan	
Programs 83b, 122a, b, & c, and Policy 119, 123, 123a: Comply with the provisions of the Habitat Conservation Plan and the Agreement with respect to the San Bruno Mountain Area Habitat Conservation Plan.	A biological resources assessment of the site was prepared by Coast Ridge Ecology, LLC and an HCP Operating Program was drafted and circulated for review by the Plan Operator (San Mateo County), the US Fish & Wildlife Service, and the State Department of Fish & Wildlife (included as Exhibit B to Resolution 2021-UP-1/2021-EX-2/2021-HCP-1). The Operating Program does not require the dedication of any conserved habitat on the site, due to the property's history of disturbance and isolated location relative to high quality and permanently conserved habitat in the upper Brisbane Acres (Program 123b). Instead, consistent with the HCP's Operating Program for Administrative Parcel 2-03, the proposed development will be subject to landscaping restrictions to require removal of invasive species, retain natural vegetation, and prohibit the planting of invasive species (Condition of Approval V), and will require payment of a mitigation fee to the City for habitat acquisition (Condition of Approval B).

Attachment D: Visual Impact Analysis

3998 Bayshore Boulevard; 2021-UP-1/2021-EX-2/2021-HCP-1

General Plan subarea Program SWB.1.c requires development within the SCRO land use designation to submit a visual impact analysis for development on steep slopes. The SCRO-1 zoning district regulations (BMC §17.16.110) further require the visual impact analysis to consider the project's relationship to steep slopes; public view corridors; views of San Francisco Bay and San Bruno Mountain; materials and lighting pertaining to light and glare; treatment of roofs; and the screening of mechanical equipment.

Project's Relationship to Steep Slopes

- As shown in the topographic survey, the property slopes up (westward) from Bayshore Boulevard, with a relatively level pad within the first 50-60 ft. of the front property line and a sharp rise of approximately 10 ft. approaching the middle of the property, sloping more gradually to the rear property line for an overall slope of 20% measured per BMC Section 17.02.730. The applicant proposes construction of a new 3,714 square foot, three-story home located in the middle portion of the site to provide adequate buffering from Bayshore Boulevard and the 66 feet of easements encumbering the rear of the lot. The home is set into and steps up the hillside, fitting comfortably with the natural topography such that the home does not exceed more than two stories in height in any segment. Proposed grading to accommodate the footprint of the structure and new driveway is limited to 245 cubic yards (CY) of soil cut and 101 CY of soil fill and would require only low retaining walls ranging from 1-5 feet in height from grade to retain the filled areas. Larger retaining walls required for the building foundation will be located along the cut slope up the hillside, not readily visible from Bayshore Boulevard.

Project's Impact to Public View Corridors and Views of San Francisco Bay and San Bruno Mountain

- The subject property is not located on a mapped ridgeline and therefore will not impede off-site views of San Bruno Mountain. Adjacent properties to the north and south will retain unobstructed views of San Francisco Bay. The Residential-Brisbane Acres (R-BA) site to the west reaches significantly greater elevations than the subject property, and as such the proposed development will not obstruct views of the Bay from upslope development.
- Views of the structure from Bayshore Boulevard (approximately 75 feet east and 32 feet below the lower level building pad) would be mitigated due to the generous front setback, stepped design of the structure up the hillside, and screening provided by the proposed landscaping in the front and side yards, including a new Coast Live Oak tree and several strawberry trees.

Project Materials and Lighting

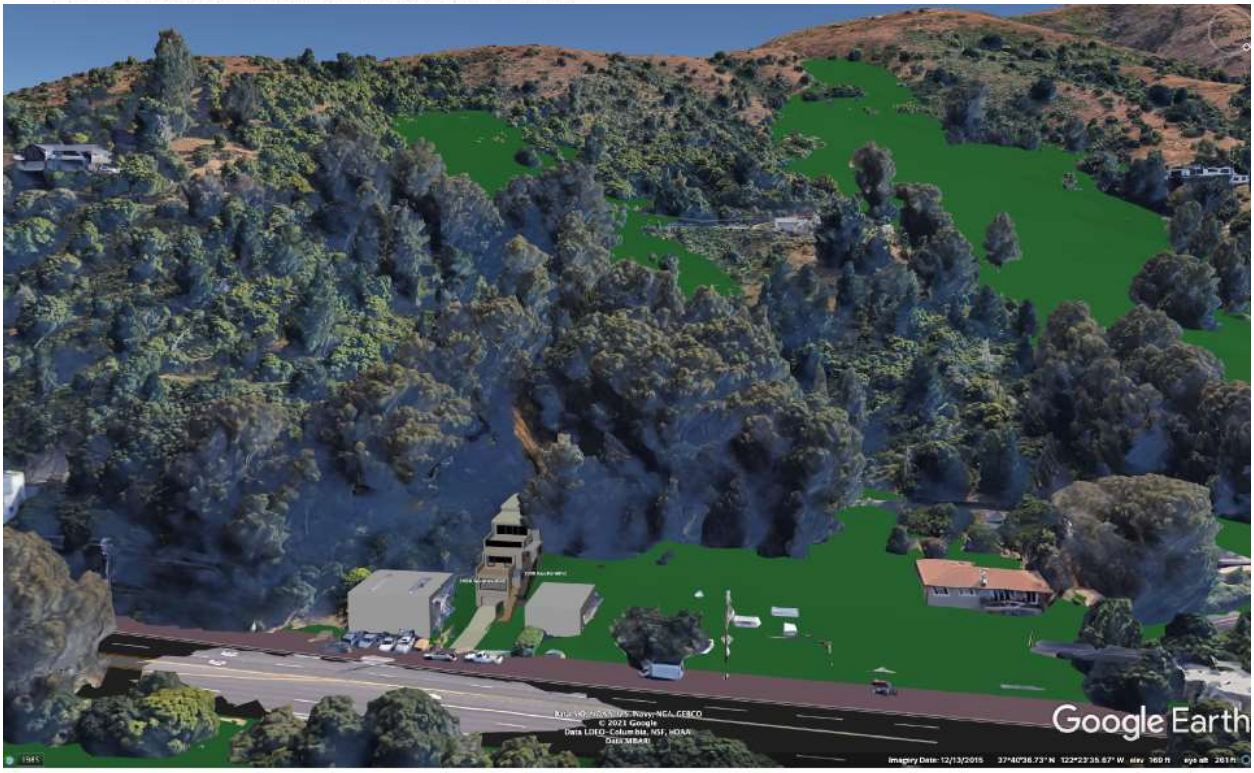
- As demonstrated by the applicant's building elevations and renderings, exterior materials will include beige stucco siding, steel balcony railings, wood trim at doors and windows, metal and glass doors at the garage and main entry, and wood and glass canopy overhangs. The proposed roof will be flat and screened by a parapet, screened from off-site views. As required by the

conditions of approval, the glass and metal materials shall be treated such that they do not result in off-site glare and will be screened from off-site views by proposed landscaping in the side and rear yards. Condition of approval A.10 requires that all glass materials be nonreflective and that all exterior lighting be downlit and not result in off-site light or glare. Finally, the conditions of approval require any proposed mechanical equipment shall be adequately screened as demonstrated in the building permit application.

Site Views from Public View Corridors (Bayshore Boulevard)

Applicant's Renderings of Proposed Structure from Bayshore Boulevard

VISUAL IMPACT ANALYSIS: FRONT RENDERING



2-VISUAL IMPACT ANALYSIS

3-VISUAL IMPACT ANALYSIS

Biological Assessment Report for 3998 Bayshore Blvd., Brisbane, CA

Prepared for City of Brisbane

January 2021

Prepared by:
Coast Ridge Ecology, LLC
1410 31st Avenue
San Francisco, 94112
CRecology.com

Biological Assessment for 3998 Bayshore Boulevard

Applicant: Dryfast LLC
Project Lead: City of Brisbane
Total parcel size: 0.21 Acre
Assessor Parcel Number: 007-560-080
Project Proposal Description: Single Family Home

Prepared for the San Mateo County Parks Department and City of Brisbane by:
Coast Ridge Ecology, LLC

As a qualified Biologist, I hereby certify that this Biological Assessment was prepared according to the County Parks' requirements and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge.

Qualified Biologist (signature):		Date:
Name (printed): Patrick Kobernus	Title: Principal Biologist	Company: Coast Ridge Ecology, LLC
Phone:415-404-6757	email: PKobernus@crecology.com	
Other Biologist (signature):		Date:
Name (printed): Jennifer Radtkey	Title: Associate Biologist II	Company: Coast Ridge Ecology, LLC
Phone: 415-404-6757	email: JRadtkey@crecology.com	
Role: Conducted field work, map production and report writing.		
Other Biologist (signature):		Date:
Name (printed): Greg Pfau	Title: Associate Biologist II	Company: Coast Ridge Ecology, LLC
Phone: 415-404-6757	email: gfau@crecology.com	
Role: Map production		

Biological Study Checklist

This Biological Assessment DID provide adequate information to make recommended CEQA findings regarding potentially significant impacts.

	Project Impact Degree of Effect				Cumulative Impact Degree of Effect			
	N	LS	PS-M	PS	N	LS	PS-M	PS
Biological Resources								
Species		X			X			
Ecological Communities	X				X			
Habitat Connectivity	X				X			

N: No impact

LS: Less than significant impact

PS-M: Potentially significant unless mitigation incorporated.

PS: Potentially significant

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Summary

A Biological Resource Assessment was conducted including surveys on November 22 and December 6, 2020 for 3998 Bayshore Boulevard (APN 007-560-080). The property is 9,040 square feet (0.21 acre) in size and is located on the east side of San Bruno Mountain. The property is an infill lot and is bordered by Bayshore Boulevard and commercial development on the east, a developed residential property on the south, and a developed commercial property (propane facility) on the north. A partially unpaved road, McLain Road borders the west side of the property, and conservation lands that are part of the San Bruno Mountain Habitat Conservation Plan (SBM-HCP) are located 0.25 mile to the west. The lot is zoned as SCRO-1, in the Southwest Bayshore Commercial District, which is a mixed-use Subregional Commercial Retail/Office zone.

The proposed project is a single-family residential home development in the center of the parcel, including a driveway into the parcel from Bayshore Boulevard. The project also includes improvement of the private road (McLain Road) located to the west side of the parcel, off-street parking along McLain Road, and a walkway connecting McLain Road to the parcel.

The existing vegetation includes *Eucalyptus globulus* Semi-Natural Woodland Stand and Undifferentiated Exotic Vegetation. The property is highly disturbed from regular clearing of vegetation, and the eastern half of the site is currently used as a storage area for construction equipment. The plant species and ecological communities found on the site reflect the disturbed nature of the property.

No special status wildlife or plant species were observed on the parcel or the surrounding 60-foot buffer that was included in the survey area. No sensitive plant communities, wildlife connectivity features, or waters or wetlands were observed in the survey area. Based upon the habitat and condition of the survey area, the site is unlikely to provide habitat for any special status species. No special status plant species were identified as having potential and six special status wildlife species were identified as having a low potential to occur on the site.

The parcel is within the boundary of the SBM-HCP area. Based upon the site surveys and research of the biological resources in the area, there is no potential for the presence of endangered, threatened, rare, or sensitive wildlife species. Further, there is no potential for host plant or nectar sources for special status butterfly species. The site is also unlikely to be a movement corridor for endangered, threatened, rare, or sensitive wildlife species due to the lack of native habitats on adjacent parcels.

Wildlife observed on the property included birds that are common in urban settings such as dark-eyed junco (*Junco hyemalis*), Anna's hummingbird (*Calypte anna*), western scrubjay (*Aphelocoma californica*), common raven (*Corvus corax*), and spotted towhee (*Papilo*

maculatus). Botta pocket gopher (*Thomomys bottae*) mounds were observed throughout the parcel.

One inactive bird nest was observed northwest of the survey area and there is nesting habitat present within the survey area. Active nests would be protected under the Migratory Bird Treaty Act. Conditions of Approval provided at the end of this report describe measures to avoid impacts to nesting birds including raptors.

Section 1. Construction Footprint Description

Construction Footprint Definition (per the San Mateo County Planning & Building): The construction footprint includes the proposed maximum limits of temporary or permanent direct land or vegetation disturbance for a project including such things as the building pad(s), roads/road improvements, grading, septic systems, wells, drainage improvements, fire hazard brush clearance area(s), tennis courts, pools/spas, landscaping, storage/stockpile areas, construction staging areas, fire department turnarounds, utility trenching and other grading areas. The construction footprint on some types of projects, such as mining, oil and gas exploration or agricultural operations, may be quite different than the above.

Development Proposal Description

The development proposal includes a private residence in the center of the parcel, a driveway and a walkway on the eastern portion leading off of Bayshore Boulevard, improvement of the private road (McLain Road) on the west side of the parcel, off-street parking along McLain Road and a walkway leading to McLain Road.

Construction Footprint Size

Construction footprint includes approximately 5,702.95 square feet (0.13 acre) as follows:

Residence and front walkway	2,543.13 sq.ft.
Rear walkway	141.23 sq.ft.
McLain Road and parking	1,362.67 sq.ft.
Driveway	1,655.92 sq.ft.
Total	**5,702.95 sq.ft.**

Coastal Zone/Overlay Zones

The parcel is located on the east side of San Bruno Mountain within the City of Brisbane, CA. The parcel is not within the Coastal Zone, Scenic Resources Protection Overlay Zone, Mineral Resources Protection Overlay Zone, or the Scenic Highway Protection Overlay Zone.

Zoning

The parcel is within the Southwest Bayshore Commercial District, which is a mixed use Subregional Commercial Retail/Office zone (SCRO-1; (City of Brisbane General Plan, 2020).

Elevation

The parcel rises steeply from east to west. Elevation of the parcel ranges from 500 feet above Mean Sea Level (MSL) at the eastern edge along Bayshore Boulevard to 540 feet above MSL on the western edge at McLain Road.

Other

Two utility easements extend across the parcel. A 10-foot sewer easement runs north-south along the northwestern corner of the parcel, and a 20-foot water line easement lies on the west side of the parcel, between the proposed house footprint and McLain Road.

Section 2. Survey Information

2.1 Survey Purpose

Discretionary actions undertaken by public agencies are required to demonstrate compliance with the California Environmental Quality Act (CEQA). The purpose of this Biological Assessment (BA) is to gather enough information about the biological resources associated with the proposed project, and their potential to be impacted by the project, to make a CEQA Initial Study significance finding for biological resources. In general, BA's are intended to:

- Provide an inventory of the biological resources on a project site and the values of those resources.
- Determine if a proposed project has the potential to impact any significant biological resources.
- Recommend project redesign to avoid, minimize or reduce impacts to significant biological resources.
- Recommend additional studies necessary to adequately assess potential impacts and/or to develop adequate mitigation measures.
- Develop mitigation measures, when necessary, in cases where adequate information is available.

2.2 Survey Area (SA1)

> *Survey Area Definition (using the SMC Planning & Building definitions): The physical area a biologist evaluates as part of a biological assessment. This includes all areas that could potentially be subject to direct or indirect impacts from the project, including, but not limited to: the construction footprint; areas that would be subject to noise, light, dust or runoff generated by the project; any required buffer areas (e.g., buffers surrounding wetland habitat). The construction footprint plus a 100 to 300-foot buffer— beyond the required fire hazard brush clearance boundary—(or 20-foot from the cut/fill boundary or road fire hazard brush clearance boundary – whichever is greater) is generally the size of a survey area. Required off-site improvements—such as roads or fire hazard brush clearance—are included in the survey area. Survey areas can extend off the project's parcel(s) because indirect impacts may cross property lines. The extent of the survey area shall be determined by the biologist in consultation with County Parks.*

The survey area includes the entire 9,040 square foot (0.21 acre) parcel at 3998 Bayshore Boulevard, and a 60-foot buffer surrounding the parcel. The 60-foot buffer includes a 30-foot potential fire risk fuel modification zone and an additional 30-foot buffer around this footprint. The additional 30-foot buffer zone was established in consultation with San Mateo Parks Department (H. Ormshaw, 2020). The entire survey area was assessed for biological resources on two site visits (Table 1).

Location

The parcel is located at 3998 Bayshore Boulevard and is within the City of Brisbane, along the eastern edge of San Bruno Mountain (Figure 1). It lies west of Bayshore Boulevard and south of San Bruno Avenue. Brisbane Lagoon lies to the east of Bayshore Boulevard. The parcel is rectangular in shape and is between two developed parcels to the north and south, with Bayshore Boulevard directly to the east and undeveloped lands of the Brisbane Housing Authority to the west. The property lies within the San Bruno Mountain Habitat Conservation Plan (SBM-HCP) area. The SBM-HCP provides a mechanism to allow limited development in specific areas on the Mountain, protection of biologically significant habitat areas, and a funding mechanism for managing conserved habitat areas. The closest conserved habitat areas within the SBM-HCP are approximately 0.25 mile to the west.

Survey Area and Surrounding Area -- Environmental Setting

North of the survey area are mixed use industrial and private residential lots with a two-lane road, San Bruno Avenue, approximately 300 feet to the north. The area to the south of the survey area has several residential developed lots and undeveloped areas. The area to the west of the survey area is undeveloped and is the property of the Brisbane Housing Authority. The closest protected lands within the SBM-HCP area are approximately 0.25 mile to the west of the survey area.

Bayshore Boulevard is located east of the survey area and is a heavily used four-lane road. On the east side of Bayshore Boulevard is a 50-foot-wide strip of native and non-native shrubs running along Bayshore Boulevard with commercial/industrial development to the east of the vegetation strip. The Brisbane Lagoon is located east of the commercial/ industrial area.

The project site is located on the northeast edge of San Bruno Mountain. This area of the Mountain is characterized by steep north to north-east facing slopes and is often dominated by nonnative vegetation, primarily stands of French broom (*Genista monspessulana*) and blue gum eucalyptus (*Eucalyptus globulus*) forest with some stands of native coast live oak. Grassland habitat is scarce due to the lack of sun exposure and higher soil moisture that favors dense, nonnative shrub and arboreal vegetation.

The overall aspect of the survey area is a north-northeast-facing slope. The survey area rises steeply from east to west, with the eastern portion of the survey area along Bayshore Boulevard at 500 feet above mean sea level and rises to 540 feet above mean sea level at the western end at McLain Road. The ground-level vegetation on the subject parcel is primarily non-native grasses and herbaceous plants with tall blue gum eucalyptus overhead (Photographs 1, 2, 3 and 4). There is construction equipment including a truck, cargo container, and various tools and fencing on the eastern half of the subject parcel (Photographs 1 and 2).

The properties to the north and south of the parcel are also located on steep northeast-facing slopes. The property to the north is developed with an above-ground propane fuel station on

the eastern half of the property and the western half of the property is dominated by sparse, nonnative vegetation. The vegetation includes blue gum eucalyptus trees, English ivy, and two coast redwood trees (*Sequoia sempervirens*). The property to the south includes a single residential building on the eastern half of the property with the western half undeveloped and densely vegetated and dominated by French broom, cotoneaster and English ivy. There are several abandoned vehicles that are overgrown by vegetation (Photograph 5).

The western edge of the parcel abuts McLain Road, a private unpaved access road. Annual grasses are found within and along the road edges with native toyon (*Heteromeles arbutifolia*) and non-native French broom shrubs (Photograph 6). The property to the west of the access road is heavily vegetated with blue gum eucalyptus forest and a dense understory of shrubs including French broom, jade plant (*Crassula ovata*), cotoneaster (*Cotoneaster* sp.), and toyon. Vines of non-native English ivy (*Hedera helix*), herbs including red valerian (*Centranthus ruber*), English plantain (*Plantago lanceolata*), and non-native grasses including panic veldtgrass (*Ehrharta erecta*) and rip gut grass (*Bromus diandrus*) dominate the understory (Photograph 7). Also on this property is an abandoned boat along McLain Road, and a dilapidated foot chicken coop structure (approximately 50 square feet in size) that is 60 feet west of the subject parcel.

Cover

Types of cover of the survey area is quantified as follows:

5% native vegetation
61% non-native vegetation
33% buildings, paved roads, and/or other impervious cover

Insert Figure 1. Project Location Map here

Insert Figure 2. Site and Survey Map here

2.3 Methodology

The California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDB) was consulted for known occurrences of sensitive plant, animal, and natural plant communities of concern found within the San Francisco South and six surrounding 7.5' USGS topographic quadrangles (CNDDB, 2020). Data from CNDDB, California Native Plant Society (CNPS) On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS, 2020), USFWS Critical Habitat maps (USFWS, 2021), knowledge of regional biota, and observations made during the field survey, were used to evaluate on-site habitat suitability for special status plant and wildlife species within the study area.

Table 1. Survey Details

Survey Key[1]	Survey Date	Survey Area Map Keys	Survey Type[2]	Time Period	Methods/Constraints	Surveyors
SD1	11/22/2020	SA1	BA	9:00am-10:45am	Walking transects. The entire site was accessible.	Patrick Kobernus, Jennifer Radtkey
SD2	12/6/2020	SA1	BA	10:15am-11:30am	Walking transects. The entire site was accessible.	Patrick Kobernus, Jennifer Radtkey

1. SD= Survey Date
2. BA= Biological Assessment

Section 3. The Biological Inventory

3.1 Ecological Communities: Plant Communities, Physical Features, and Wetland

Background research was conducted prior to conducting the field visits in order to identify expected rare or locally important plant communities, USFWS mapped critical habitat and any mapped wetlands or streams. A 5-mile radius was used in conducting the research.

Plant Communities

Locally important or rare plant communities were not found within the survey area(s).

Major Plant Communities Summary

Two vegetation communities are present in the survey area: ***Eucalyptus globulus* Semi-Natural Woodland Stand** and **Undifferentiated Exotic Vegetation** (CNPS, 2009; San Mateo County Parks Department, 2015). The location of the plant communities within the survey area are shown in Figure 3.

Eucalyptus Woodland is dominated by blue gum eucalyptus with an understory of native and nonnative plant species. Two coast redwood trees are also present to the north of the project parcel within the eucalyptus woodland and were likely planted behind the propane station. On the project parcel, shrub and herbaceous vegetation has been cut close to ground level and the sparse vegetation is dominated by French broom and many non-native annual herbs and grasses, including common silver hair grass (*Aira caryophyllea)*, little quaking grass (*Briza minor*), panic veldtgrass, and chickweed (*Stilleria media*). The property is shaded by the canopy of two large blue gum eucalyptus trees, one that is at the center of the northern edge of the parcel with an approximate diameter breast height (DBH) of 35 inches and a second one just offsite to the northwest that is approximately 80 inches DBH. These trees, along with several others to the west and north reduce sunlight to the parcel due to their extensive tree canopies. The dominant shrubs and trees to the west and south of the parcel include French broom, toyon, candelabra aloe (*Aloe arborescens*), and cotoneaster and the herbaceous understory includes English ivy, poison oak (*Toxicodendron diversilobum*), and Harding grass (*Phalaris aquatica*).

The eastern half of the project parcel consists of Undifferentiated Exotic Vegetation. During the biological surveys there was a storage container and a work truck parked on the eastern end of the parcel (Photographs 1 and 2), with fencing and work supplies covering much of the ground surface. The vegetation in this section of the property is predominantly low-growing, weedy species including common silver hair grass, Italian thistle (*Carduus pychnocephalus*), red valerian, hedgehog dogtail grass (*Cynosurus echinatus*), panic veldtgrass, sweet fennel (*Foeniculum vulgare*), English plantain, prickly sow thistle (*Sonchus asper*), and Cheeseweed mallow (*Malva parviflora*). Similar to the rest of the parcel, vegetation clearing /mowing appears to be frequently conducted.

The presence of two native grass species California brome grass (*Bromus carinatus*) and small fescue (*Festuca microstachys*) were found at less than two percent cover (<2% cover total) in the eastern half of the parcel. These two species may have been more prevalent on the site in the past (possibly several decades ago) prior to the disturbance to the area from development and the spread of invasive species. Similarly, a coast live oak seedling/sprout on the western edge of the parcel and two small coast live oaks within the French broom on the parcel to the south of the project parcel further suggests that oaks may have been present in a greater density prior to spread of invasive species (e.g. blue-gum Eucalyptus and French broom) in the area.

Table 2. Plant Communities

Map Key[1]	MCV Alliance	MCV Association	Misc.	Status	Condition	Acres Total	Acres Impacted	Comments
PC1	Semi-Natural Woodland Stands	Eucalyptus groves		None	Disturbed	0.71	0.04	
PC2			Undifferentiated Exotic Vegetation	None		0.15	0.09	Consistently mowed.
					Totals	0.86	0.13	

1. *PC= Plant Community*

Insert Figure 3. Plant Communities and Photopoints Map

Physical Features

No additional physical features that may be important to the site's biological resources were present within the survey area. An old dilapidated chicken coop (approximately 10 by 6 feet) is located to the west of the survey area. This coop was inspected for any sign of roosting bats (e.g. guano, urine staining), and no sign was detected.

Waters and Wetlands

Waters and wetlands were not found within the survey area.

According to the U.S. Fish and Wildlife National Wetlands Inventory (accessed December 10, 2020) a mapped riverine area is located on the southwest edge of the parcel and extends off the property to the southwest. This feature however is not present. There is no indication of a wetland feature on the parcel or on the adjacent parcels within the 60-foot buffer survey area. There is no visible sign of wetland vegetation of wetland hydrology (channels, vernal pools, etc.) to indicate a concentration of water collecting on or flowing through or adjacent to the parcel.

Soils

There are two soil types within the survey area boundaries identified by Natural Resource Conservation Science (NRCS 2020): Candlestick-Kron-Buriburi complex, 30-75 percent slopes, and Urban Land.

Candlestick-Kron-Buriburi soils are very shallow to moderately deep, moderately steep to very steep, well drained soils underlain by sandstone, and are found in uplands. Candlestick-Kron-Buriburi soils are well drained and derived from hard fractured sandstone. This soil is mapped on over 75 percent of the survey area.

Urban land soil is mapped on the eastern section of the survey area including the developed lands of Bayshore Boulevard and the associated road shoulder as well as developed portions of the adjoining parcels to the north and south of the site. There are no serpentine, calcareous or sandy soils that could support special status plant species within the study area.

3.2 Species

Observed Species

During the November and December 2020 site visits, no special status wildlife or plant species were observed. The plants and animals identified within the survey area are typical for species that utilize eucalyptus woodland in an urban setting. See Appendix 2 for a list of species observed in the survey area during biological surveys. Bird species observed included dark-eyed junco (*Junco hyemalis*), Anna's hummingbird (*Calypte anna*), western scrubjay (*Aphelocoma californica*), common raven (*Corvus corax*), and spotted towhee (*Papilo maculatus*). A golden-

crowned sparrow (*Zonotrichia atricapilla*) was heard calling from the eastern side of Bayshore Boulevard and may use the site to forage. Botta pocket gopher (*Thomomys bottae*) mounds were observed throughout the parcel. Special status species were not found and are not expected to occur within the survey area.

Special Status Wildlife Species Summary

No special status species was observed within the survey area or in areas directly or indirectly affected by the project. Table 3, below, shows all special status species that have been recorded within five miles of the property (CNDDB 2020). A determination on the potential for each species to occur in the survey area is also provided in Table 3. Figure 4 shows the mapped locations of special status wildlife within 5 miles of the property.

Of the 26 special status wildlife species evaluated, six were identified as having a low potential to occur in the survey area based on habitat types and/or recorded observations near the study area. No special status wildlife species were determined to have moderate or high potential to occur in the survey area. Species with a low potential for occurrence include three mammal species, pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), and fringed myotis (*Myotis thysanodes*), one bird species, Cooper's hawk (*Accipiter cooperii*), and two invertebrate species, obscure bumble bee (*Bombus caliginosus*), and western bumble bee (*Bombus occidentalis*).

The CNDDB map (Figure 4) shows three special status species that have habitat polygons that overlap with the parcel: Stage's dufourine bee (*Dufourea stagei*), mission blue butterfly (*Plebejus icarioides missionensis*), and callippe silverspot butterfly (*Speyeria callippe callippe*). These three special status species have no potential to occur in the study area based on a lack of suitable habitat (Table 3).

The project site is located approximately 700 feet east of designated Critical Habitat for the Bay Checkerspot butterfly (*Euphydryas editha bayensis*), (USFWS, 2021). There is no potential habitat on the project site to support this species.

The biological surveys were conducted in November and December 2020. The disturbed condition of the site and site surroundings limits the potential for special status species. The project parcel has been regularly cleared of vegetation and is surrounded on three sides by developed lands. The adjoining area that has more dense vegetation (to the west) is predominantly vegetated with non-native species that limit the potential for native plant and wildlife species.

Special Status Plant Species Summary

Of the 43 special status plant species evaluated, no special status plant species were determined to have low, moderate or high potential to occur in the survey area.

A determination of no potential was given for one or more of the following reasons:

- The species has a perennial life form and was not observed within the study area during the site visits.
- The species is known to occur on San Bruno Mountain, but is associated with different soil types or plant communities than were recorded within the survey area.
- There is a recorded occurrence on San Bruno mountain or nearby, but all records are historical (over 50 years old), and the species has not been recorded since. .

Figure 5 shows the mapped locations of special status wildlife within 5 miles of the property. Each of these species were evaluated for their potential to occur within the survey area (Table 3).

Migratory Birds

Habitat suitable for nests of birds protected under the Migratory Bird Treaty Act does exist within the survey area.

Definitions of Special Status Species

See Appendix 1 for definitions of the types of special status species that have federal, state or local protection and for more information on the regulations that protect birds' nests.

Protected Trees

The City of Brisbane Municipal Code definition of protected trees includes: "Three (3) or more mature trees of any one or more non-invasive species that are proposed to be removed from the same property or from adjacent property under common ownership" (City of Brisbane, 2020).

One mature non-native tree, a 35-inch DBH blue gum eucalyptus that is present within the parcel near the center of the northern edge is proposed for removal. No additional eucalyptus trees are marked for removal on the project plans.

For the removal of a single, non-protected mature tree, written notice to the director is required at least 7 calendar days prior to the removal. No more than two such trees can be removed from a single property within a consecutive 12-month period" (City of Brisbane, 2020).

Insert Table 3. Special Status Species table here –

Table 4: Observed Species Table

Species Observed			
Scientific Name	Common Name	Native	Location
PLANTS			
Acacia sp.	Black acacia		North of site
Aira caryophyllea	Common silver hair grass		Onsite
Aloe arborescens	Candelabra aloe		Offsite to west
Briza minor	Little quaking grass		West of site
Bromus carinatus	California brome grass	X	Onsite
Bromus diandrus	Ripgut brome		Onsite and offsite to west
Carduus pycnocephalus	Italian thistle		Onsite
Centranthus ruber	Red valerian		On-site and offsite to west
Cotoneaster sp.	Cotoneaster		Onsite and offsite to west and south
Crassula ovata	Jade plant		Offsite to west
Cynodon dactylon	Bermuda grass		Onsite
Cynosurus echinatus	Hedgehog dogtail grass		Onsite
Ehrharta erecta	Panic veldtgrass		Onsite and offsite to west
Eucalyptus globulus	Blue gum		One large onsite, multiple to north, west and south of site
Festuca microstachys	Small fescue	X	Onsite
Foeniculum vulgare	Sweet fennel		Onsite
Genista monspessulana	French broom		Numerous seedlings and cut shrubs on southwest portion of site; numerous mature shrubs to south and west of site
Hedera helix	English ivy		Onsite, south and west of site
Helminthotheca echioides	Bristly oxtongue		Onsite
Heteromeles arbutifolia	Toyon	X	Onsite on McLain Road right of way and offsite to west
Hypochaeris radicata	Cat's ears		Onsite

Ipomoea indica	Oceanblue morning glory		Onsite fence south edge of site
Juglans sp.	Black walnut		Offsite to west
Malva parviflora	Cheeseweed mallow		Onsite
Oemleria cerasiformis	Osoberry	X	Single plant; Offsite to north
Phalaris aquatica	Harding grass		Onsite and offsite to west
Plantago lanceolata	English plantain		Onsite and offsite to west
Quercus agrifolia	Coast live oak		4”seedling onsite, a mature tree to south of site
Rumex crispus	Curly dock		One specimen, offsite to northwest
Sequoia sempervirens	Coast redwood	X	Offsite to north
Solanum sp.	Nightshade		One individual offsite to north
Sonchus asper	Prickly sow thistle		Onsite
Stilleria media	Chickweed		Onsite
Toxicodendron diversilobum	Poison oak	X	Offsite to south and west
Bryopsida (True Moss)	Moss		On soil in patches
ANIMALS			
Birds			
Zonotrichia atricapilla	Golden-crowned sparrow	X	Observed
Junco hyemalis	Dark-eyed junco	X	Observed
Calypte anna	Anna’s hummingbird	X	Observed
Aphelocoma californica	California scrub jay	X	Observed
Papilo maculatus	Spotted towhee	X	Observed
Corvus corax	Common raven	X	Vocalization
	Raptor or Common raven nest	X	Approx. 120’southwest of southwest property corner
Mammals			
Thomomys bottae	Botta pocket gopher	X	Mounds onsite

Insert Figure 4. CNDDB Occurrence Map (Wildlife)

Insert Figure 5. CNDDB Occurrence Map (Plants)

Special Status Wildlife Species Accounts

Pallid bat (*Antrozus pallidus*)
The Pallid bat is a California Species of Special Concern (CDFW, 2020), and a U.S. Forest Service and Bureau of Land Management Sensitive Species. The pallid bat is found in a variety of habitats where suitable roosting sites are available, including oak savanna, grassland, riparian areas and wetlands, orchards, vineyards, and irrigated cropland (WBWG, 2021). A very social bat, the pallid bat occupies a wide variety of habitats throughout California, including grasslands, shrublands, woodlands, and forests. The species is most common in open, dry areas with rocky areas necessary for roosting. It feeds on a variety of insects and arachnids.

The pallid bat has not been observed in the region in several decades and the cool northeast facing exposure of the site likely precludes this species from utilizing the site for roosting or foraging. There is low potential for pallid bats to be present on the parcel.

Hoary bat (*Lasiurus cinereus*)
Hoary bat is considered a bat of medium priority by the Western Bat Working Group (WBWG, 2021). Hoary bats are ubiquitous throughout California. They are solitary foliage roosters that will use evergreen and deciduous trees near the ends of the branches (WBWG, 2020). They may forage in small to large groups and primarily feed on moths; however, they will eat a variety of insects if available.

There are limited roosting sites for hoary bat in the survey area, and the northeast exposure of the site likely reduces insect activity and therefore foraging value of the area. There is low potential for hoary to be present on the parcel.

Fringed myotis (*Myotis thysanodes*)
Fringed myotis is included on the Special Animal List maintained by the California Department of Fish and Wildlife and is included on the Department's Watch list (CDFW, 2020) and is considered a bat of high priority by the Western Bat Group (WBWG, 2021). Fringed myotis range across the western United States, north into British Columbia, Canada and south to Chiapas, Mexico. It is found in a wide variety of habitats from desert scrub, to mesic coniferous forest, grasslands and sage-grass steppe (WBWG, 2021). Fringed myotis roost in building crevices, underground mines, rocks, cliff faces, and bridges, as well in large tree snags. They primarily feed on moths and beetles, but will glean prey such as spiders, harvestmen, and crickets as well.

The survey area is appropriate foraging habitat for the fringed myotis. There are no potential roosting sites for fringed myotis in the survey area. There is low potential for fringed myotis to utilize the parcel.

Cooper's Hawk (*Accipiter cooperii*)
The Cooper's hawk is included on the Special Animal List maintained by the California Department of Fish and Wildlife and is included on the Department's Watch List (CDFW, 2020). Their range extends across the contiguous United States into southern Canada and Mexico and is distributed throughout most of California (Curtis et al., 2006). The species inhabits dense stands of oak woodlands, riparian deciduous forests, or other forest habitats often near water and suburban areas (Baicich & Harrison, 2005). This woodland raptor hunts in broken woodlands, along forest edges and suburban areas for medium-sized birds and mammals (Curtis et al., 2006). Typical nest site selection is characterized by mature trees with significant canopy cover; although, species will nest in suburban areas in a variety of trees. Breeding begins in April and are single-brooded (Baicich & Harrison, 2005).

While nesting habitat for this species within the project area is limited, there is appropriate foraging habitat within the survey area. There is low potential for Coopers hawk to be present on the parcel.

Obscure bumble bee (*Bombus caliginosus*)
The obscure bumble bee is a vulnerable species on the IUCN red list (Hatfield, et al., 2014; CNDDB, 2020). Historically a widespread bumble bee it has exhibited extensive declines in range in recent years (Xerces Society, 2021).

A lack of nectar and pollen sources on the parcel, as well the northeast aspect and heavy canopy cover would limit the suitability of the site for the bees to nest. Obscure bumble bee has low potential for being present on the parcel.

Western bumble bee (*Bombus occidentalis*)
The western bumble bee is a state candidate for listing as endangered (CDFW, 2019), imperiled by the heritage biologists (CNDDB, 2020), and is designated as vulnerable on the IUCN red list (Hatfield, et. al., 2015). It is an important pollinator for wild flowering plants and crops (Xerces Society, 2021). Western bumble bees are generalist foragers and do not rely on one type of flower. Many wild and crop plants rely on the bumble bee style of pollination, buzz pollination, for successful pollination. Historically they were widely distributed in western North America, but a recent decline of the western bumble bee has been documented (Xerces Society, 2021).

The most recent sighting of the western bumble bee on San Bruno Mountain is from 1968 (CNDDB, 2020). A lack of nectar and pollen sources on the parcel, as well the northeast aspect and heavy canopy cover would limit the suitability of the site for the bees to nest. Western bumble bee has low potential to occur on the parcel.

Stage's dufourine bee (*Dufourea stagei*)
Stage's dufourine bee is listed as a state imperiled species (CNDDB, 2020). Stage's dufourine bee is a ground-nesting bee known from a single record on San Bruno Mountain from 1961 (CNDDB, 2020). A lack of nectar and pollen sources on the parcel, as well the northeast aspect

and heavy canopy cover would limit the suitability of the site for the bees to nest. Stage's dufourine bee has no potential to occur on the parcel.

Mission Blue Butterfly (*Icaricia icarioides missionensis*)
The mission blue butterfly is federally listed as endangered (CDFW, 2020; USFWS, 1999) and is designated as critically imperiled by the Xerces Society's Red List of Pollinator Insects of North America (Shepherd et al., 2005). It is a small butterfly measuring 1 to 1ó inches across. The larval host plants include three species of lupine (*Lupinus albifrons* var. *collinus*, *L. formosus* var. *formosus* and *L. variicolor*). Adult nectar plants include California Phacelia (*Phacelia californica*), bluedicks (*Dichelostemma capitatum*), golden aster (*Heterotheca villosa*), seaside buckwheat (*Eriogonum latifolium*), and a variety of native and nonnative thistles (TRA, 1982). Mission blue butterflies are found in grassland habitats and utilize roadcuts and rocky outcrops with good sun exposure. Mission blue butterflies are relatively weak flyers and have been recorded to move approximately 0.25 miles between habitat patches. The flight season occurs from March through July. Remaining populations are restricted to the Marin headlands in Marin County, Twin Peaks in San Francisco County, and Milagra Ridge, San Bruno Mountain and Crystal Springs Watershed in San Mateo County.

No host or nectar plants were detected in the survey area during site visits. The surveys were conducted outside of the season to observe one of the Mission blue's host plants (*Lupinus formosus*) however the survey area has a northeast-facing aspect, with blue gum eucalyptus trees shading most of the site throughout the day and during all seasons. This species has no potential to occur within the parcel.

Callippe Silverspot Butterfly (*Speyeria callippe callippe*)
The Callippe silverspot butterfly, also known as the callippe fritillary, is federally listed as endangered (CDFW, 2020) and is designated as critically imperiled by the Xerces Society's Red List of Pollinator Insects of North America (Shepherd et al. 2005a). It is a medium-sized butterfly with a wingspan of 2 inches in the Nymphalidae or brush-footed family. The dorsal surface of the wings is brown with black spots and lines (Shepherd et al., 2005). The Callippe silverspot is found in grasslands in the vicinity of its larval host plant, Johnny-jump-up (*Viola pedunculata*). Hilltops provide important habitat for mate selection. Adult nectar plants include nonnative species such as Italian thistle, pin-cushion plant (*Scabiosa purpurea*), and native species such as California buckeye (*Aesculus californica*). Callippe silverspots are relatively strong flyers that range as far as 0.75 miles between habitat patches (TRA, 1982). The adult flight period occurs from May to July.

No host or nectar plants were detected in the survey area during site visits. The surveys were conducted outside of the season to observe the Callippe silverspot's host plants (*Viola pedunculata*) however the survey area has a northeast-facing aspect, with blue gum eucalyptus trees shading most of the site throughout the day and during all seasons. This species has no potential to occur within the parcel.

Special Status Plants Species Accounts

Scouler's catchfly (*Silene scouleri* ssp*. scouleri*)
Scouler's catchfly is a CNPS list 2B.2 species. It is a perennial herb that ranges from northern California north to Canada and Alaska and east to Montana (CNPS, 2020). The habitat of Scoulers' catchfly includes coastal bluff scrub, coastal prairie and valley and foothill grassland. This species occurs within grasslands near the ridgeline of San Bruno Mountain (CNDDB, 2020).

Scouler's catchfly, a perennial, was not observed during the site visits. The survey area has a northeast-facing aspect, with blue gum eucalyptus trees shading most of the site throughout the day and during all seasons. This species has no potential to occur within the parcel.

Nesting Bird Summary

The eucalyptus trees within the survey area are appropriate for nesting birds, including corvids and raptors. One large inactive nest was observed in a eucalyptus tree approximately 50 feet northwest of the survey area during the field surveys. The nest is similar in size to nests built and used by large corvids such as a common raven or by raptors such as red-shouldered hawk and red-tailed hawk.

If any disturbance of the site, including access routes to the site, is to occur during the nesting bird season (Feb. 1 – August 31), a nesting bird survey is recommended prior to any disturbance to determine if there is any nesting bird activity within the survey area.

3.3 Wildlife Movement and Connectivity

Wildlife Movement or Connectivity features, or evidence thereof, were not found within the survey area(s).

Wildlife corridors are important for conservation of wildlife in the region. Linkages between habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement between populations located in discrete areas and populations located within larger habitat areas. Even where patches of pristine habitat are fragmented, wildlife movement between populations is facilitated through habitat linkages, migration corridors and movement corridors. Wildlife movement includes migration (i.e., usually one direction per season), inter-population movement (i.e., long-term genetic exchange) and small travel pathways (i.e., daily movement within an animal's home range).

The property is situated within an urban-disturbed wildland zone adjacent to existing development along Bayshore Boulevard to the east, north and south, and open space on the west (several hundred acres of contiguous open space areas on San Bruno Mountain are located 0.25 mile west of the property). There is likely a suite of common and opportunistic wildlife species that are adapted to this urban interface, and may be present in the area. These

species include raccoon, striped skunk, coyote, eastern fox squirrel, as well as several bat and bird species. The proximity of development and lack of open space to the north, east and south limits the potential for movement of terrestrial wildlife through the property.

The planned project would reduce vegetation coverage to a fire-safe density in this area as part of construction of a single family home. The road improvement of McLain Road will include removing standing vegetation, regrading and re-surfacing the roadbed but will not include walls or structures that would limit the movement of wildlife along the roadway. The road will still end at the south end of the parcel, and thus there will be very little increase in vehicle usage along the road. The road improvement is not expected to adversely affect any existing regular movement of wildlife along it.

Section 4: Recommended Impact Assessment and Conditions of Approval

4.1 Sufficiency of Biological Data

Surveys for this biological assessment yielded detailed information about natural resources potentially present in the survey area. This documentation revealed that special status species, sensitive natural communities, and critical habitats do not occur within the survey area.

4.2 Impacts and Conditions of Approval

Impacts to the site from the proposed project are not expected to cause significant impacts to special-status plants and animals, and/or sensitive natural communities, as discussed below.

Conditions of Approval described below (CA-1) include recommendations to avoid impacts to nesting birds including raptors.

Special Status Raptors and Nesting Birds

Raptors

There is a low potential for special status raptors to forage on site such as Cooper's hawk. There is also low potential for special status raptor species to nest in trees adjacent to the site including Cooper's hawk.

Project implementation would result in the loss of up to 0.21 acres of potential foraging habitat for special status raptor species. Impacts to nesting raptors including special status raptors can be minimized by implementation of CA-1, below.

Significance Finding – Project Impacts: Less than Significant.
Significance Finding – Cumulative Impacts: No Impact.

Nesting Birds

Suitable habitat for nesting birds exists within the project site and survey area. There is potential for birds protected by the federal Migratory Bird Treaty Act to nest within the eucalyptus tree within the project area. Project implementation would result in the loss of up to 0.21 acres of potential foraging habitat for native bird species protected by the Migratory Bird Treaty Act and CA Fish and Game Code.

Significance Finding – Project Impacts: Less than Significant.
Significance Finding – Cumulative Impacts: No Impact.

Conditions of Approval 1 (CA-1): Protection of Nesting Birds, Including Raptors

CA-1a: Avoidance of Nesting Birds including Raptors. If feasible, vegetation removal and ground disturbance should be conducted outside of the nesting bird season (February 1 to August 31).

CA-1b: Pre-Construction Nesting Bird Surveys including Raptors. If removal of vegetation is to occur during the nesting season (February 1 to August 31), it is recommended that surveys for nesting birds (including special status raptors) be conducted prior to any vegetation removal by a qualified biologist. Surveys should be conducted no more than one week (seven days) prior to vegetation removal or ground disturbance. If active nests are found, vegetation removal should only be conducted after the young have left the nest and the nest is no longer considered active (i.e. in use).

CA-1c: Implementation of Nesting Bird Buffer Zones. If active nests are found within the survey area, suitable buffer zones should be established in consultation with CDFW to ensure nesting birds are not impacted by project activities. A buffer zone of 250' is recommended for raptors, and a buffer of 100' is recommended for passerines and other nesting birds. Buffer zones should be kept in place until nests are determined inactive by a qualified biologist.

Special Status Plants

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact

No special status plant species were observed on site or are expected to occur. The project will not cause project-specific or cumulative impacts to special status plant species.

Ecological Communities

Sensitive Plant Communities

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact

No sensitive plant communities were observed on site or are expected to occur. The project will not cause project-specific or cumulative impacts to special status plant species.

Waters and Wetlands

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact

No state or federal jurisdictional waters or wetlands were observed on site. The project will not cause project-specific or cumulative impacts to waters or wetlands.

Environmentally Sensitive Habitat Areas

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact

No Environmentally Sensitive Habitat Areas were observed on site or are expected to occur. The project will not cause project-specific or cumulative impacts to Environmentally Sensitive Habitat Areas.

Habitat Connectivity (Migration Corridors)

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact

No were observed on site or are expected to occur. The project will not cause project-specific or cumulative impacts to Habitat Connectivity (Migration Corridors).

Protected Trees

Significance Finding – Project Impacts: No Impact
Significance Finding – Cumulative Impacts: No Impact.

If a protected tree as defined by the City of Brisbane Tree Ordinance is to be removed, the applicant must apply for a tree removal permit from the City. Replacement plantings may be required at the discretion of the city.

References

Baicich, P.J. and C.J.O. Harrison. 2005. Nests, Eggs, and Nestlings of North American Birds. Second Edition. Princeton University Press. Princeton, New Jersey. 347 pp.

Black, S. H., and D. M. Vaughan. 2005. Species Profile: *Euphydryas editha bayensis*. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds).

Western Bat Working Group (WBWG). 2021. Pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), and fringed myotis (*Myotis thysanodes*). Species Accounts. http://wbwg.org/western-bat-species/

California Department of Fish and Wildlife (CDFW). 2020. Special Animals. California Natural Diversity Database. Wildlife and Habitat Data Analysis Branch. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109406&inline

California Department of Fish and Wildlife. 2020. California Natural Diversity Database (CNDDB) – Government version dated November 21, 2020. Retrieved from https://map.dfg.ca.gov/rarefind/view/RareFind.aspx.

California Native Plant Society. Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website accessed November 21. http://www.rareplants.cnps.org

California Native Plant Society. 2009. A Manual of California Vegetation.

City of Brisbane. 2020. The 1994 General Plan. Updated January 2020. Retrieved November 21, 2020 from http://brisbaneca.org/general-plan and http://planning.smcgov.org/find-my-zoning-parcel-map-and -other-property-info

City of Brisbane. 2020. Ordinance Number 638, Section 2, 10/3/2019.

Curtis, Odette E., R. N. Rosenfield and J. Bielefeldt. 2006. Cooper's Hawk (*Accipiter cooperii*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/075.

Dunk, J. R. 1995. White-tailed Kite (*Elanus leucurus*). In The Birds of North America, No. 178 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and The American Ornithologists' Union, Washington, D.C.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. & Colla, S.2014. *Bombus caliginosus*. *The IUCN Red List of Threatened Species* 2014:

e.T44937726A69000748. https://dx.doi.org/10.2305/IUCN.UK.2014-3.RLTS.T44937726A69000748.en.

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L., Colla, S. & Foltz Jordan, S. 2015. *Bombus occidentalis*. *The IUCN Red List of Threatened Species* 2015: e.T44937492A46440201. https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937492A46440201.en

Macwhirter, R. B. and K. L. Bildstein. 1996. Northern Harrier (*Circus cyaneus*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/210.

Naumovich, L. and C. Niederer. 2016. 2015 Rare, Threatened, and Endangered Plant Survey: San Bruno Mountain. Report for the San Mateo County Parks Department. Creekside Science. Menlo Park, CA

Nomad Ecology. 2017. Biological Assessment, 1093 San Bruno Avenue, City of Brisbane, County of San Mateo.

San Mateo County Parks Department, Standards for Biological Studies and Assessments. December 2, 2015.

San Mateo County Parks Department, GIS Biology Map Packet. Hannah Ormshaw. Email communication, December 2, 2020. Consists of mapped resource information for the project site, including: wetlands and waterbodies; wildlife corridors/connectivity areas; vegetation; and high resolution aerial imagery.

San Mateo County Parks Department, Survey Area Buffer. Hannah Ormshaw. Re: Biological Resource Assessment for 3998 Bayshore Boulevard. Email communication, December 2, 2020.

Shepherd, M.D., D.M. Vaughan, and S.H. Black (Eds). 2005. Red List of Pollinator Insects of North America. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.

Soil Conservation Service, United States Department of Agriculture. 1991. Soil Survey of San Mateo County, Eastern Part, and San Francisco County, California. Retrieved from https:// www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA689/0/sanmateo.pdf

Thomas Reid Associates (TRA) 1982. Endangered Species Survey San Bruno Mountain. Biological Study 1980-1981. Prepared for San Mateo County.

U.S. Fish and Wildlife Service (USFWS). 1980. Endangered and threatened wildlife and plants reproposal of critical habitat for one species of butterfly. Federal Register 45: 20503-20505.

U.S. Fish and Wildlife Service (USFWS). 1999. Endangered and Threatened Wildlife and Plants. 50 CFR 17.11 & 17.12. December 31.

U.S. Fish and Wildlife Service. 2020, Dec 10. National Wetlands Inventory. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html

U.S. Fish and Wildlife Service. 2021. Critical Habitat Online Mapper. Website accessed Jan.10, 2021. https://ecos.fws.gov/ecp/report/table/critical-habitat.html

Warkentin, I. G., N. S. Sodhi, R. H. M. Espie, Alan F. Poole, L. W. Oliphant and P. C. James. 2005. Merlin (Falco columbarius), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/044.

Xerces Society. 2021. Species Profiles: At-Risk Invertebrates. Obscure bumble bee (*Bombus caliginosus*). Website accessed January 24. https://www.xerces.org/endangered-species/species-profiles/at-risk-bumble-bees/obscure-bumble-bee

Xerces Society. 2021. Species Profiles: At-Risk Invertebrates. Western bumble bee (*Bombus occidentalis*). Website accessed January 24. https://www.xerces.org/endangered-species/species-profiles/at-risk-bumble-bees/western-bumble-bee

Section 5. Photos

Location	
3998 Bayshore Blvd	
Map Key	
P1	
View Direction	
West	
Description	
View of Project Site and Survey Area from Bayshore Boulevard.	

Location	
3998 Bayshore Blvd	
Map Key	
P2	
View Direction	
East	
Description	
View of eastern half of parcel looking from center of parcel with Bayshore Boulevard in the background. Cleared land and construction storage in view.	

Location	
3998 Bayshore Blvd	
Map Key	
P3	
View Direction	
West	
Description	
View of western half of parcel from the center of the parcel. French broom and eucalyptus on edges and background, grasses of cleared land in foreground.	

Location	
3998 Bayshore Blvd	
Map Key	
P4	
View Direction	
East	
Description	
View of parcel from western edge towards Bayshore Boulevard in background. 35-inch DBH eucalyptus on left side of photo.	

Location	
3998 Bayshore Blvd	
Map Key	
P5	
View Direction	
Southeast	
Description	
View of abandoned cars and vegetation on southwest corner of southern adjacent property.	

Location	
3998 Bayshore Blvd	
Map Key	
P6	
View Direction	
South	
Description	
View of access road to be improved with parcel to the southeast beyond two large eucalyptus.	

Location	
3998 Bayshore Blvd	
Map Key	
P7	
View Direction	
West	
Description	
View of area west of parcel with candelabra aloe and non-native grasses in foreground, eucalyptus and French broom in background.	

P-designation refers to Photograph Point locations illustrated on Figure 3. Plant Communities Map.

Appendix 1: Summary of Biological Resource Regulations

Sensitive Status Species Regulations
Nesting Bird Regulations
Plant Community Regulations
Waters and Wetlands Regulations
Coastal Habitat Regulations
Locally Important Communities

Sensitive Status Species Regulations

Federally Protected Species

San Mateo County is home to several federally listed endangered and threatened plant and wildlife species. The U.S. Fish and Wildlife Service (USFWS) regulates the protection of federally listed endangered and threatened plant and wildlife species.

FE (Federally Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.

FT (Federally Threatened): A species that is likely to become endangered in the foreseeable future.

FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as endangered or threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate" species.
The USFWS requires permits for the “take” of any federally listed endangered or threatened species. “Take” is defined by the USFWS as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct; may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.”
The Endangered Species Act (ESA) does not provide statutory protection for candidate species or species of concern, but USFWS encourages conservation efforts to protect these species. USFWS can set up voluntary Candidate Conservation Agreements and Assurances, which provide non-Federal landowners (public and private) with the assurance that if they implement

various conservation activities to protect a given candidate species, they will not be subject to additional restrictions if the species becomes listed under the ESA.

State Protected Species

The California Department of Fish and Game (CDFG) regulates the protection of endangered, threatened, and fully protected species listed under the California Endangered Species Act. Some species may be jointly listed under the State and Federal Endangered Species Acts.

SE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

ST (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection management efforts required by this chapter. Any animal determined by the commission as "rare" on or before January 1, 1985, is a "threatened species."

SFP (California Fully Protected Species): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations.

SR (California Rare): A species, subspecies, or variety of plant is rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens. Animals are no longer listed as rare; all animals listed as rare before 1985 have been listed as threatened.

SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

The CDFG requires permits for the "take" of any State-listed endangered or threatened species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the California Fish and Game Commission determines to be endangered or threatened. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

The California Native Plant Protection Act protects endangered and rare plants of California. Section 1908, which regulates plants listed under this act, states: "no person shall import into

this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the commission determines to be an endangered native plant or rare native plant, except as otherwise provided in this chapter."

Unlike endangered, threatened, and rare species, for which a take permit may be issued, California Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

The California Endangered Species Act does not provide statutory protection for California species of special concern, but they should be considered during the environmental review process.

California Rare Plant Ranks (RPR)

Plants with 1A, 1B, 2 or 4 should always be addressed in CEQA documents. Plants with a RPR 3 do not need to be addressed in CEQA documents unless there is sufficient information to demonstrate that a RPR 3 plant meets the criteria to be listed as a RPR 1, 2, or 4.

RPR 1A: Plants presumed to be extinct because they have not been seen or collected in the wild in California for many years. This list includes plants that are both presumed extinct in California, as well as those plants which are presumed extirpated in California. A plant is extinct in California if it no longer occurs in or outside of California. A plant that is extirpated from California has been eliminated from California, but may still occur elsewhere in its range.

RPR 1B: Plants that are rare throughout their range with the majority of them endemic to California. Most of the plants of List 1B have declined significantly over the last century.

RPR 2: Plants that are rare throughout their range in California, but are more common beyond the boundaries of California. List 2 recognizes the importance of protecting the geographic range of widespread species.
Plants identified as RPR 1A, 1B, and 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing.

RPR 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.

RPR 4: A watch list for plants that are of limited distribution in California.

Global and Subnational Rankings

Though not associated directly with legal protections, species have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):
G1 or S1 - Critically Imperiled
G2 or S2 – Imperiled
G3 or S3 - Vulnerable to extirpation or extinction

Migratory Bird and Nesting Bird Regulations

The Federal Migratory Bird Treaty Act (MBTA) and the California Department of Fish and Game (CDFG) Code (3503, 3503.5, 3511, 3513 and 3800) protect most native birds. In addition, the federal and state endangered species acts protect some bird species listed as threatened or endangered. Project-related impacts to birds protected by these regulations would normally occur during the breeding season, because unlike adult birds, eggs and chicks are unable to escape impacts.

The MBTA implements various treaties and conventions between the U.S. and Canada, Japan, Mexico, and Russia for the protection of migratory birds, which occur in two of these countries over the course of one year. The Act maintains that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Bird species protected under the provisions of the MBTA are identified by the List of Migratory Birds (Title 50 of the Code of Federal Regulations, Section 10.13 as updated by the 1983 American Ornithologists' Union (AOU) Checklist and published supplements through 1995 by the USFWS).

CDFG Code 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA. In addition, there are CDFG Codes (3503, 3503.5, 3511, and 3800) which further protect nesting birds and their parts, including passerine birds, raptors, and state “fully protected” birds.

NOTE: These regulations protect almost all *native nesting birds*, not just sensitive status birds.

Plant Community Regulations

Plant communities are provided legal protection when they provide habitat for protected species or when the community is in the coastal zone and qualifies as environmentally sensitive habitat area (ESHA).

Global and Subnational Rankings

Though not associated directly with legal protections, plant communities have been given a conservation status rank by NatureServe, an international non-profit conservation organization that is the leading source for information about rare and endangered species and threatened ecosystems. The Ventura County Planning Division considers the following ranks as sensitive for the purposes of CEQA impact assessment (G = Global, S = Subnational or State):

G1 or S1 - Critically Imperiled
G2 or S2 - Imperiled
G3 or S3 - Vulnerable to extirpation or extinction

CDFG Rare

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. Though the Native Plant Protection Act and the California Endangered Species Act provide no legal protection to plant communities, CDFG considers plant communities that are ranked G1-G3 or S1-S3 (as defined above) to be rare or sensitive, and therefore these plant communities should be addressed during CEQA review.

Environmentally Sensitive Habitat Areas

The Coastal Act specifically call for protection of "environmentally sensitive habitat areas" or ESHA, which it defines as: "Any area in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Section 30107.5).

Waters and Wetlands Regulations

Numerous agencies control what can and cannot be done in or around streams and wetlands. If a project affects an area where water flows, ponds, or is present even part of the year, it is likely to be regulated by one or more agencies. Many wetland or stream projects will require three main permits or approvals (in addition to CEQA compliance). These are:

- 404 Permit (U.S. Army Corps of Engineers)
- 401 Certification (California Regional Water Quality Control Board)
- Streambed Alteration Agreement (California Department of Fish and Game)

404 Permit (U.S. Army Corps of Engineers)

Most projects that involve streams or wetlands will require a 404 Permit from the U.S. Army Corps of Engineers (USACE). Section 404 of the federal Clean Water Act is the primary federal program regulating activities in wetlands. The Act regulates areas defined as "waters of the

United States." This includes streams, wetlands in or next to streams, areas influenced by tides, navigable waters, lakes, reservoirs and other impoundments. For nontidal waters, USACE jurisdiction extends up to what is referred to as the "ordinary high water mark" as well as to the landward limits of adjacent Corps-defined wetlands, if present. The ordinary high water mark is an identifiable natural line visible on the bank of a stream or water body that shows the upper limit of typical stream flow or water level. The mark is made from the action of water on the streambank over the course of years.

Permit Triggers: A USACE 404 Permit is triggered by moving (discharging) or placing materials—such as dirt, rock, geotextiles, concrete or culverts—into or within USACE jurisdictional areas. This type of activity is also referred to as a "discharge of dredged or fill material."

401 Certification (Regional Water Quality Control Board)

If your project requires a USACE 404 Permit, then you will also need a Regional Water Quality Control Board (RWQCB) 401 Certification. The federal Clean Water Act, in Section 401, specifies that states must certify that any activity subject to a permit issued by a federal agency, such as the USACE, meets all state water quality standards. In California, the state and regional water boards are responsible for certification of activities subject to USACE Section 404 Permits.

Permit Trigger: A RWQCB 401 Certification is triggered whenever a USACE 404 Permit is required, or whenever an activity could cause a discharge of dredged or fill material into waters of the U.S. or wetlands.

Streambed Alteration Agreement (California Department of Fish and Game)

If your project includes alteration of the bed, banks or channel of a stream, or the adjacent riparian vegetation, then you may need a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). The California Fish and Game Code, Sections 1600-1616, regulates activities that would alter the flow, bed, banks, channel or associated riparian areas of a river, stream or lake. The law requires any person, state or local governmental agency or public utility to notify CDFG before beginning an activity that will substantially modify a river, stream or lake.

Permit Triggers: A Streambed Alteration Agreement (SAA) is triggered when a project involves altering a stream or disturbing riparian vegetation, including any of the following activities:

- Substantially obstructing or diverting the natural flow of a river, stream or lake
- Using any material from these areas
- Disposing of waste where it can move into these areas

Some projects that involve routine maintenance may qualify for long-term maintenance agreements from CDFG. Discuss this option with CDFG staff.

San Mateo County General Plan wetland habitat protections

The Ventura County General Plan contains policies which also strongly protect wetland habitats. Biological Resources Policy 1.5.2-3 states**:**

> Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7½ minute quad map), shall be evaluated by a County approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less than significant level; or for lands designated "Urban" or "Existing Community", a statement of overriding considerations is adopted by the decision-making body.

Biological Resources Policy 1.5.2-4 states:

> Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e. same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game.

Locally Important Communities

The state passed legislation in 2001, the Oak Woodland Conservation Act, to emphasize that oak woodlands are a vital and threatened statewide resource. In response, the County of Ventura prepared and adopted an Oak Woodland Management Plan that recommended, among other things, amending the County's Initial Study Assessment Guidelines to include an explicit reference to oak woodlands as part of its definition of locally important communities. The Board of Supervisors approved this management plan and its recommendations.

ATTACHMENT F

ROMIG ENGINEERS

GEOTECHNICAL INVESTIGATION

ATANA RESIDENCE

3998 BAYSHORE BOULEVARD

BRISBANE, CALIFORNIA 94005

Prepared for

Mr. Georgio Atana

19315 Mountain Meadow Court

Grass Valley, California 95949

January 2022

Project No. 5705-1

ROMIG ENGINEERS

January 6, 2022
5705-1

Mr. Georgio Atana
19315 Mountain Meadow Court
Grass Valley, California 95949

RE: GEOTECHNICAL INVESTIGATION
ATANA NEW RESIDENCE
3998 BAYSHORE BOULEVARD
BRISBANE, CALIFORNIA

Dear Mr. Atana:

In accordance with your request, we have performed a geotechnical investigation for your proposed residence to be constructed at 3998 Bayshore Boulevard in Brisbane, California. The accompanying report summarizes the results of our subsurface exploration, laboratory testing, and engineering analysis, and presents our geotechnical recommendations for the proposed residence.

We refer you to the text of our report for specific recommendations.

Thank you for the opportunity to work with you on this project. Please call if you have questions or comments about site conditions or the findings and recommendations from our site investigation.

Very truly yours,

ROMIG ENGINEERS, INC.

Coleman K. Ng

Copies: Addressee (1 + email)
Xie Associates, Inc (via email)
Attn: Bill X. Guan

GEOTECHNICAL INVESTIGATION
ATANA NEW RESIDENCE
3998 BAYSHORE BOULEVARD
BRISBANE, CALIFORNIA 94005

PREPARED FOR:
MR. GEORGIO ATANA
19315 MOUNTAIN MEADOW COURT
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PREPARED BY:
ROMIG ENGINEERS, INC.
1390 EL CAMINO REAL, SECOND FLOOR
SAN CARLOS, CALIFORNIA 94070

JANUARY 2022

ROMIG ENGINEERS

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GEOTECHNICAL INVESTIGATION
FOR
ATANA NEW RESIDENCE
3998 BAYSHORE BOULEVARD
BRISBANE, CALIFORNIA

INTRODUCTION

This report presents the results of our geotechnical investigation for the proposed residence to be constructed at 3998 Bayshore Boulevard in Brisbane, California. The location of the site is shown on the Vicinity Map, Figure 1. The purpose of this investigation was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for the proposed residence.

Project Description

We understand that the project consists of constructing a two-story residence at your Brisbane property. The proposed residence is expected to be approximately 3,000 square-feet in size. The property generally slopes down moderately to steeply toward the northeast (front) and northwest. The residence will likely be constructed on multiple tiers cutting in the hillside. Based on the project plans, the front (approximately one-third) portion of the residence will be constructed as a walk-in basement (garage level) that will have a finished floor elevation at about 508.6 feet, where up to about 12 feet of cut will be required along the upslope side of the garage, but the front (north) corner will likely require about 2 feet of fill to achieve the finished floor elevation. Structural loads are expected to be relatively light as is typical for this type of construction.

Scope of Work

The scope of our work for this investigation was presented in our agreement with Mr. Georgio Atana dated September 20, 2021. In order to accomplish our investigation, we performed the following work.

- Review of geologic, geotechnical, and seismic conditions in the vicinity of the site.
- Subsurface exploration consisting of drilling, sampling, and logging of two exploratory borings near the proposed residence.
- Laboratory testing of selected samples to aid in soil classification and to help evaluate the engineering properties of the near surface soil and bedrock encountered at the site.

- Engineering analysis and evaluation of the surface and subsurface data to develop earthwork guidelines and foundation design criteria.

- Preparation of this report presenting our findings and geotechnical recommendations for the proposed residence.

Limitations

This report has been prepared for the exclusive use of Mr. Georgio Atana for specific application to developing geotechnical design criteria for the currently proposed residence to be constructed at 3998 Bayshore Boulevard in Brisbane, California. We make no warranty, expressed or implied, for the services we performed for this project. Our services are performed in accordance with the geotechnical engineering principles generally accepted at this time and location. This report was prepared to provide engineering opinions and recommendations only. In the event there are any changes in the nature, design, or location of the project, or if any future improvements are planned, the conclusions and recommendations presented in this report should not be considered valid unless: 1) the project changes are reviewed by us, and; 2) the conclusions and recommendations presented in this report are modified or verified in writing.

The analysis, conclusions, and recommendations presented in this report are based on site conditions as they existed at the time of our investigation; the currently proposed improvements; review of readily available reports relevant to the site conditions; and laboratory test results. In improvements, it should be recognized that certain limitations are inherent in the evaluation of subsurface conditions, and that certain conditions may not be detected during an investigation of this type. Changes in the information or data gained from any of these sources could result in changes in our conclusions or recommendations. If such changes occur, we should be advised so that we can review our report in light of those changes.

SITE EXPLORATION AND RECONNAISSANCE

Site reconnaissance and subsurface exploration were performed on November 22, 2021. Subsurface exploration was performed using portable Minuteman drilling and sampling equipment. Two exploratory borings were advanced to sampler refusal conditions within bedrock to a depth of about 5 feet. The approximate locations of the borings are presented on the Site Plan, Figure 2. The boring logs and the results of our laboratory tests are attached in Appendices A and B, respectively.

Surface Conditions

The site is located along the southwest side of Bayshore Boulevard. At the time of our investigation, the site was vacant and vegetated with native grass, shrubs, and small to large trees. Approximately the front one-third of the site sloped down gently toward the front. However, the rear portion of the site generally sloped down steeply toward the front at inclinations ranging from about 1:1 to 3:1 (horizontal:vertical). In addition, we note that the area within the northwest neighboring property near the proposed building area sloped down very steeply away from the subject site at an inclination of up to about 0.6:1 (H:V), and an approximately 9-foot high retaining wall was located along the toe of this slope.

Subsurface Conditions

At the location of our Borings, we generally encountered about 4 to 4.5 feet of firm to hard sandy silt of low plasticity underlain by severely weathered siltstone/sandstone bedrock of the Franciscan Complex to the maximum depth explored of about 5 feet, where sampler refusal conditions were encountered.

Since the surface and near-surface materials encountered in our borings primarily consisted of low plastic soils, based on our visual classification, the surface and near-surface materials we encountered at the site appear to have a relatively low potential for expansion.

Ground Water

Free ground water was not encountered in our boring during the field exploration. The boring was backfilled immediately following drilling; therefore, a stabilized ground water depth was not obtained. Please be cautioned that fluctuations in the level of ground water can occur due to variations in rainfall, landscaping, underground drainage patterns, and other factors. It is possible and perhaps even likely that perched ground water conditions and ground water seepage will develop in the soils and near the surface of the bedrock during and after significant rainfall or due to landscape watering at the property and upslope areas.

GEOLOGIC SETTING

We briefly reviewed our local experience and the geologic literature pertinent to the general area of the site. The information reviewed indicates that the majority of the site is mapped in an area underlain by slope debris and ravine fill, Qsr (Bonilla, 1998). The slope debris and ravine fill are expected to consist of silty to sandy clay and locally silty to clayey sand or gravel. The deposits are generally accumulated by slow downslope

movement of weathered rock debris and soil. In addition, the southeastern portion of the property is mapped as being underlain by sandstone and shale bedrock of the Franciscan Formation, KJsk (Bonilla, 1998). The geology of the site vicinity is shown on Figure 3.

The lot and the immediate site vicinity are located in a hillside area that generally slopes down steeply to the east and northeast. The site is located at elevations ranging from approximately 50 to 90 feet above sea level.

Faulting and Seismicity

There are no mapped through-going faults within or adjacent to the site and the site is not located within a State of California Earthquake Fault Zone (formerly known as a Special Studies Zone), an area where the potential for fault rupture is considered probable. The closest active fault is the San Andreas Fault, which is located approximately 4.6 miles southwest of the property. Thus, the likelihood of surface rupture occurring from active faulting at the site is low.

The San Francisco Bay Area is, however, an active seismic region. Earthquakes in the region result from strain energy constantly accumulating because of the northwestward movement of the Pacific Plate relative to the North American Plate. On average about 1.6-inches of movement occur per year. Historically, the Bay Area has experienced large, destructive earthquakes in 1838, 1868, 1906 and 1989. The faults considered most likely to produce large earthquakes in the area include the San Andreas, San Gregorio, Hayward, and Calaveras faults. The San Gregorio fault is located approximately 9.2 miles southwest of the site. The Hayward and Calaveras faults are located approximately 14 and 23 miles northeast of the site, respectively. These faults and significant earthquakes that have been documented in the Bay Area are listed in Table 1 below, and are shown on the Regional Fault and Seismicity Map, Figure 4.

In the future, the subject property will undoubtedly experience severe ground shaking during moderate and large magnitude earthquakes produced along the San Andreas fault or other active Bay Area fault zones. Using information from recent earthquakes, improved mapping of active faults, ground motion prediction modeling, and a new model for estimating earthquake probabilities, a panel of experts convened by the U.S.G.S. have concluded there is a 72 percent chance for at least one earthquake of Magnitude 6.7 or larger in the Bay Area before 2043. The Hayward fault has the highest likelihood of an earthquake greater than or equal to magnitude 6.7 in the Bay Area, estimated at 33 percent, while the likelihood on the San Andreas and Calaveras faults is estimated at approximately 22 and 26 percent, respectively (Aagaard et al., 2016).

Table 1. Earthquake Magnitudes and Historical Earthquakes
New Residence
Brisbane, California

Fault	Maximum Magnitude (Mw)	Historical Earthquakes		Estimated Magnitude
San Andreas	7.9	1989	Loma Prieta	6.9
		1906	San Francisco	7.9
		1865	N. of 1989 Loma Prieta Earthquake	6.5
		1838	San Francisco-Peninsula Segment	6.8
		1836	East of Monterey	6.5
Hayward	7.1	1868	Hayward	6.8
		1858	Hayward	6.8
Calaveras	6.8	1984	Morgan Hill	6.2
		1911	Morgan Hill	6.2
		1897	Gilroy	6.3
San Gregorio	7.3	1926	Monterey Bay	6.1

Earthquake Design Parameters

The State of California currently requires that buildings and structures be designed in accordance with the seismic design provisions presented in the 2019 California Building Code and in ASCE 7-16, "Minimum Design Loads for Buildings and Other Structures." Based on site geologic conditions and on information from our subsurface exploration at the site, the site may be classified as Site Class C, very dense soil and soft rock, in accordance with ASCE 7-16. Spectral Response Acceleration parameters and site coefficients may be taken directly from the U.S.G.S. website based on the longitude and latitude of the site. For site latitude (37.6768), longitude (-122.3930) and Site Class C, design parameters are presented on Table 2 below.

Table 2. 2019 CBC Seismic Design Criteria
New Residence
Brisbane, California

Spectral Response Acceleration Parameters			Design Value
Mapped Value for Short Period	-	S_S	1.694
Mapped Value for 1-sec Period	-	S_1	0.689
Site Coefficient	-	F_a	1.2
Site Coefficient	-	F_v	1.4
Adjusted for Site Class	-	S_{MS}	2.032
Adjusted for Site Class	-	S_{M1}	0.964
Value for Design Earthquake	-	S_{DS}	1.355
Value for Design Earthquake	-	S_{D1}	0.643

Geologic Hazards

As part of our investigation, we reviewed the potential for geologic hazards to impact the site and the proposed residence and other improvements, considering the geologic setting and the soils encountered during our investigation. The results of our review are presented below.

- Fault Rupture - The site is not located in an Earthquake Fault Zone or area where fault rupture is considered likely. Therefore, active faults are not believed to exist beneath the site and the potential for fault rupture at the site is low.

- Ground Shaking - The site is located in an active seismic area. Moderate to large earthquakes are probable along several active faults in the greater Bay Area over a 30- to 50-year design life. Strong ground shaking should therefore be expected several times during the design life of the development, as is typical for sites throughout the Bay Area. The residence and other improvements should be designed in accordance with current earthquake resistance standards.

- Slope Stability - We did not observe any obvious signs of significant slope movement or active landsliding at the site during our site reconnaissance. However, due to the steeply sloping nature of the site, the possibility of near-surface soil slump or shallow landsliding cannot be excluded, particularly during times of seasonally heavy rainfall or during strong seismic shaking. However, provided the residence will be supported on a pier and grade beam foundation system designed and constructed in accordance with our recommendations, the likelihood of significant damage to the house from shallow landsliding within the site is greatly reduced.

  However, please note that it is not possible to predict with certainty when and where landslides will occur, particular under seismic conditions. The owners of properties located on or near steep slopes such as this must be aware of, and willing to accept, the unknown level of risk for slope movement due to future seismic activity or during times of seasonally heavy rainfall, and that the risk of landslide movement is greater than for properties located elsewhere.

- Liquefaction - Liquefaction occurs when saturated sandy soils lose strength during earthquake shaking. Ground settlement often accompanies liquefaction. Soils most susceptible to liquefaction are saturated, loose, sandy silts, silty sands, and uniformly graded sands. Since saturated loose sands were not encountered during our investigation and the site is expected to be underlain by relatively shallow bedrock, in our opinion, the likelihood of liquefaction occurring within the depth of our exploration is low.

- Dynamic Densification - Dynamic densification can occur during moderate and large earthquakes when soft or loose, natural or fill soils are densified and settle, often unevenly across a site. We note the firm silty soil encountered at the upper 2 to 3 feet of Boring EB-1 may be prone to some dynamic densification. However, since the residence foundations are expected to extend below the silty soils into weathered bedrock, in our opinion, the likelihood of significant dynamic densification affecting the proposed residence is low, provided the recommendations presented in our report are followed during design and construction.

CONCLUSIONS

In our opinion, from a geotechnical viewpoint, the site is suitable for the proposed residnce provided the recommendations presented in our report are followed during design and construction. The primary geotechnical concerns for the proposed construction are:

1. The steeply sloping nature of the site - we note that the areas on or near the stiff slopes onsite will likely be prone to near-surface soil creep, erosion and possibly near-surface soil slumping;

2. The presence of up to about 3 feet of firm silt in the area of the proposed residence - the firm silty is expected to be prone to irregular static settlement due to building loads or when the silt becomes wet/saturated, and may also be prone to dynamic settlement during strong seismic shaking;

3. The presence of the neighboring retaining wall and very steep slope immediately adjacent to the northwest side of the site - we note that the new loads from the residence and improvements will surcharge the downslope neighboring retaining wall and slope, which may result in distress/deflection to the existing neighboring retaining wall or movement of the adjacent slope, which could also result in differential movement and distress to the proposed residence;

4. The presence of the silty soil within the depth of the basement excavations - we note that the silty soil encountered in our borings was judged to have limited cohesion and may be prone to sloughing and/or caving if excavated near-vertical. This information should be considered by the contractor when establishing temporary shoring/cut slope criteria for the basement excavation and other temporary slopes and cuts. Please note that protection of structures near cuts should also be the responsibility of the contractor; and

5. The potential for severe ground shaking at the site during a major earthquake.

In our opinion, in order order to reduce the potential for differential settlement and distress to the proposed residence and the existing northwest neighboring downslope retaining wall, the proposed residence should be supported on a pier and grade beam foundation bearing into weathered bedrock. In addition, the piers for the northwest side of the residence should extend below the influence zone of the adjacent downslope retaining wall. Specific geotechnical recommendations for the proposed addition are presented in the following sections of this report.

In our opinion, site retaining walls constructed on or near sloping ground should generally be supported on a drilled pier foundation system extending into competent weathered bedrock. However, site retaining walls that will retain cuts into bedrock with relatively level ground at their base may be supported on conventional spread footings bearing on competent weathered bedrock. In addition, building retaining walls that will support a cut deeper than 6 feet may be supported on a combined pier and footing foundation. During design, we can provide additional guidelines regarding foundation support for retaining walls.

Because subsurface conditions may vary from those encountered at the location of our boring, and to observe that our recommendations are properly implemented, we recommend that we be retained to 1) review the project plans for conformance with our recommendations; and 2) observe and test during earthwork and foundation construction.

FOUNDATIONS

Pier and Grade Beam Foundation

In our opinion, the proposed residence should be supported on a drilled pier foundation extending into weathered bedrock. Piers should be at least 15 inches in diameter and should be embedded at least 12 feet below the bottom of the grade beams and at least 8 feet into weathered bedrock, whichever is deeper. Where bedrock is exposed at the building subgrade, the minimum embedment depth of the piers may be reduced to at least 8 feet below bottom of grade beam. In addition, to reduce surcharge to the downslope neighboring retaining wall and slope, the piers along the northwest side of the residence should extend below a 3:1 (horizontal:vertical) imagery plane extend upward from the base of the downslope neighboring retaining wall. Since the grades at northwestern neighboring property is up to about 20 feet lower than the subject site, we expect the footings within the southern portion of the improvements will need to extend to a depth of at least 16 feet deep.

The piers may be designed for an allowable skin friction of 550 pounds per square foot for dead plus live loads, with a one-third increase allowed when considering additional short-term wind or seismic loading. The uplift capacity of the piers may be based on a skin friction value of 440 pounds per square foot. The vertical resistance of the upper 5 feet, taken from current site grades, should be neglected in design. Piers should be reinforced with the equivalent of at least six No. 5 bars in the vertical direction and/or as determined by the structural engineer to resist bending from lateral loads. The piers should have a center to center spacing of at least three pier diameters.

In order to improve long term performance of the pier foundations, series of relatively rigid grade beams should be provided between piers supporting the proposed residence as determined by the structural engineer. In our opinion, the grade beams should be reinforced with at least two No. 5 bars, top and bottom, to provide structural continuity and stiffness. The grade beams should extend at least 12 inches below the crawl space grade or slab subgrade elevation to help limit the infiltration of surface water runoff under the structure.

Pier drilling should be observed by a member of our staff to confirm that the pier holes extend at least the required minimum depth into bedrock and are properly cleaned of all loose or soft soil and debris. The minimum pier depths recommended above may require adjustment if differing conditions are encountered during drilling. While we expect that moderate-sized drilling equipment can achieve the required minimum pier embedment depth, a rock bit equipped with carbide or other teeth or a rock core barrel will likely be required due to the hardness of the bedrock present below the site.

Concrete should be placed in the pier excavations as soon as practical after drilling, preferably the same say they are drilled. Ground water seepage may be encountered during pier drilling operations and it is possible that ground water seepage or the variable fill soils could cause some sloughing or caving conditions, if piers are not completed quickly after drilling. This can be further evaluated during the drilling of the initial piers. If ground water is present in the pier excavations, the tremie method should be used during placement.

Lateral Loads for Drilled Piers

Due to the potential for lateral creep of the near-surface soils, we recommend that the upper 6 feet of the piers, taken from current site grades, be designed to resist an active soil pressure equal to 95 pounds per cubic foot, acting against 2 times the projected area of the pier, acting in the downhill direction. The active load and other lateral loads may be resisted by passive earth pressure based upon an equivalent fluid pressure of 450

pounds per cubic foot, acting on 2 times the projected area of the pier below a depth of 6 feet. The passive resistance of the upper 6 feet of the pier, taken from current site grades, should be neglected in design.

Settlement with Piers

Thirty-year post-construction differential settlement due to static loads is not expected to exceed 3/4-inch across the proposed residence supported on a drilled pier and grade beam foundation, provided the foundations for the structure are designed and constructed as recommended.

Basement Water proofing

We have not provided recommendations regarding the method or details for basement damp-proofing since design of damp-proofing systems is outside of our scope of services and expertise. Installing adequate damp-proofing below and behind the edges of the basement floor and behind the basement walls is essential for the success of the basement structure. Placing concrete with a low water cement ratio should be considered as one step of good damp-proofing as discussed in the Slab-On-Grade section below. The damp-proofing system below the basement mat may be placed directly on the compacted or approved soil subgrade, the subslab drainage system rock or on a thin working slab, as determined by the water-proofing consultant.

Spread Footings

In our opinion, site retaining walls supporting cuts with relatively level ground at their base or miscellaneous landscape improvements to be constructed on relatively level ground at least 10 feet from the top of any steep slopes may be supported on conventional spread footing foundations bearing in undisturbed residual soil/weathered bedrock. In addition, building retaining walls that will support a cut deeper than 6 feet may be supported on a combined pier and footing foundation. Footings should have a width of at least 15 inches, and should extend at least 28 inches below exterior finished grade, and at least 24 inches below the bottom of concrete slabs-on-grade, whichever is deeper. In addition, footings should extend at least 6 inches into weathered bedrock or residual soil, even if this requires a deeper embedment depth than stated above. Note that finished grade should be considered to be the lowest grade within 5 feet of the edge of the foundation.

Foundations with at least these minimum dimensions may be designed for an allowable bearing pressure of 2,500 pounds per square foot for dead plus live loads, with a one-third increase allowed when considering additional short-term wind or seismic loading.

All footings located adjacent to utility lines should be embedded below a 1:1 plane extending up from the bottom edge of the utility trench. All continuous footings should be sufficient reinforced with top and bottom steel, to provide structural continuity and to permit spanning of local irregularities.

Our representative should observe all footing excavations prior to placement of reinforcing steel to confirm that they expose suitable residual soil/bedrock material and have been properly cleaned. If fill, soft/loose soil, or disturbed bedrock is encountered in the foundation excavations, our field representative will require these materials be removed, and will require a deeper footing depth before the reinforcing steel is placed.

Lateral Loads for Footings

Lateral loads will be resisted by friction between the bottom of the footings and the supporting weathered bedrock. A coefficient of friction of 0.35 may be assumed for design for spread footings. In addition to friction, lateral resistance may also be provided by passive soil pressure acting against the sides of foundations cast neat in footing excavations or backfilled with properly compacted structural fill. We recommend assuming an equivalent fluid pressure of 300 pounds per cubic foot for passive soil resistance, where appropriate. The upper one foot of passive soil resistance should be neglected where soil adjacent to the foundations is not covered and protected by a relatively level concrete slab or pavement.

Settlement for Footings

Thirty-year differential settlement due to static loads is not expected to exceed 1-inch over a horizontal distance of about 25 feet across the landscape improvements supported on footings bearing on competent residual soil or weathered bedrock, provided foundations for the addition are designed and constructed as recommended above.

RETAINING WALLS

Retaining walls should be designed to support adjacent native material, fill, and backfill. Retaining walls with level backfill that are not free to deflect or rotate, such as the retaining walls as part of the building, should be designed to resist an equivalent fluid pressure of 45 pounds per cubic foot plus an additional uniform lateral pressure of 8H in pounds per square foot, where H is the height of the wall in feet. However, for retaining walls that will support a cut more than 6 feet high, the lower portion of the wall below a depth of 6 feet (from the current site grades) may be designed to resist a reduce equivalent fluid pressure of 32 pounds per cubic foot plus an additional uniform lateral pressure of 8H in pounds per square foot.

Site retaining walls with level backfill that are free to deflect or rotate, such as site retaining walls structurally separated from the residence, may be designed to resist an equivalent fluid pressure of 45 pounds per cubic foot.

Walls with sloping backfill should be designed for an additional equivalent fluid pressure of 1 pound per cubic foot for every 1.25 degree of slope inclination. Where retaining walls will be subjected to surcharge loads, such as from adjacent foundations, the walls should be designed for an additional uniform lateral pressure equal to one-half of the surcharge pressure.

Based on the site peak ground acceleration (PGA), on Seed and Whitman (1970); Al Atik and Sitar (2010); and Lew et al. (2010); seismic loads on retaining walls that can yield, such as site retaining walls, may be simulated by a line load of $10H^2$ (in pounds per foot, where H is the wall height in feet). Seismic loads on walls that cannot yield, such as the retaining walls as part of the building, may be subjected to a seismic load as high as about $16H^2$. This seismic surcharge line load should be assumed to act at 1/3H above the base of the wall (in addition to the active wall design pressure of 45 and 32 pounds per cubic foot for level wall backfill, with additional 1 pound per cubic foot for every 1.25 degree of slope inclination for sloping backfill as discussed previously).

To prevent buildup of water pressure from surface water infiltration, a subsurface drainage system should be installed behind the walls. In our opinion, the bottom of the drainage system behind the basement retaining walls preferably should extend below the bottom of the basement slab or mat elevation. The drainage system should consist of a 4-inch diameter perforated pipe (perforations placed down) embedded in a section of 1/2 to 3/4-inch, clean, crushed rock at least 12 inches wide. Backfill above the perforated drain line should also consist of 1/2- to 3/4-inch, clean, crushed rock to within about 1½ to 2 feet below exterior finished grade.

A filter fabric should be wrapped around the crushed rock to protect it from infiltration of native soil. The upper 1 to 2 feet of backfill should consist of compacted native soil. The perforated pipe should discharge into a free-draining outlet or sump that pumps to a suitable location. Damp-proofing of the walls should be included in areas where wall dampness and efflorescence would be undesirable. A diagrammatic section illustrating a typical drainage system for the basement is shown on Figure 5.

Miradrain, Enkadrain or other drainage fabrics approved by our office may be used for wall drainage as an alternative to the gravel drainage system described above. If used, the drainage fabric should extend from a depth of about 1 foot below the top of the wall

backfill down to the drain pipe at the base of the wall. A minimum 12-inch wide section of ½-inch to ¾-inch clean crushed rock and filter fabric should be placed around the drainpipe, as recommended previously.

Backfill placed behind the walls should be compacted to at least 90 percent relative compaction using light compaction equipment. If heavy equipment is used for compaction of wall backfill, the walls should be temporarily braced. The backfill behind the walls should be placed on level benches, rather than directly on the sloping grade.

Site retaining walls to be constructed on or near steep slope should generally be supported on drilled piers. Site retaining walls that will retain cuts into the hillside with level ground at their base may be supported on shallow foundations designed as recommended previously. During design, we can provide additional guidelines regarding foundation support for site retaining walls.

SLABS-ON-GRADE

General Slab Considerations

Due to the steep sloping nature of the site and the potential for slope creeping or other movement, differential settlement and distress at flatwork to be constructed on or near sloping areas should be expected unless the flatwork will be structurally supported on a deep foundation. Our recommendations below will help reduce the impacts of or erosion or lateral soil creep of near-surface soil, but will not eliminate the risk entirely.

To reduce the potential for movement of the slab subgrade, at least the upper 6 inches of surface soil should be scarified and compacted at a moisture content near the laboratory optimum. The soil subgrade should be kept moist up until the time the non-expansive fill, crushed rock and vapor barrier, and/or aggregate base is placed. Slab subgrades and non-expansive fill should be prepared and compacted as recommended in the section of this report titled “Earthwork.” Exterior flatwork and interior slabs-on-grade should be underlain by a layer of non-expansive fill as discussed below. The non-expansive fill should consist of aggregate base rock or a clayey soil with a plasticity index of 15 or less.

Considering the potential for some movement of the surface soils, we expect that a reinforced slab will perform better than an unreinforced slab. Consideration should also be given to using a control joint spacing on the order of 2 feet in each direction for each inch of slab thickness.

Exterior Flatwork

Concrete walkways and exterior flatwork should be at least 4 inches thick and should be constructed on at least 6 inches of Class 2 aggregate base. To improve performance, exterior slabs-on-grade, such as for patios, may be constructed with a thickened edge to improve edge stiffness and to reduce the potential for water seepage under the edge of the slabs and into the underlying base and subgrade. In our opinion, the thickened edges should be at least 8 inches wide and ideally should extend at least 4 inches below the bottom of the underlying aggregate base layer.

If any flatwork will be constructed on or near the top of sloping area, to help reduce the potential for differential settlement and distress due to slope movement, you could consider constructing a relatively stiff thickened edge (or curb) extending to a depth of at least 2.5 to 3 feet below ground surface along the downslope side, or for better performance, a pier-supported wall or edge could be considered.

At-Grade Interior Slabs

At-grade concrete slab-on-grade floors should be constructed on a layer of non-expansive fill at least 6 inches thick. Recycled aggregate base should not be used for non-expansive fill below interior slabs-on-grade, since adverse vapor could occur from crushed asphalt components.

Based on the proposed floor elevations, we expect the building slab floors will be constructed partially on weathered bedrock and partially on native silt and/or fill soils. To help reduce the potential for distress due to varying supporting condition and differential subgrade movement, we recommend interior slabs to be at least 5 inches and preferably 6 inches thick, and be reinforced with more than typical steel reinforcement to span across local irregularities.

In areas where dampness of concrete floor slabs would be undesirable, such as within the building interior, concrete slabs should be underlain by at least 6 inches of free-draining gravel, such as ½- to ¾-inch clean crushed rock with no more than 5 percent passing the ASTM No. 200 sieve. Pea gravel should not be used for this capillary break material. The crushed rock layer should be densified and leveled with vibratory equipment, and may be considered as the non-expansive fill recommended above.

As discussed above, the basement or below-grade portion of the interior slabs should be underlain by a high-quality water proofing membrane selected by your water-proofing consultant.

To reduce vapor transmission up through the at-grade concrete floor slabs (to be constructed near the ground surface), the crushed rock section should be covered with a high quality, UV-resistant vapor barrier conforming to the requirements of ASTM E 1745 Class A, with a water vapor transmission rate less than or equal to 0.01 perms (such as 15-mil thick "Stego Wrap Class A"). The vapor barrier should be placed directly below the concrete slab. Sand above the vapor barrier is not recommended. The vapor barrier should be installed in accordance with ASTM E 1643. All seams and penetrations of the vapor barrier should be sealed in accordance with manufacturer's recommendations.

The permeability of concrete is effected significantly by the water:cement ratio of the concrete mix, with lower water:cement ratios producing more damp-resistant slabs and stronger concrete. Where moisture protection is important and/or where the concrete will be placed directly on the vapor barrier, the water:cement ratio should be 0.45 or less. To increase the workability of the concrete, mid-range plasticizers can be added to the mix. Water should not be added to the concrete mix unless the slump is less than specified and the water:cement ratio will not exceed 0.45. Other steps that may be taken to reduce moisture transmission through the concrete slabs-on-grade include moist curing for 5 to 7 days and allowing the slab to dry for a period of two months or longer prior to placing floor coverings. Also, prior to installation of the floor covering, it may be appropriate to test the slab moisture content for adherence to the manufacturer's requirements and to determine whether a longer drying time is necessary.

Subsurface Drainage

To reduce the potential for water seepage below the residence floor slab, a subsurface drain system could be installed below the proposed slab to reduce the possibility of water pressure developing below the slab and floor damp-proofing system. If installed, perforated pipes should be installed at the bottom of the excavation. The drainage system should include a minimum 4 to 8-inch-thick blanket of free-draining gravel, such as 1/2- or 3/4-inch crushed rock with no more than 5 percent passing the ASTM No. 200 sieve, below the slab. Prior to placing the gravel blanket, the subgrade below the gravel layer should be surface compacted and covered with a filter fabric, such as TC Mirafi 140N. The gravel drain should extend up and around the sides of the slab and retaining walls.

Drain pipes around the retaining walls should consist of 4-inch diameter perforated PVC pipes with perforations placed down installed at bottom of the wall excavation. The perforated pipes should discharge to a suitable location on site. To minimize vapor transmission through the slab, a high-quality water-proof membrane should be placed over the crushed rock and around the edges of the slab/mat foundation. A schematic sketch of the basement drainage system is presented in Figure 5.

DRIVEWAY PAVEMENT

For light residential type traffic using asphalt concrete, we recommend the driveway pavement section consist of at least 3 inches of asphalt concrete on at least 8 inches of Class 2 aggregate base. However, if occasional heavy truck traffic is expected, the aggregate base section should be increased to at least 10 to 12 inches thick.

If the driveway will be constructed with Portland cement concrete (PCC), we recommend the driveway pavement consist of at least 5 inches of PCC on at least 8 inches of Class 2 aggregate base. Un-reinforced concrete for the 5-inch-thick driveway pavement should have a 28-day compressive strength of at least 3,500 psi. PCC pavements should be laterally constrained with curbs or shoulders and sufficient control joints should be incorporated in the design and construction to limit and control cracking.

The soil subgrade and aggregate base below the pavement section should be prepared and compacted as recommended previously. The use of a moisture cut-off or thickened edge along the edges of the driveway would be desirable in order to reduce water seepage below the edges of the driveway and into the underlying aggregate base and subgrade, which can lead to premature pavement distress.

EARTHWORK

Clearing and Subgrade Preparation

All deleterious materials, such as existing foundations, slabs, utilities to be abandoned, existing fill, soft or loose soils, vegetation, root systems, and topsoil, should be cleared from areas of the site to be built on. The actual stripping depth should be established by us at the time of construction. Excavations that extend below finish grade should be backfilled with structural fill that is water-conditioned, placed, and compacted as recommended in the section titled “Compaction.”

After the site has been properly cleared, stripped, and excavated to the required grades, exposed soil surfaces in areas to receive structural fill or slabs-on-grade should be scarified to a depth of 6 inches, moisture conditioned, and compacted as recommended for structural fill in the section titled "Compaction."

Large fills are generally not desirable on a hillside site like this. However, if fills are to be constructed on natural slopes (not retained by retaining walls) having an inclination steeper than 6 horizontal to 1 vertical, the fill should be benched, and a key excavated into the underlying bedrock, and subdrains installed if required by our field

representative. If significant fills are required, we can evaluate their feasibility and provide benching criteria as necessary.

Material For Fill

All on-site soil containing less than 3 percent organic material by volume (ASTM D2974) is suitable for use as structural fill. Structural fill should not contain rocks larger than 6 inches in greatest dimension and no more than 15 percent larger than 2.5 inches. Imported, non-expansive fill should have a Plasticity Index no greater than 15, should be predominately granular, and should have sufficient binder so as not to slough or cave into foundation excavations or utility trenches. Recycled aggregate base should not be used for non-expansive fill at building interior. A member of our staff should evaluate and approve proposed import materials prior to their delivery to the site.

Temporary Slopes and Excavations

The contractor should be responsible for the design and construction of all temporary slopes and any required shoring. Shoring and bracing should be provided in accordance with all applicable local, state and federal safety regulations, including the current OSHA excavation and trench safety standards.

Because of the potential for variation of the on-site soils, field modification of temporary slopes may be required. Unstable materials encountered on slopes and trenches during and after excavation should be trimmed off even if this requires cutting the slopes back to a flatter inclination.

Please note that our site visits do not include reviewing the adequacy of the contractor's safety measures, and the contractor should be solely and completely responsible for the safety of the persons and properties at and near the excavations. In our experience, a preconstruction survey is generally performed to document existing conditions prior to construction, with intermittent monitoring of the structures during construction.

Compaction

Scarified soil surfaces and all structural fill should be placed and compacted in uniform lifts no thicker than 8 inches in pre-compacted thickness, conditioned to the appropriate moisture content, and compacted as recommended for structural fill in Table 3 below. The relative compaction and moisture content recommended in Table 3 is relative to ASTM Test D1557, latest edition.

Table 3. Compaction Recommendations
New Residence
Brisbane, California

General	Relative Compaction*	Moisture Content*
• Scarified subgrade in areas to receive structural fill.	90 percent	Near optimum
• Structural fill composed of native soil or bedrock.	90 percent	Near optimum
• Structural fill composed of non-expansive fill.	90 percent	Near optimum
• Structural fill below a depth of 4 feet.	93 percent	Near optimum
Pavement Areas		
• Upper 6-inches of soil below aggregate base.	95 percent	Near optimum
• Aggregate base.	95 percent	Near optimum
Utility Trench Backfill		
• On-site soil or bedrock.	90 percent	Near optimum
• Imported sand	95 percent	Near optimum

* Relative to ASTM Test D1557, latest edition.

At the start of site grading and earthwork construction, and prior to subgrade preparation and placement of non-expansive fill, representative samples of on-site soil and import material will need to be collected in order for a laboratory compaction test to be performed for use during on-site density testing. Sampling of on-site soil and proposed import material should be requested by the contractor at least 5 days prior to when our staff will be needed for density testing to allow time for soil sampling and laboratory testing to be performed prior to our on-site compaction testing.

Finished Slopes

We recommend that new finished slopes be cut or filled to an inclination no steeper than 2:1 (horizontal:vertical). Exposed slopes may be subject to minor sloughing and erosion that would require periodic maintenance. We recommend that all slopes and soil surfaces disturbed during construction be planted with erosion resistant vegetation.

Surface Drainage

Where grades will be modified, finish grades should be designed to prevent ponding and to direct surface water runoff away from foundations, edges of slabs, and toward suitable collection and discharge facilities. Slopes of at least 2 percent are recommended for flatwork and pavement areas with 5 percent preferred in landscape areas within 8 feet of the structures, where possible. At a minimum, splash blocks should be provided at the discharge ends of roof downspouts to carry water away from perimeter foundations. Preferably, roof downspout water should be collected in a closed pipe system that is routed to a storm drain system or other suitable location.

Drainage facilities should be observed to verify that they are adequate and that no adjustments need to be made, especially during the first two years following construction. We recommend preparing an as-built plan showing the locations of surface and subsurface drain lines and clean-outs. The drainage facilities should be periodically checked to verify that they are continuing to function properly. It is likely the drainage facilities will need to be periodically cleaned of silt/debris that may build up in the lines.

FUTURE SERVICES

Plan Review

Romig Engineers should review the completed grading and foundation plans for conformance with the recommendations contained in this report. We should be provided with these plans as soon as possible upon completion in order to limit the potential for delays in the permitting process that might otherwise be attributed to our review process. In addition, it should be noted that many of the local building and planning departments now require "clean" geotechnical plan review letters prior to acceptance of plans for their final review. Since our plan reviews typically result in recommendations for modification of the plans, our generation of a "clean" review letter often requires two iterations. At a minimum, we recommend that the following note be added to the plans:

"Earthwork, foundation construction, pier drilling, slab subgrade and non-expansive fill preparation, utility trench backfill, retaining wall drainage installation and backfill, pavement construction, and site drainage should be performed in accordance with the geotechnical report prepared by Romig Engineers, Inc., dated January 6, 2022. Romig Engineers should be notified at least 48 hours in advance of earthwork and foundation construction and should observe and test during earthwork and foundation construction as recommended in the geotechnical report. Romig Engineers should be notified at least 5 days prior to earthwork, trench backfill and subgrade preparation work to allow time for sampling of on-site soil and laboratory compaction curve testing to be performed prior to on-site compaction density testing."

Construction Observation and Testing

The earthwork and foundation phases of construction should be observed and tested by us to 1) Establish that subsurface conditions are compatible with those used in the analysis and design; 2) Observe compliance with the design concepts, specifications and recommendations; and 3) Allow design changes in the event that subsurface conditions differ from those anticipated. The recommendations in this report are based on a limited amount of exploration. The nature and extent of variation across the site may not become evident until construction. If variations are then exposed, it will be necessary to re-evaluate our recommendations.

❖ ❖ ❖ ❖ ❖

REFERENCES

Aagaard, B.T., Blair, J.L., Boatwright, J., Garcia, S.H., Harris, R.A., Michael, A.J., Schwartz, D.P., and DiLeo, J.S., 2016, Earthquake outlook for the San Francisco Bay region 2014–2043 (ver. 1.1, August 2016): U.S. Geological Survey Fact Sheet 2016–3020, 6 p., http://dx.doi.org/10.3133/fs20163020.

Al Atik, L., and Sitar, N., 2010, Seismic Earth Pressures on Cantilever Retaining Structures, Journal of Geotechnical and Geoenvironmental Engineering, ASCE Vol. 136, No. 10.

American Society of Civil Engineers, 2016, Minimum Design Loads for Buildings and Other Structures, ASCE Standard 7-16.

Bonilla, M.G., 1998, Preliminary Geologic Map of San Francisco South Quadrangle and Part of The Hunters Point Quadrangle, San Francisco Bay Area, California, U.S. Geological Survey Map.

California Building Standards Commission, and International Code Council, 2019 California Building Code, California Code of Regulations, Title 24, Part 2.

California Department of Conservation, Division of Mines and Geology (DMG), 1994, Fault-Rupture Hazard Zones in California, Special Publication 42.

California Geological Survey, 2011, Probabilistic Seismic Hazards Mapping Ground Motion Page, http://redirect.conservation.ca.gov/cgs/rghm/pshamap/pshamap.asp/

SEAOC/OSHPD, 2019, Seismic Design Maps, https://seismicmaps.org/

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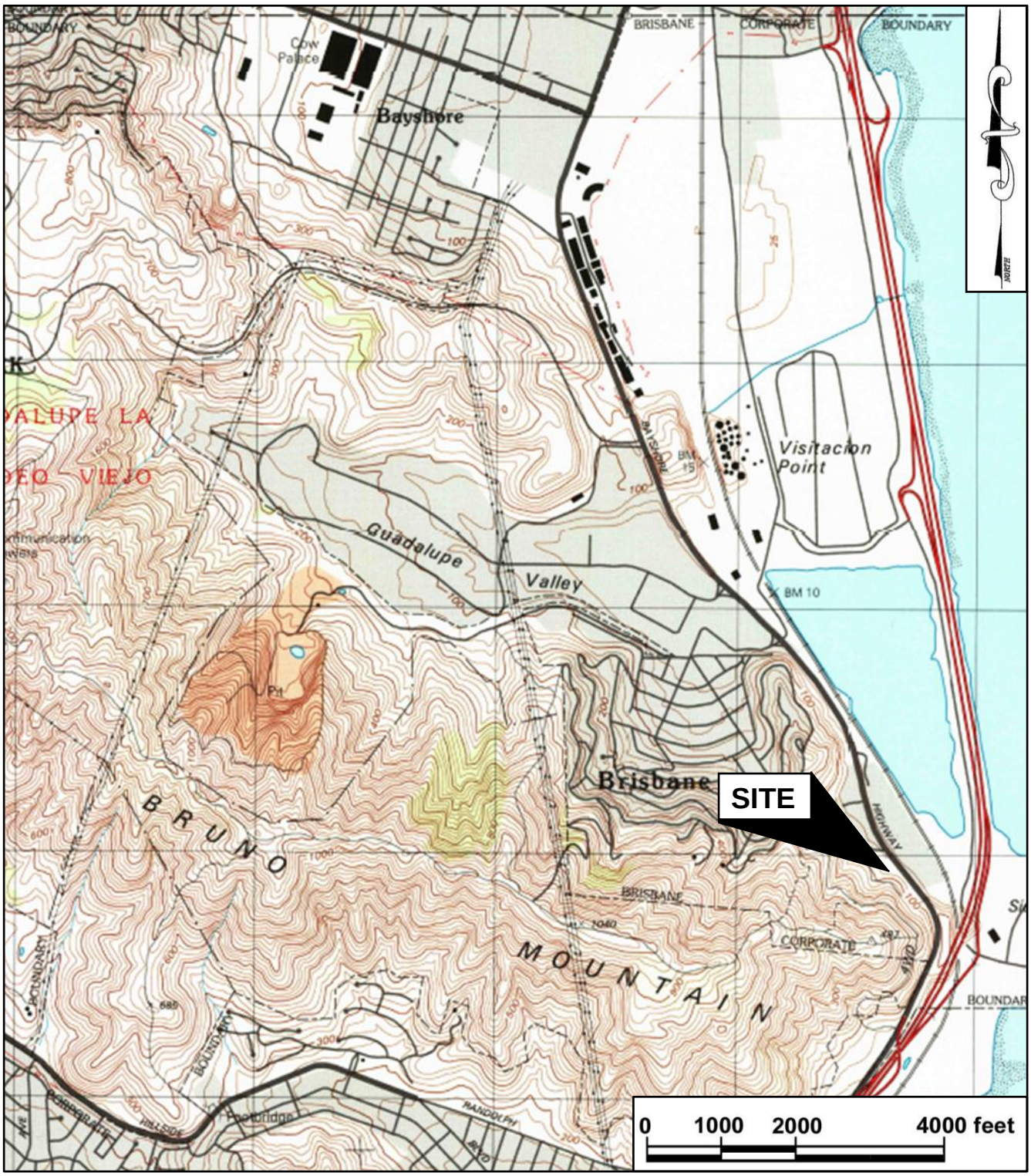
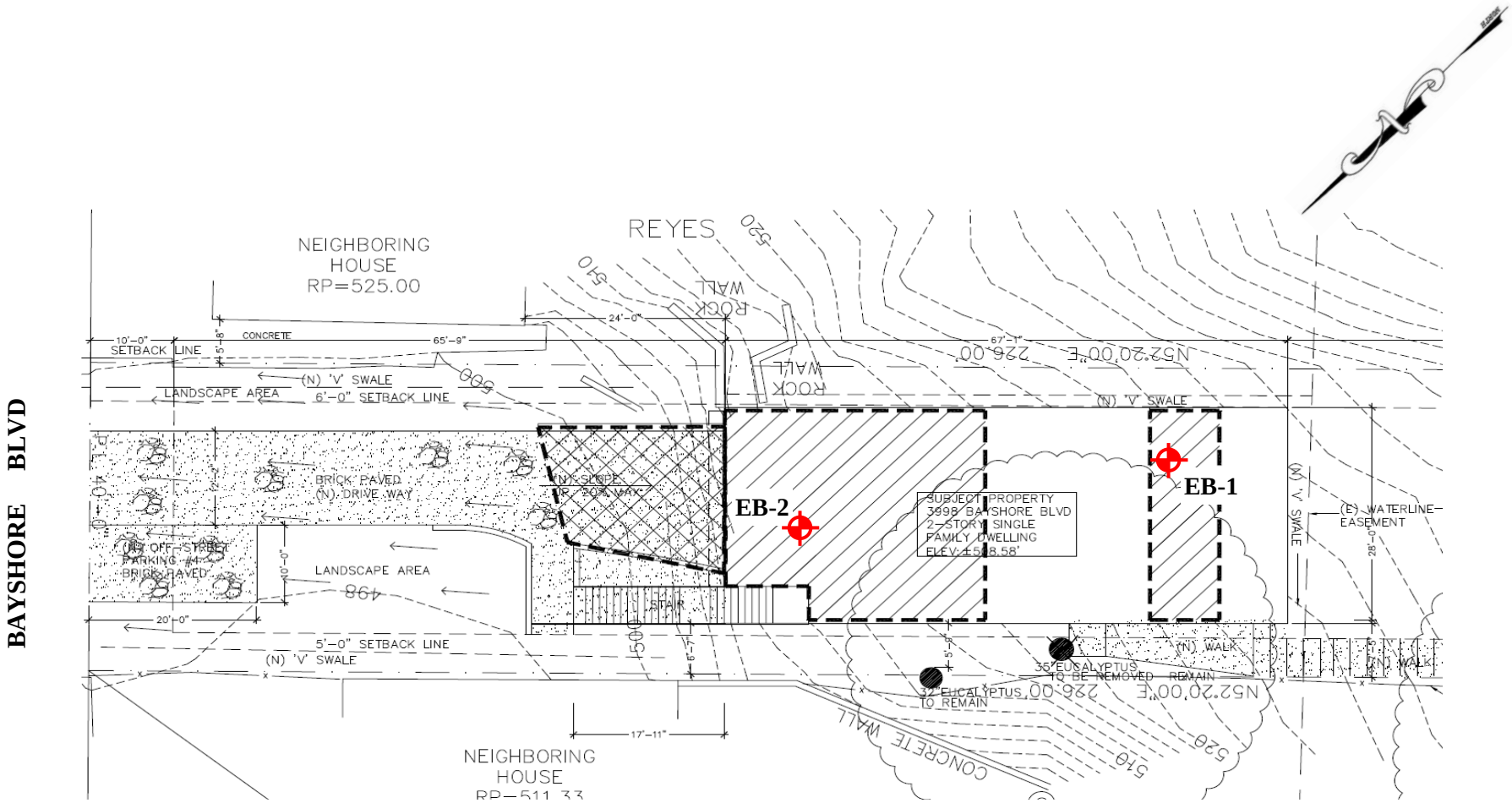


Scale: 1 inch = 2000 feet
Base is United States Geological Survey San Francisco South 7.5 Minute Quadrangle, dated 1995.

VICINITY MAP
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE 1
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS



LEGEND

EB-2 Approximate Locations of Exploratory Borings.

Approximate Scale: 1 inch = 20 feet.

Base is aerial image retreived from Google Earth, dated December, 2021.

SITE PLAN

ATANA NEW RESIDENCE

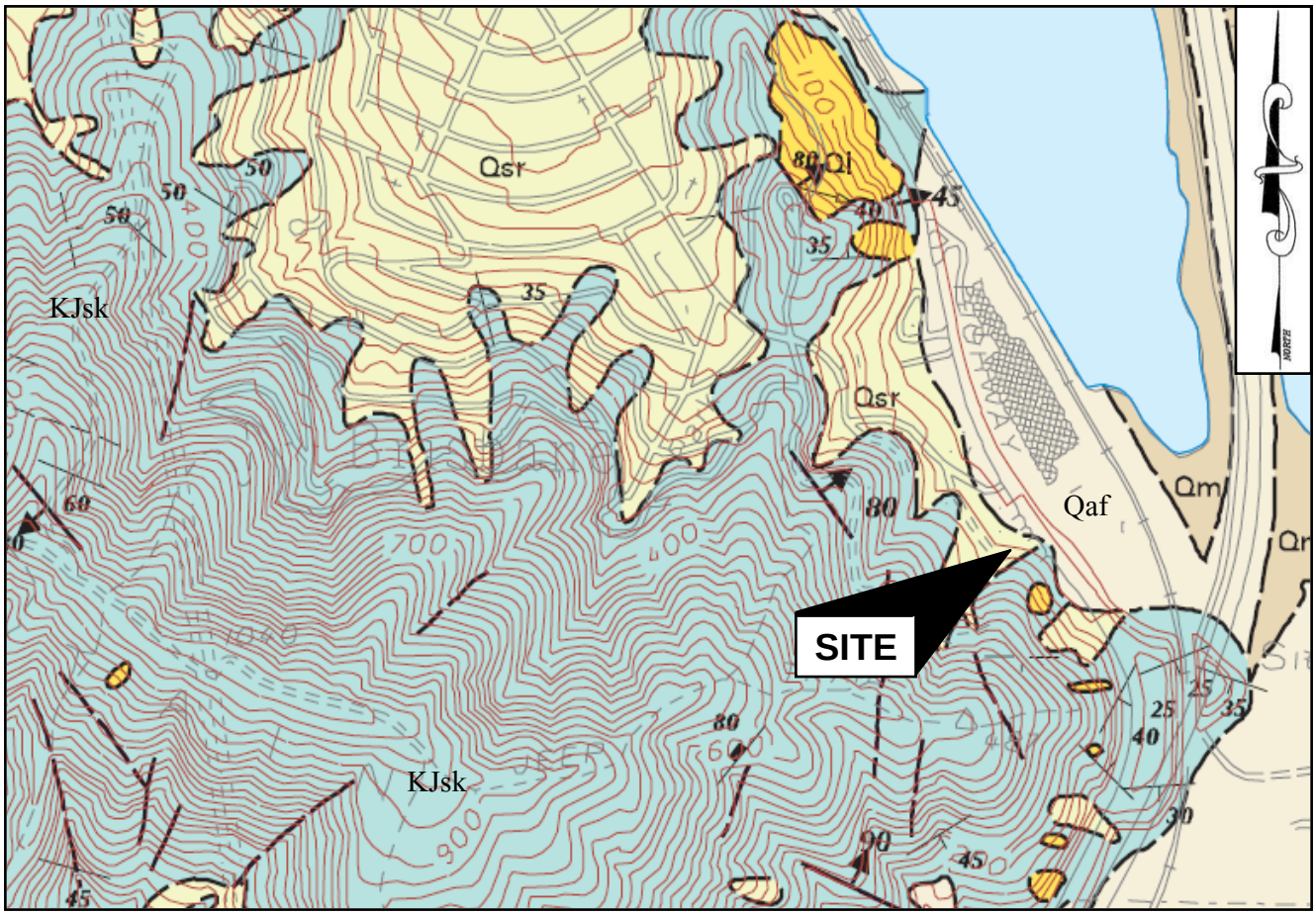
BRISBANE, CALIFORNIA

FIGURE 2

JANUARY 2022

PROJECT NO. 5705-1

ROMIG ENGINEERS



MAP LEGEND

- Qaf Artifical Fill
- Ql Landslide Deposits
- Qm Bay mud
- Qsr Slope Debris and Ravine Fill
- KJsk Sandstone and Shale

- Geologic Contact - dashed where approximate, dotted where inferred.
- Fault - dashed where approximate, dotted where inferred.
- 35 — Strike and dip of bedding

0 500 1000 2000 feet

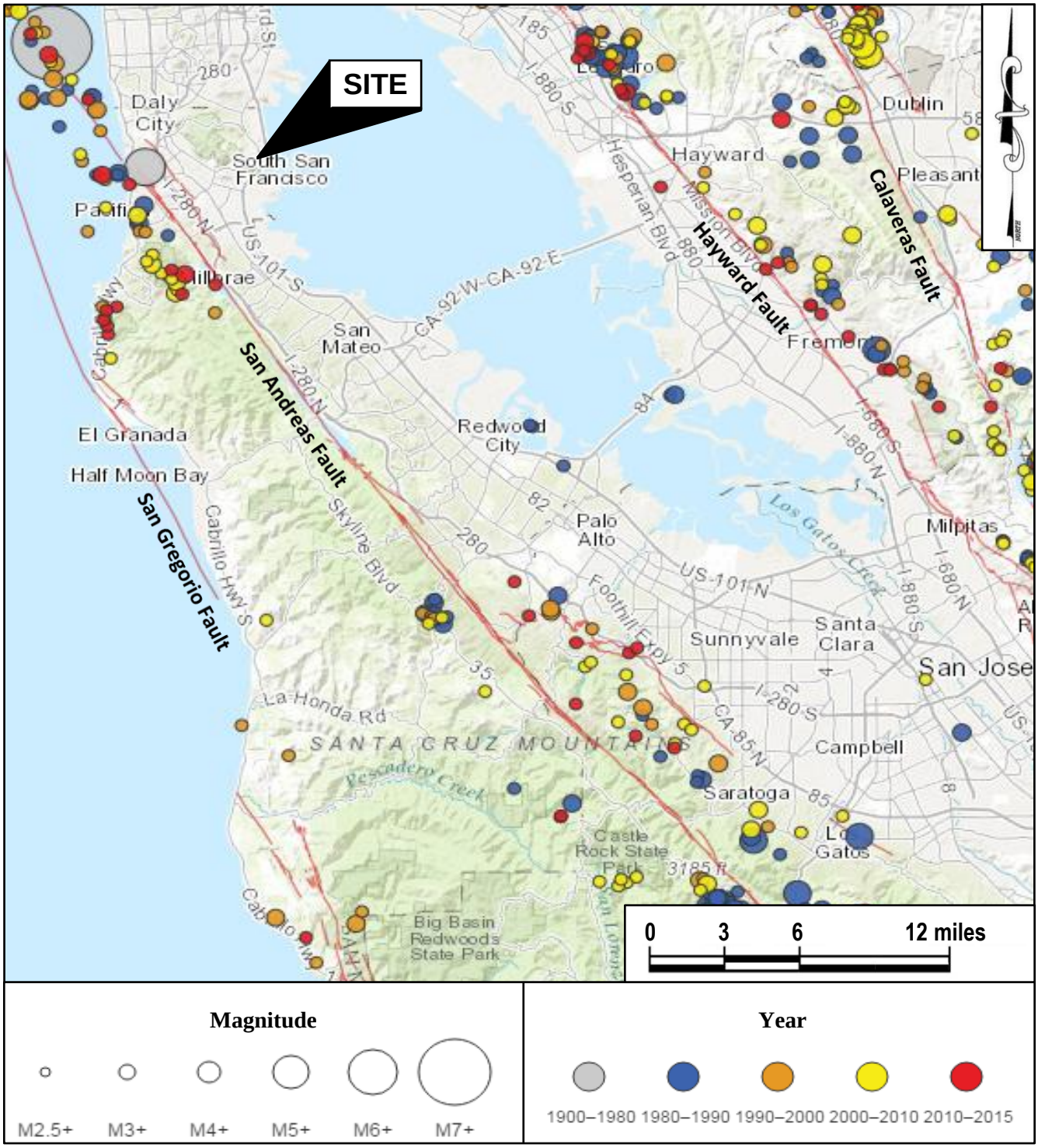
Scale: 1 inch = 1000 feet

Base is USGS Geologic Map of the San Francisco South 7.5 Minute Quadrangle and Part of the Hunters Point 7.5 Minute Quadrangle, California (Bonilla, 1998).

VICINITY GEOLOGIC MAP
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE 3
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

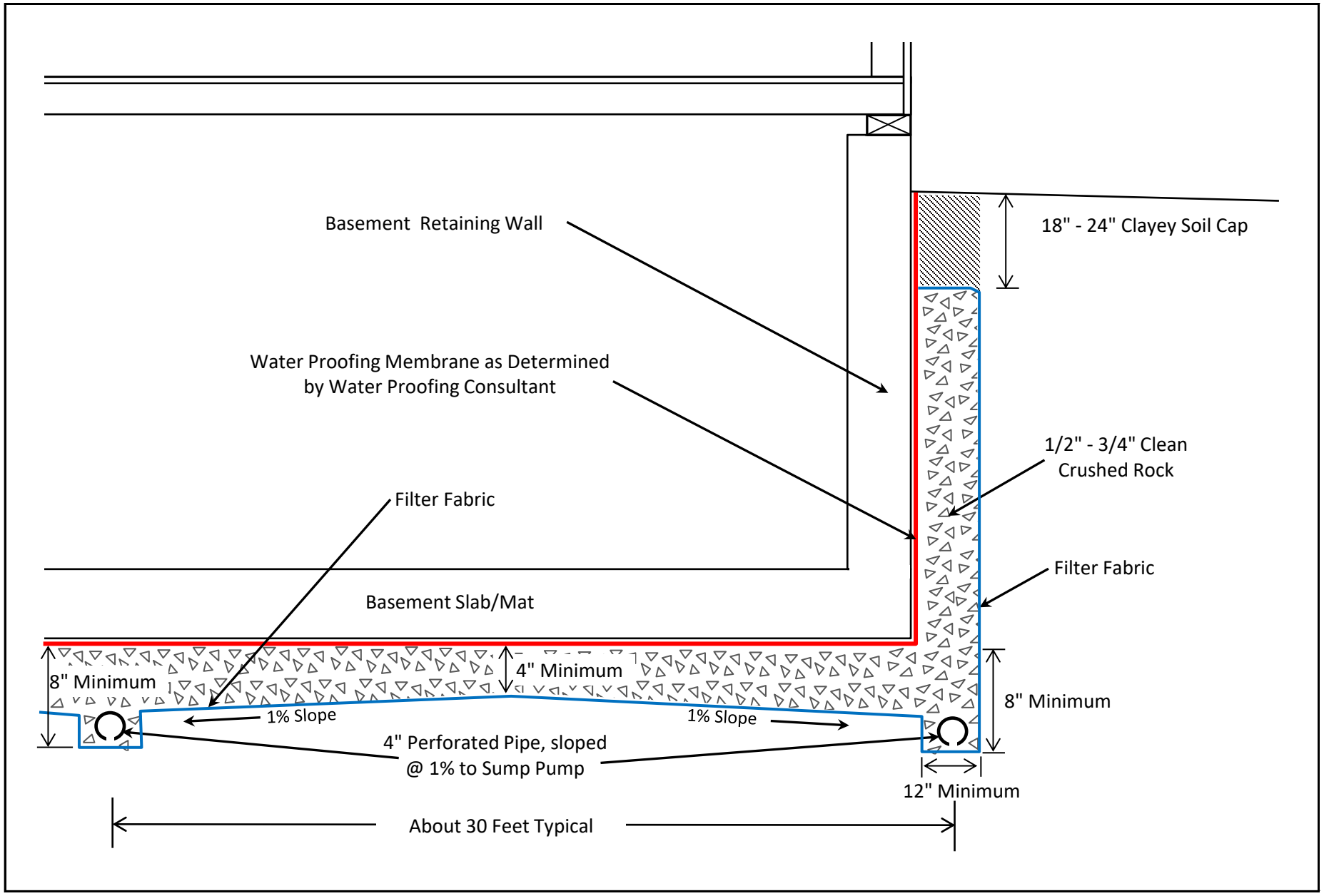


Earthquakes with M5+ from 1900 to 1980, M2.5+ from 1980 to January 2015. Faults with activity in last 15,000 years. Based on data sources from Northern California Earthquake Data Center and USGS Quaternary Fault and Fold Database, accessed May 2015.

REGIONAL FAULT AND SEISMICITY MAP
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE 4
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS



SUBSLAB DRAINAGE DETAIL
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE 5
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

APPENDIX A

FIELD INVESTIGATION

The soils encountered during drilling were logged by our representative and samples were obtained at depths appropriate to the investigation. The samples were taken to our laboratory where they were examined and classified in accordance with the Unified Soil Classification System. The logs of our borings, as well as a summary of the soil classification system (Figure A-1) and bedrock descriptions (Figure A-2) used on the log, are attached.

Several tests were performed in the field during drilling. The standard penetration resistance was determined by dropping a 140-pound hammer through a 30-inch free fall and recording the blows required to drive the 2-inch (outside diameter) sampler 18 inches. The standard penetration test (SPT) resistance is the number of blows required to drive the sampler the last 12 inches and is recorded on the boring log at the appropriate depths. Soil samples were also collected using 2.5-inch and 3.0-inch O.D. drive samplers. The blow counts shown on the logs for these larger samplers do not represent SPT values and have not been corrected in any way.

The location of the borings was established by pacing using a Google Earth aerial image and should be considered accurate only to the degree implied by the method used.

The boring logs and related information depict our interpretation of subsurface conditions only at the specific location and time indicated. Subsurface conditions and ground water levels at other locations may differ from conditions at the location where sampling was performed. The passage of time may also result in changes in the subsurface conditions.

USCS SOIL CLASSIFICATION

PRIMARY DIVISIONS			SOIL TYPE	SECONDARY DIVISIONS
COARSE GRAINED SOILS (< 50 % Fines)	GRAVEL	CLEAN GRAVEL (< 5% Fines)	**GW**	Well graded gravel, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravel or gravel-sand mixtures, little or no fines.
		GRAVEL with FINES	**GM**	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SAND	CLEAN SAND (< 5% Fines)	**SW**	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SAND WITH FINES	**SM**	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS (> 50 % Fines)	SILT AND CLAY Liquid limit < 50%		**ML**	Inorganic silts and very fine sands, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, lean clays.
			OL	Organic silts and organic clays of low plasticity.
	SILT AND CLAY Liquid limit > 50%		**MH**	Inorganic silt, micaceous or diatomaceous fine sandy or silty soil.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			**Pt**	Peat and other highly organic soils.
BEDROCK			**BR**	Weathered bedrock.

RELATIVE DENSITY

SAND & GRAVEL	BLOWS/FOOT*
VERY LOOSE	0 to 4
LOOSE	4 to 10
MEDIUM DENSE	10 to 30
DENSE	30 to 50
VERY DENSE	OVER 50

CONSISTENCY

SILT & CLAY	STRENGTH^	BLOWS/FOOT*
VERY SOFT	0 to 0.25	0 to 2
SOFT	0.25 to 0.5	2 to 4
FIRM	0.5 to 1	4 to 8
STIFF	1 to 2	8 to 16
VERY STIFF	2 to 4	16 to 32
HARD	OVER 4	OVER 32

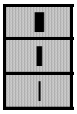
GRAIN SIZES

BOULDERS	COBBLES	GRAVEL		SAND			SILT & CLAY
		COARSE	FINE	COARSE	MEDIUM	FINE	
	12 "	3"	0.75"	4	10	40	200
	SIEVE OPENINGS			U.S. STANDARD SERIES SIEVE			

Classification is based on the Unified Soil Classification System; fines refer to soil passing a No. 200 sieve.

* Standard Penetration Test (SPT) resistance, using a 140 pound hammer falling 30 inches on a 2 inch O.D. split spoon sampler; blow counts not corrected for larger diameter samplers.

^ Unconfined Compressive strength in tons/sq. ft. as estimated by SPT resistance, field and laboratory tests, and/or visual observation.



KEY TO SAMPLERS

Modified California Sampler (3-inch O.D.)

Mid-size Sampler (2.5-inch O.D.)

Standard Penetration Test Sampler (2-inch O.D.)

KEY TO EXPLORATORY BORING LOGS
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE A-1
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

WEATHERING

Fresh
Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.

Very Slight
Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.

Slight
Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.

Moderate
Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some are clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.

Moderately Severe
All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.

Severe
All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.

Very Severe
All rock except quartz discolored and stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.

Complete
Rock reduced to "soil". Rock fabric not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

HARDNESS

Very hard
Cannot be scratched with knife or sharp pick. Hand specimens requires several hard blows of geologist's.

Hard
Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.

Moderately Hard
Can be scratched with knife or pick. Gouges or grooves to 1/4 inch deep can be excavated by hard blow of point of a geologist's pick. Hard specimen can be detached by moderate blow.

Medium
Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.

Soft
Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be brocken by finger pressure.

Very Soft
Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

JOINT BEDDING AND FOLIATION SPACING

Spacing	Joints	Bedding and Foliation
Less than 2 in.	Very Close	Very Thin
2 in. to 1 ft.	Close	Thin
1 ft. to 3 ft.	Moderately Close	Medium
3 ft. to 10 ft.	Wide	Thick
More than 10 ft.	Very Wide	Very Thick

ROCK QUALITY DESIGNATOR (RQD)

RQD, as a percentage	Descriptor
Exceeding 90	Excellent
90 to 75	Good
75 to 50	Fair
50 to 25	Poor
Less than 25	Very Poor

KEY TO BEDROCK DESCRIPTIONS
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE A-2
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

ATTACHMENT F

DRILL TYPE: Minuteman with 3-1/4" Continuous Flight Auger **LOGGED BY:** JDF

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 11/22/21

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Brown, Sandy Silt, moist, fine to coarse sand, low plasticity, bedrock fragments, orange mottling, some roots, some pineholes.	Firm to Stiff	ML		**0**		8	20		
						21	15		
						50/6"	21		
Franciscan Complex: Light orange brown to light brown, Siltstone/Sandstone, very severly weathered, friable.	Medium	BR		**5**		50/6"	8		
Bottom of Boring at 5 feet.				**10**					
				15					

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

*Measured using Torvane and Pocket Penetrometer devices.

EXPLORATORY BORING LOG EB-1
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

BORING EB-1
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

ATTACHMENT F

DRILL TYPE: Minuteman with 3-1/4" Continuous Flight Auger **LOGGED BY:** JDF

DEPTH TO GROUND WATER: Not Encountered **SURFACE ELEVATION:** NA **DATE DRILLED:** 11/22/21

CLASSIFICATION AND DESCRIPTION	SOIL CONSISTENCY/ DENSITY or ROCK HARDNESS* (Figure A-2)	SOIL TYPE	SOIL SYMBOL	DEPTH (FEET)	SAMPLE INTERVAL	PEN. RESISTANCE (Blows/ft)	WATER CONTENT (%)	SHEAR STRENGTH (TSF)*	UNCONFIN. COMP. (TSF)*
Brown to light brown, Sandy Silt, moist, fine to coarse sand, low plasticity, some roots.	Hard	ML		**0**					
						47	16		
■ Liquid Limit = 22, Plasticity Index = 3.						53	11		
Franciscan Complex: Light orange brown to light brown, Siltstone/Sandstone, very severly weathered, friable.	Soft to Medium	BR		**5**		50/6"	12		
Bottom of Boring at 5 feet.									
				10					
				15					

Note: The stratification lines represent the approximate boundary between soil and rock types, the actual transition may be gradual.

*Measured using Torvane and Pocket Penetrometer devices.

EXPLORATORY BORING LOG EB-2
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

BORING EB-2
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

APPENDIX B

LABORATORY TESTS

Samples from the subsurface exploration were selected for tests to establish the physical and engineering properties of the soils encountered at the site. The tests that were performed are briefly described below.

The natural moisture content was determined in accordance with ASTM D 2216 on nearly all of the soil samples recovered from the borings. This test determines the moisture content, representative of field conditions, at the time the samples were collected. The results are presented on the boring log, at the appropriate sample depths.

The Atterberg Limits were determined on one sample of soil in accordance with ASTM D4318. The Atterberg Limits are the moisture content within which the soil is workable or plastic. The results of these tests are presented in Figure B-1 and on the log of Boring EB-2 at the appropriate sample depth.

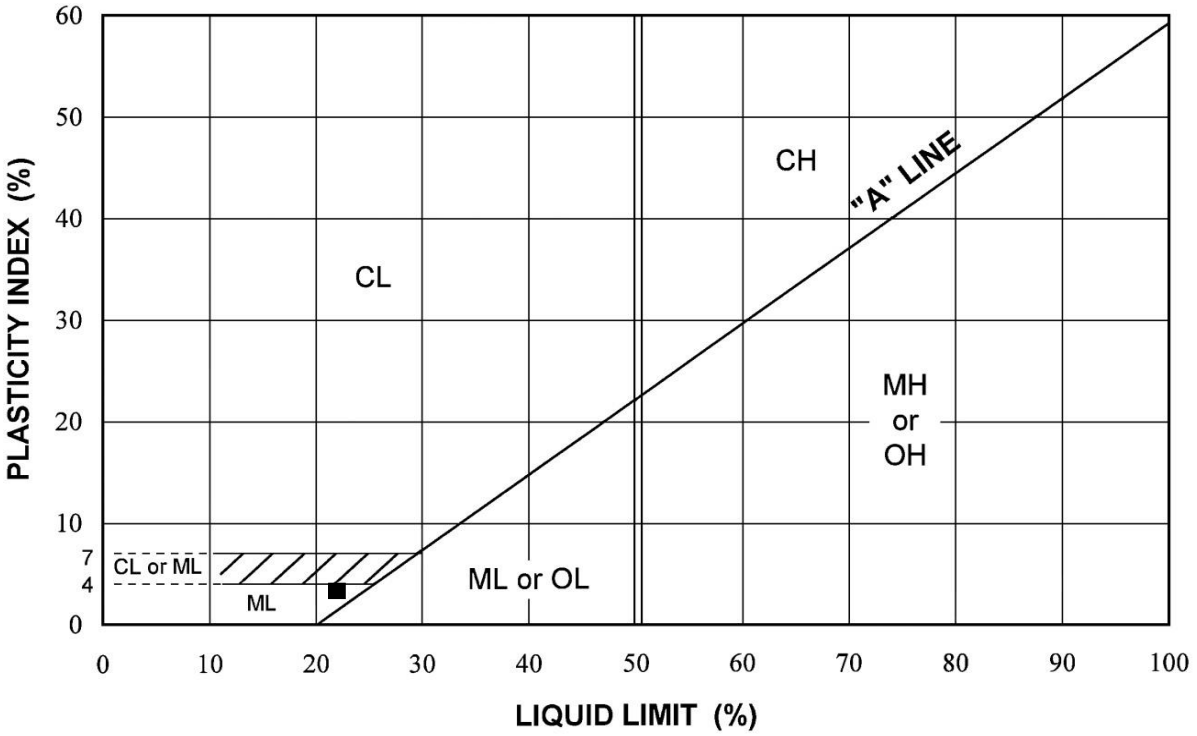


Chart Symbol	Boring Number	Sample Depth (feet)	Water Content (percent)	Liquid Limit (percent)	Plasticity Index (percent)	Liquidity Index (percent)	Passing No. 200 Sieve (percent)	USCS Soil Classification
■	EB-2	2-4	11	22	3			ML

PLASTICITY CHART
ATANA NEW RESIDENCE
BRISBANE, CALIFORNIA

FIGURE B-1
JANUARY 2022
PROJECT NO. 5705-1

ROMIG ENGINEERS

ROMIG ENGINEERS, INC.

1390 El Camino Real, 2nd Floor

San Carlos, California 94070

Phone: (650) 591-5224

www.romigengineers.com

Hetch Hetchy
Regional Water System
Services of the San Francisco Public Utilities Commission
Natural Resources and Lands Management Division

ATTACHMENT G

PROJECT REVIEW CERTIFICATE

Project Name: 3998 Bayshore Blvd Brisbane Residential Construction Project	
Project Case No: 21.08RW69.00	Project Contact Information: Name: XIE GUAN Agency/Company: XIE ASSOCIATES, INC Telephone No: 415-652-3047 Email: bill@xiearchdesign.com
Project Review Meeting Date: 8/18/21	
Project Location: 3998 Bayshore Blvd Brisbane, CA 94005	
Project Description *(Abbreviated; for a full description, please see case file):* The project proposes to construct a two-story over basement single family dwelling at a vacant lot. The structure would be setback 70 feet from the front property line. There is a private road along backside of property. No improvements are proposed over the SFPUC waterline easement except for access to the residence, which would consist of a path and staircase. Excavation is proposed to construct the garage and upper floor – but no excavation proposed within the SPFUC easement. No trees are proposed in easement.	

Requirements for Project Implementation:

Post-Project Review Requirements

Natural Resources and Lands Management Division

1) The project sponsor will revise the project design to remove the cantilever and modify the staircase so that neither are located within the SFPUC easements (for more information please contact Casey Rando, Senior Environmental Compliance Planner, at crando@sfwater.org).
2) The project sponsor will conduct all planned tree removal activities outside of the SFPUC easements and all work activities and debris removal will occur towards Bayshore Boulevard (for more information please contact Emily Read, SFPUC ROW Manager, at eread@sfwater.org).
3) The project sponsor will provide the landscaping and fencing plans to SFPUC for review (please provide to Emily Read, SFPUC ROW Manager, at eread@sfwater.org).

Water Supply and Treatment Division – Land Engineering

1) The project sponsor will contact and coordinate with SFPUC-WSTD Land Engineering staff to obtain SFPUC infrastructure data within the project area (contact Stacie Feng, Senior Engineer, at sfeng@sfwater.org or (650) 871-2037).
2) The project sponsor will provide updated plans and exhibits to SFPUC-WSTD Land Engineering staff for review at each design milestone (e.g. 35%, 65%, 95%, etc.), including an overlay of SFPUC infrastructure and the SFPUC easements within the project area (contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).
3) If work is proposed in the SFPUC easement area, the project sponsor will obtain a consent letter from SFPUC-WSTD Land Engineering to pothole each SFPUC pipeline at the project site. A cross section detail showing the distance between the finished grade and the top of each pipeline will be submitted with

revised engineering plans (for more information, contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).

4) The project sponsor will obtain a consent letter from SFPUC-WSTD Land Engineering for use of the project area within the SFPUC easement. If no work occurs within the SFPUC easement, SFPUC-WSTD Land Engineering staff will conduct a courtesy review (contact Tracy Leung, Associate Engineer, at tleung@sfwater.org or (650) 871-3031).

Real Estate Services

1) The project applicant will submit to SFPUC RES staff, the preliminary title report (please provide to Chris Wong, Principal Administrative Analyst, at cjwong@sfwater.org).

Pre-Project Notifications

1) The project sponsor and/or its contractor will notify SFPUC staff at least five (5) business days prior to commencing the project (contact Albert Hao, construction inspector, at ahao@sfwater.org or (650) 871-3015 and Emily Read, SFPUC ROW Manager, at eread@sfwater.org).

Project Requirements

2) The project sponsor and its contractors will notify SFPUC Millbrae Dispatch, at (650) 872-5900, at project commencement and project completion.

Post-Project Notifications

3) If work is proposed in the SFPUC easement area, the project sponsor and/or its contractors will ensure that all construction debris is removed from the SFPUC easement area and disposed of properly and legally. In addition, the project sponsor will arrange for a post-construction site inspection by SFPUC staff (contact Albert Hao, construction inspector, at ahao@sfwater.org or (650) 871-3015).

- ***This certificate is only valid for the scope of work described above.***
- ***If the project description and/or construction period changes, please contact Casey J. Rando, Senior Environmental Compliance Planner at crando@sfwater.org, 415-310-3206.***
- ***Additional review may be required if there are project or schedule changes.***
- ***If you are applying for an Access Permit, please submit a copy of this certificate with your application.***

Findings:

1) The Project is located on SFPUC Right-of-Way (ROW) Lands and conforms to applicable SFPUC policies, including the SFPUC's Right of Way Integrated Vegetation Management Policy and the SFPUC Stewardship Policy.

2) The Project Sponsor is responsible for complying with environmental regulations including applicable permits and California Environmental Quality Act (CEQA).

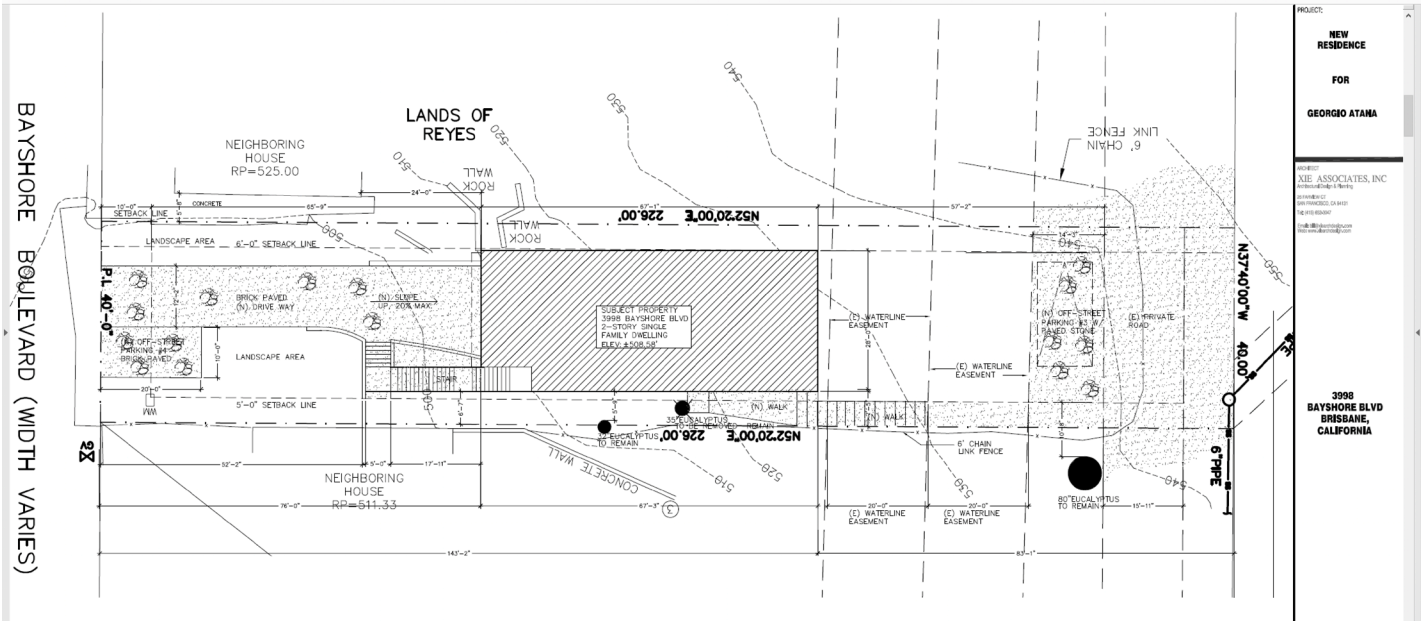
This is to certify that the above-referenced project has been reviewed by the Natural Resources and Lands Management Division for compliance with SFPUC policies pertaining to its watershed and ROW lands.

10/19/21 Issuance Date	 Authorized Signature Anna Fedman

	Environmental Compliance Planner

Project Location Map

Project Name: 3998 Bayshore Blvd Brisbane Residential Construction Project
Project Case No: 21.08RW69.00
Project Location: 3998 Bayshore Blvd Brisbane, CA 94005



Attachment H: Aerial Vicinity Map

Property Address	Current Use
3994 Bayshore Boulevard	Retail- Propane Sales
1100 San Bruno Avenue	Vacant (zoned R-BA)
4000 Bayshore Boulevard	Single-Family Home

Attachment I: Assessor's Parcel Map

ATANA RESIDENCE

3998 BAYSHORE BLVD
BRISBANE, CA

1. VISUAL IMPACT ANALYSIS: FRONT RENDERING

PROPERTY DATA

- OWNER/DEVELOPER: GEORGIO ATANA
- ADDRESS: 3998 BAYSHORE BLVD. BRISBANE, CA 94005
- APN#: 007-560-080
- CONSTRUCTION TYPE: V-B
- ZONING: SCRO-1
- OCCUPANCY: R-3/U
- YEAR BUILT:
- LOT AREA: ±9,040 ㎡
- MIN. FRONT SETBACK: 10'-0"
- MIN. REAR SETBACK: 10'-0"
- MIN. SIDE SETBACK: 5'-0"
- MAX. HEIGHT LIMIT: 35'-0" (ROOF PITCH>3:12)
- PARKING REQUIRED & PROVIDED 4 SPACES
- PROPOSED 1ST FLOOR AREA: 1,675 SF
- PROPOSED 2ND FLOOR AREA: 1,394 SF
- PROPOSED BASEMENT GARAGE: 645 SF
- PROPOSED FLOOR AREA: 3,714 SF
- PROPOSED LOT COVERAGE: 1,984 SF<70% ALLOWED(6,328)
- PROPOSED BUILDING HEIGH: XXX

GENERAL NOTES

1. ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO ALL FEDERAL, STATE, CITY AND COUNTY CODES AND ORDINANCES. ANY WORK FOUND IN THESE DRAWINGS NOT IN CONFORMANCE WITH ANY APPLICABLE CODES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO COMMENCEMENT OF ANY RELATED WORK.

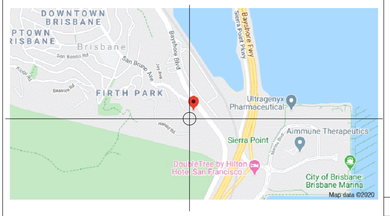
CODES USED AND COMPLY:
2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA FIRE CODE(CFC)
2019 CALIFORNIA ENERGY CODE(CEC/T-24) EFFICIENCY STANDARD
2019 CALIFORNIA GREEN BUILDING CODE
2019 CALIFORNIA RESIDENTIAL BUILDING CODE
BRISBANE REACH CODE (BMC TITLE 15)

2. ALL WORK SHALL CONFORM TO APPLICABLE LOCAL CODES.
BRISBANE REACH CODE (BMC TITLE 15)

3. ANY HIDDEN CONDITIONS THAT REQUIRED WORK TO BE PERFORMED BEYOND THE SCOPE OF THE BUILDING PERMIT ISSUED FOR THESE PLANS MAY REQUIRED FURTHER CITY APPROVALS INCLUDING REVIEW BY THE PLANNING COMMISSION.

4. PROPERTY LINES LOCATION ON SITE PLAN ARE FOR REFERENCE ONLY, AND SHALL VERIFY BY LIC. SURVEYOR DURING CONSTRUCTION

VICINITY MAP

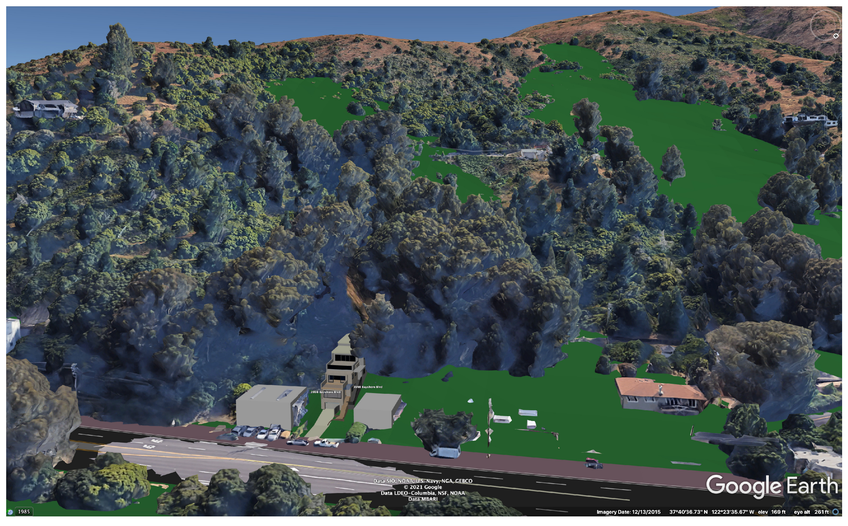


SCOPE OF WORK

- CONSTRUCT 2-STORY SINGLE FAMILY DWELLING O/BASEMENT WITH 4 OFF STREET PARKING SPACES

SHEET INDEX

A0.0	GENERAL NOTES & RENDERING
A1.0	SITE PLANS & NOTES
A1.2	GRADING AND DRAINAGE PLAN
A1.3	LANDSCAPE PLAN
A2.0	PROPOSED BASEMENT AND 1ST FLOOR PLAN
A2.1	PROPOSED 2ND AND ROOF FLOOR PLAN
A3.0	PROPOSED ELEVATIONS
A3.1	PROPOSED ELEVATIONS
A4.0	BUILDING SECTIONS
A6.0	BMPs



2-VISUAL IMPACT ANALYSIS

3-VISUAL IMPACT ANALYSIS

ATTACHMENT J

PROJECT:

NEW RESIDENCE

FOR

GEORGIO ATANA

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3998 BAYSHORE BLVD BRISBANE, CALIFORNIA

DRAWN BY: LI HONG
CHECK BY:
DATE: 02/05/22

LICENSED ARCHITECT
XIE XING GUAN
No. C-32963
07/31/2023
RENEWAL DATE
STATE OF CALIFORNIA

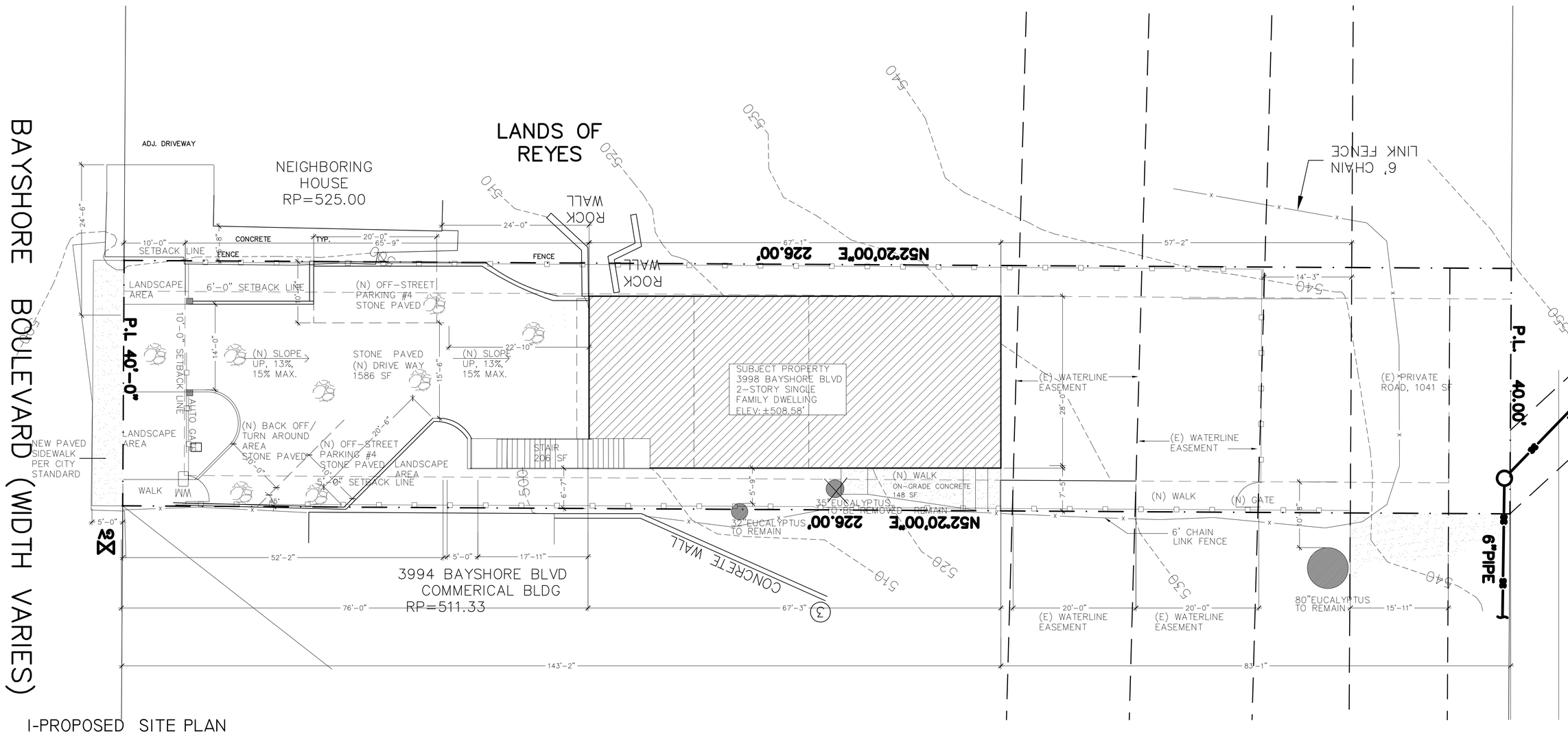
SHEET TITLE

GENERAL NOTES

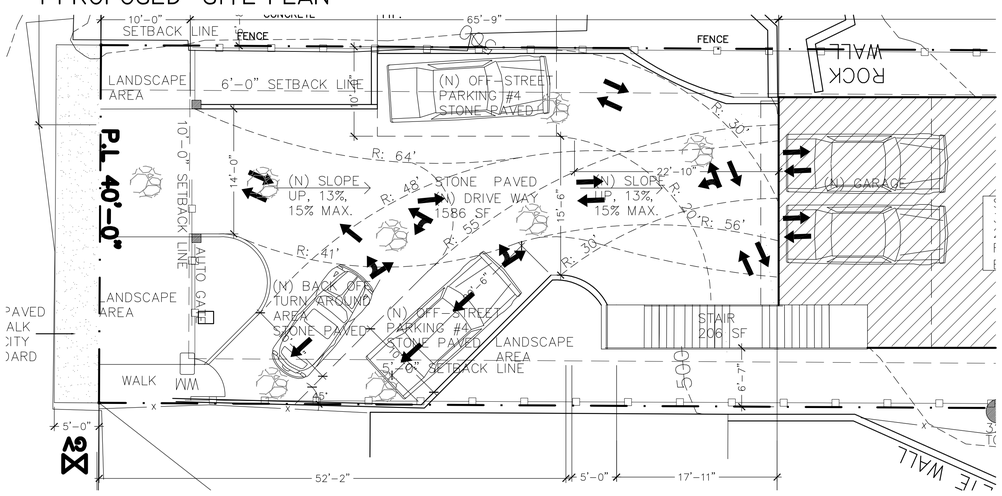
A0.0

ATTACHMENT J

BAYSHORE BOULEVARD (WIDTH VARIES)



1-PROPOSED SITE PLAN



2-PROPOSED PARKING STUDY

PROPERTY LINE
6' HT. WOOD FENCE LINE
EXISTING BLDG FOOTPRINT
NEW BLDG FOOTPRINT
(N) STONE PAVING
(N) CONC. PAVING
(E) TREE TO REMAIN

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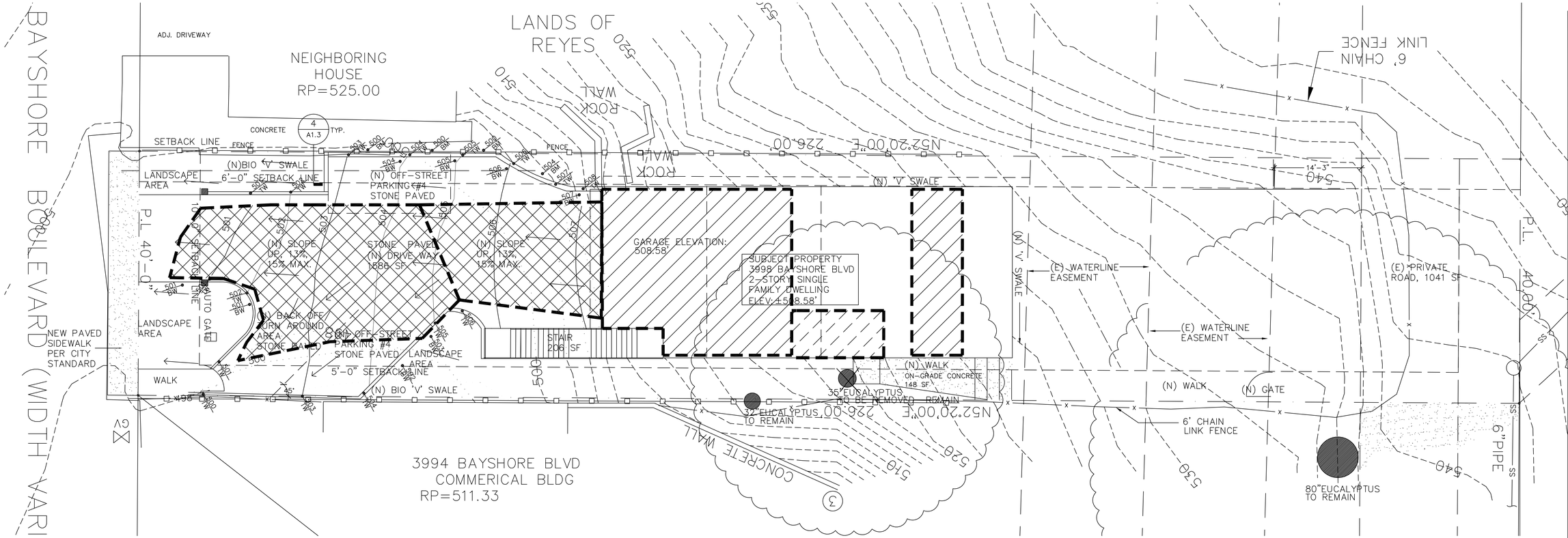
SHEET TITLE

SITE PLAN & NOTES

A1.0

ATTACHMENT J



I- GRADING & DRAINAGE PLAN

GRADING AND DRAINAGE NOTES:

1. ALL SITE WORK SHALL CONFROM TO CITY OF BRISBANE WORKS STANDARDS.

2. ALL SITE PREPARATION (CLEARING & GRUBBING) AND GRADING WORK ON THE PROJECT SITE SHALL CONFROM TO AND FOLLOW RECOMMENDATIONS CONTAINED IN THE PROJECT GEOTECHNICAL REPORT, PREPARED BY GEOTECNIA MODERN TECHNOLOGY RESOURCE, DATED SEP. 15TH, 2017, AND SHALL BE MONITORED AND TESTED BY A LICENSED CIVIL AND/ OR SOILS ENGINEER TO BE RETAINED BY THE OWNER.

3. THE SITE SHALL BE CAREFULLY INSPECTED BY THE CONTRACTOR TO DETERMINE THE EXTENT OF THE CLEARING, GRUBBING AND GRADING WORK TO BE DONE. NOTIFY NEIGHBORS PRIOR TO CONSTRUCTION AND GRADING.

4. ALL GRADING SHALL BE DONE TO WITHIN .10 FEET TO THE SPECIFIED ELEVATIONS OR FINISHED GRADES.

5. EROSION CONTROL PLANS WILL BE SUBMITTED FOR APPROVAL BY CITY OF BRISBANE PUBLIC WORKS DEPARTMENT IF GRADING WORK TO EXTEND INTO THE RAINY SEASON, OCTOBER 15–APR. 15. POSITIVE SOIL STABILIZATION AND EROSION CONTROL MEASURES SHALL BE INSTITUTED BY THE CONTRACTOR AS THE WORK PROGRESSES.

6. THE SUBCONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM GROUND ELEVATIONS AND OVERALL TOPOGRAPHY OF THE SITE PRIOR TO THE START OF CONSTRUCTION . THE SUBCONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING IMMEDIATELY OF ANY DIFFERENCES IN TOPOGRAPHY FROM THAT SHOWN ON THIS PLAN WHICH MAY REQUIRE CHANGES IN DESIGN AND /OR EFFECT THE EARTHWORK QUALITY.

7. THE SUBCONTRACTOR SHALL ESTIMATE EARTHWORK QUANTITIES TO HIS SATISFACTION PRIOR TO START OF CONSTRUCTION AND SHALL ARRANGE FOR DISPOSAL OF EXCESS MATERIAL OR ACQUISITION OF IMPORT MATERIAL AS REQUIRED TO COMPLETE THE GRADING AS SHOWN ON THIS PLAN . NO ADDITIONAL COMPENSATION WILL BE MADE FOR ANY EXPORT OR IMPORT REQUIRED.

8. DROP INLETS SHALL BE BY CHRISTY CONCRETE PRODUCTS, MODEL V24 DRAIN BOX, OR EQUAL.

9. STORM DRAIN PIPE SHALL BE 6" DIAMETER PVC. BURIED A MIN. OF 24" BELOW FINISHED GRADE.

10. PER SFPUC LAND ENGINEERING GUILDELINES, NO VIBRATORY EQUIPMENT SHALL BE USE WITHOUT PRIOR WRITTEN APPROVAL. USE OF STUMP GRINDERS ON A CASE BY CASE BASIS, IN CONJUNCTION W/OUR LAND ENGINEERS.

N

0 4' 8' 16'

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

- CONC. RETAINING WALL
- FOUNDATION WALL, S.S.D.
- EXISITNG FINISH GRADE
- NEW FINISH GRADE
- (E) GRADE TO BE ALTERED
- SOLID STORM DRAIN LINE
- PERFERATED SUBDRAIN, 4" PVC
- DIRECTION OF SURFACE FLOW
- BIOSWALE 'V' DITCH, SEE DETAIL 4/A1.3
- ROOF LEADER CONNECTION
- V-24 CHRISTY BOX, " NO DUMPING ! FLOWS TO THE BAY"

AREAS OF FILL/IMPORT ±101 CUBIC YARD

AREAS OF CUT/EXPORT ±245 CUBIC YARD

TOTAL OF CUT AND FILL 346 CY, NET EXPORT 144 CUBIC YARD

3A EXCAVATION AREA DATA

PROJECT:

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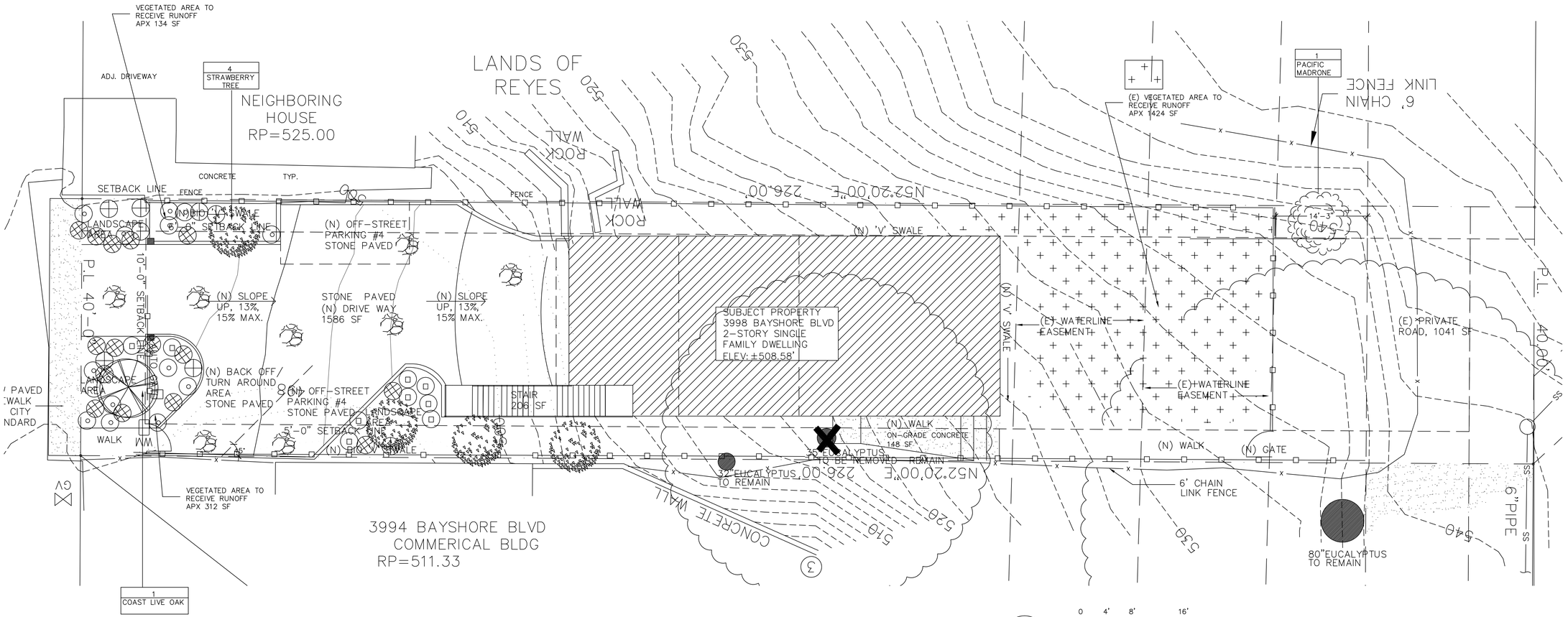
DATE:02/05/22

LICENSED ARCHITECT XIE XING GUAN No. C-32983 07/31/2023 RENEWAL DATE STATE OF CALIFORNIA

SHEET TITLE

GRADING PLAN

A1.2



I-LANDSCAPE PLAN

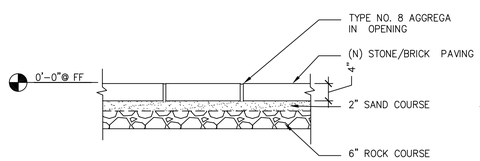
PLANT LIST

TREES	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	WTR USE
	ARBUTUS MENZIESII	PACIFIC MADRONE	24" BOX	PER PLAN	1	L
	QUERCUS AGRIFOLIA	COAST LIVE OAK	24" BOX	PER PLAN	1	L
	(E) TREE TO REMAIN ~~REFTER TO ARBORIST REPORT~~	(E) TREE TO REMAIN ~~REFTER TO ARBORIST REPORT~~				
	ARBUTUS UNEDO	STRAWBERRY TREE	24" BOX	PER PLAN	4	M
SHRUB						
	ARCTOSTAPHYLOS	MANZAITA	1 GAL	2'-0" O.C.	16	L
	CEANOTHUS	CALIFORNIA LILAC	1 GAL	2'-0" O.C.	8	L
	GARRYA ELLIPTICA	COAST SILK TASSEL	1 GAL	2'-0" O.C.	7	L
	LAVANDULA ANGUSTIFOLIA HIDCOTE BLUE	ENGLISH LAVENDER	1 GAL	2'-0" O.C.	14	L
GRASSES						
	CAREX TUMULICOLA	BERKELEY SEDGE	1 GAL	2'-0" O.C.		L

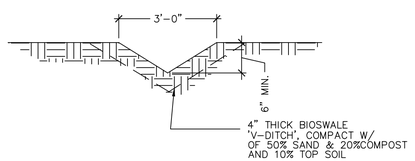
NOTES:
1. THE LANDSCAPE PLAN SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE SAN MATEO COUNTY PARKS DEPARTMENT AND THE SF PUC. THE PROPERTY OWNER SHALL PROVIDED TO THE CITY A COPY OF WRITTEN AUTHORIZATION FROM THE SFPUC TO THE PROPERTY OWNER TO CONFIRM THAT THE PROPOSED WORK COMPLIES WITH ALL PERFORMACE CRITERIA AND STANDARDS AS MAYBE REQUIRED BY THE SFPUC
~~2. PRIOR TO COMMENCING GRADING AND CONSTRUCTION ACTIVITIES, THE PROJECT ARBORIST, MS. ELLYN SHEA MUST CONFIRM IN WRITING TO THE CITY THAT THE RECOMMED TREE PROTECTION MEASURES HAVE BEEN INSTALLED TO ENSURE THE PROTECTED TRESS ON SITE ARE UNDAMAGED DURING PROJECT GRADING AND CONSTRUCTION~~
3.PRIOR TO COMMENCING GRADING AND CONSTRUCTION ACTIVITIES, PRECONSTRUCTION SURVEYS FOR NESTING BIRDS SHALL BE CONDUCTED CONSISTENT WITH THE METHODOLOGY CONTAINED IN THE BIOLOGICAL RESOURCES ASSESSMENT PREPARED FOR THIS PROJECT. IF ACTIVED NESTS ARE FOUND, SITE CONSTRUCTION WILL NOT BE ALLOWED TO CONTINUE AND STEPS SHALL TAKEN TO NOTIFY THE STATE AND FEDERAL GOVERNMENT PER THE BIOLOGICAL RESOURCES ASSESSMENT
4. MANZANITA AND CALIFORNIA LAVENDER PLANTS SHALL BE LOCALLY SOURCED OR STERILE CULTIVARS

(E) TREE TO BE REMOVED

~~ALL TREES ON EXISTING SFPUC EASEMENT REQUIRED TO BE REMOVED PER SFPUC STANDARD, AND RECOMMENDED BY ABORIST REPORT~~



3-STONE PAVING SECTION, TYP.



4-BIO EARTH SWALE

GROUND COVER AREA

	PERMANENTLY IRRIGATED	NON- IRRIGATED	TOTAL AREA
LANDSCAPE AREA	446 SF	3,234 SF	3,680 SF
PERMEABLE PAVED AREA			2,144 SF
(E) IMPERMEABLE AREA			1,041 SF
(N) IMPERMEABLE AREA			2,175 SF
PERMEABLE AREA			5,824 SF

ATTACHMENT J

PROJECT:

NEW RESIDENCE

FOR

GEORGIO ATANA

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3998 BAYSHORE BLVD BRISBANE, CALIFORNIA

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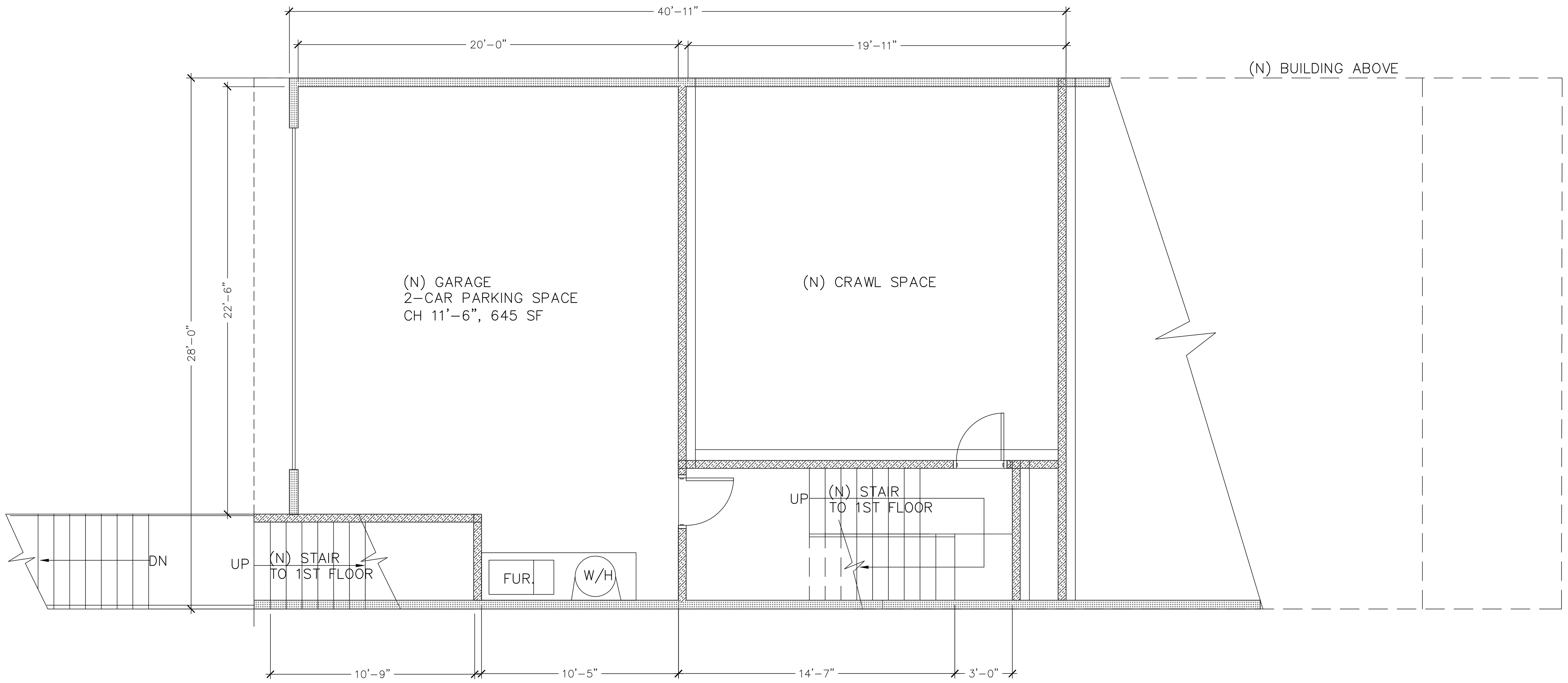
No. C-32965
02/31/2023
RENEWAL DATE
STATE OF CALIFORNIA

SHEET TITLE

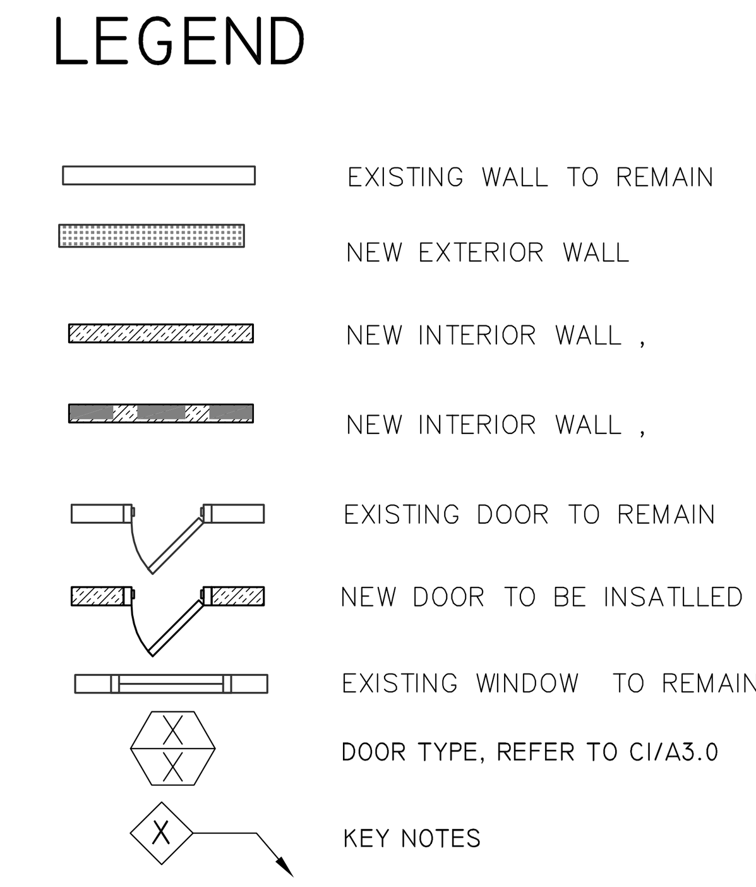
LANDSCAPE & NOTES

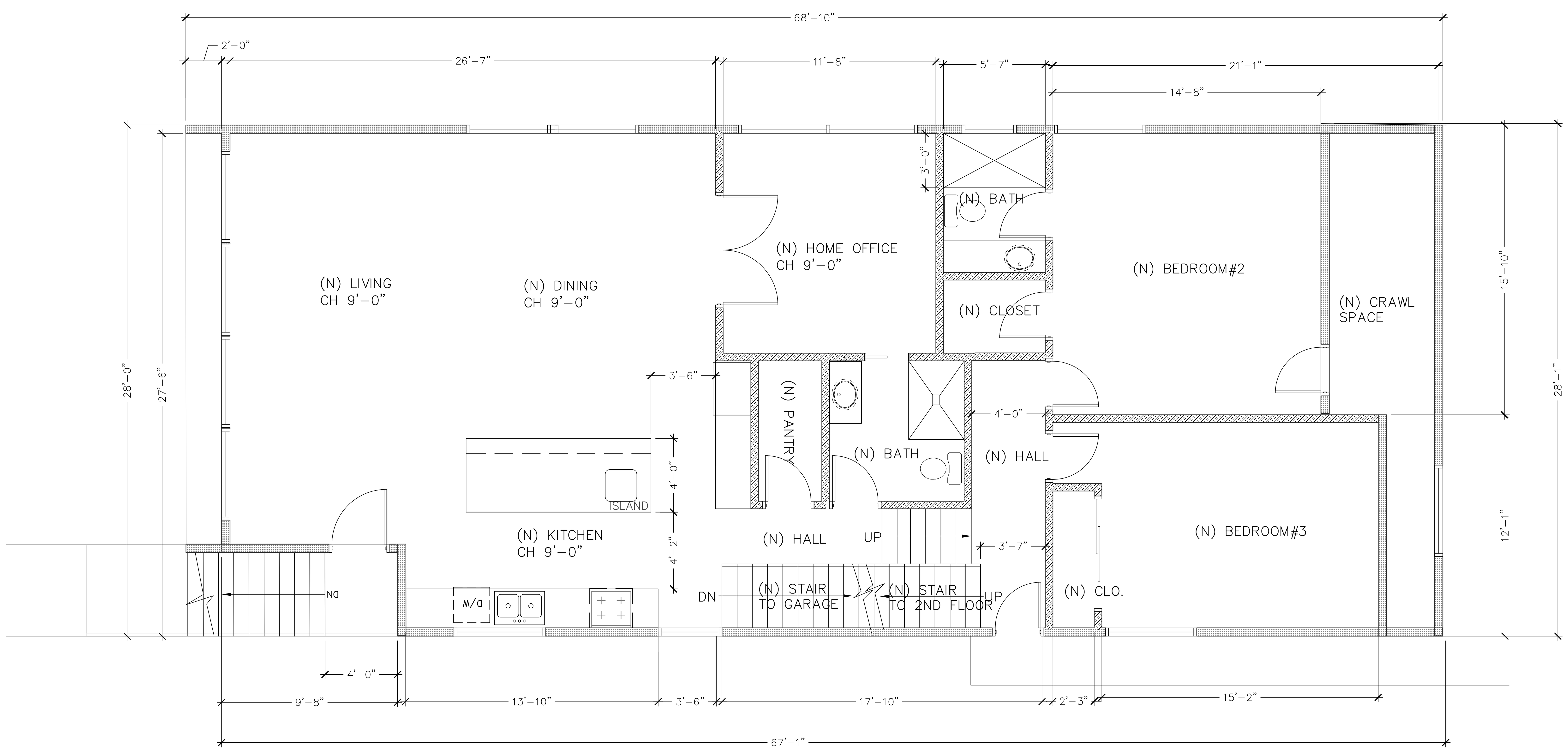
A1.3

ATTACHMENT J



1-PROPOSED BASEMENT/GARAGE PLAN
SCALE: 1/4"=1'-0"





2-PROPOSED 1ST FLOOR PLAN
SCALE: 1/4"=1'-0"

PROJECT:

NEW RESIDENCE

FOR

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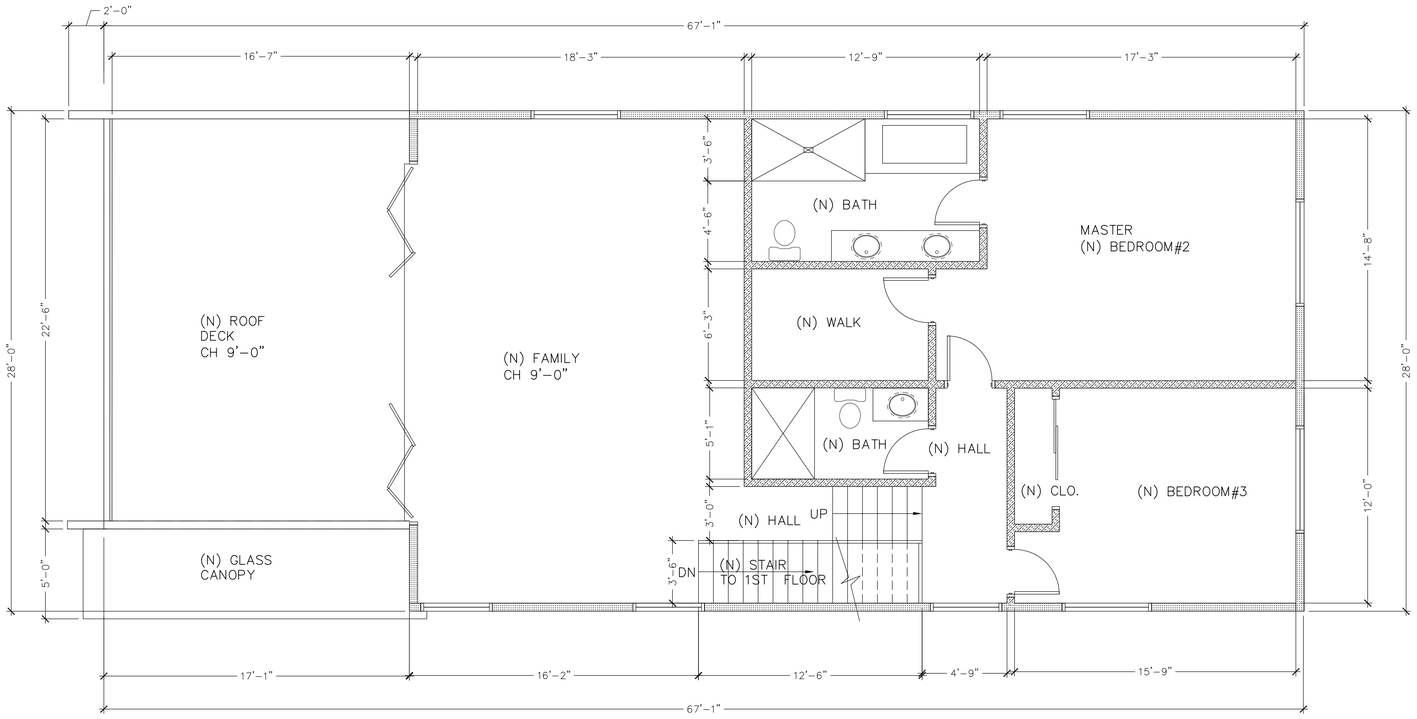
LICENSED ARCHITECT XIE XING GUAN No. C-32963 07/31/2023 STATE OF CALIFORNIA

SHEET TITLE

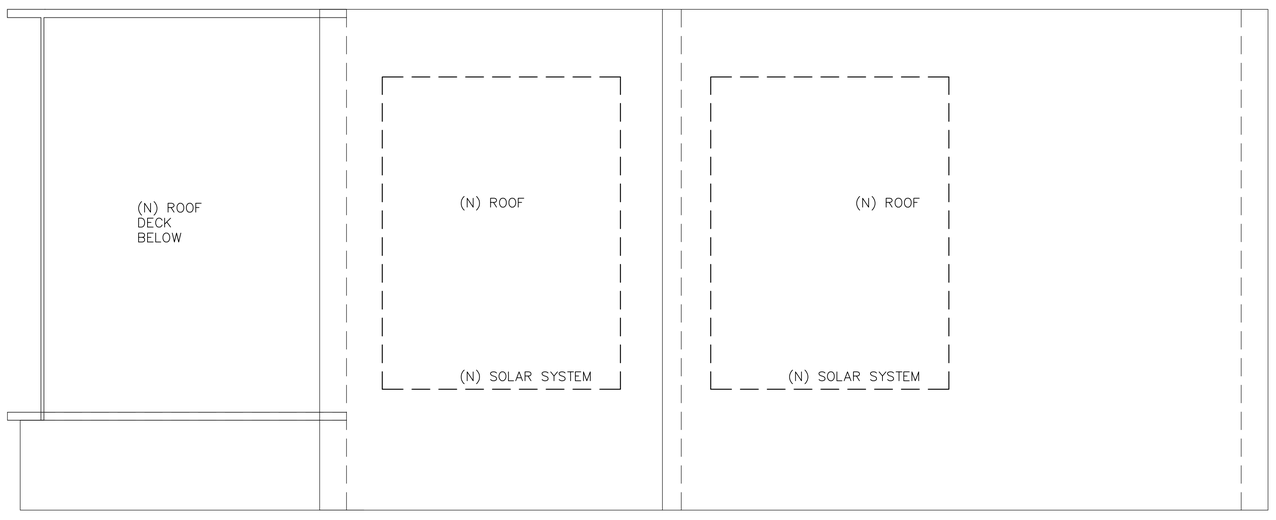
PROPOSED FLOOR PLAN

A2.0



1-PROPOSED 2ND FLOOR PLAN

SCALE: 1/4=1'-0"



2-PROPOSED ROOF PLAN

SCALE: 1/4=1'-0"

LEGEND

- EXISTING WALL TO REMAIN
- NEW EXTERIOR WALL
- NEW INTERIOR WALL ,
- NEW INTERIOR WALL ,
- EXISTING DOOR TO REMAIN
- NEW DOOR TO BE INSATLLED
- EXISTING WINDOW TO REMAIN

ATTACHMENT J

PROJECT:

NEW RESIDENCE

FOR

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XIE XING GUAN
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6/31/2023
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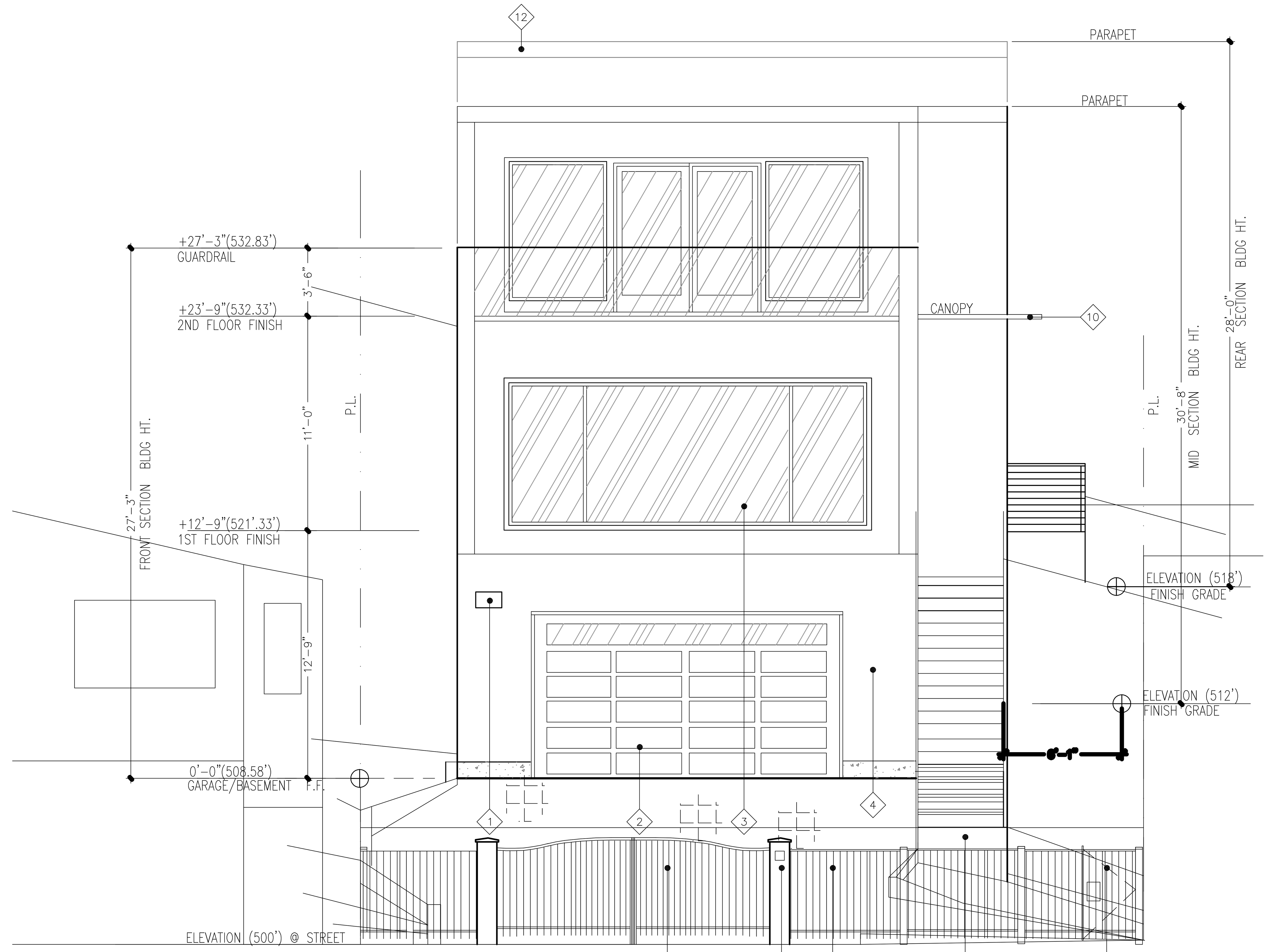
STATE OF CALIFORNIA

SHEET TITLE

FLOOR & ROOF PLAN

A2.1

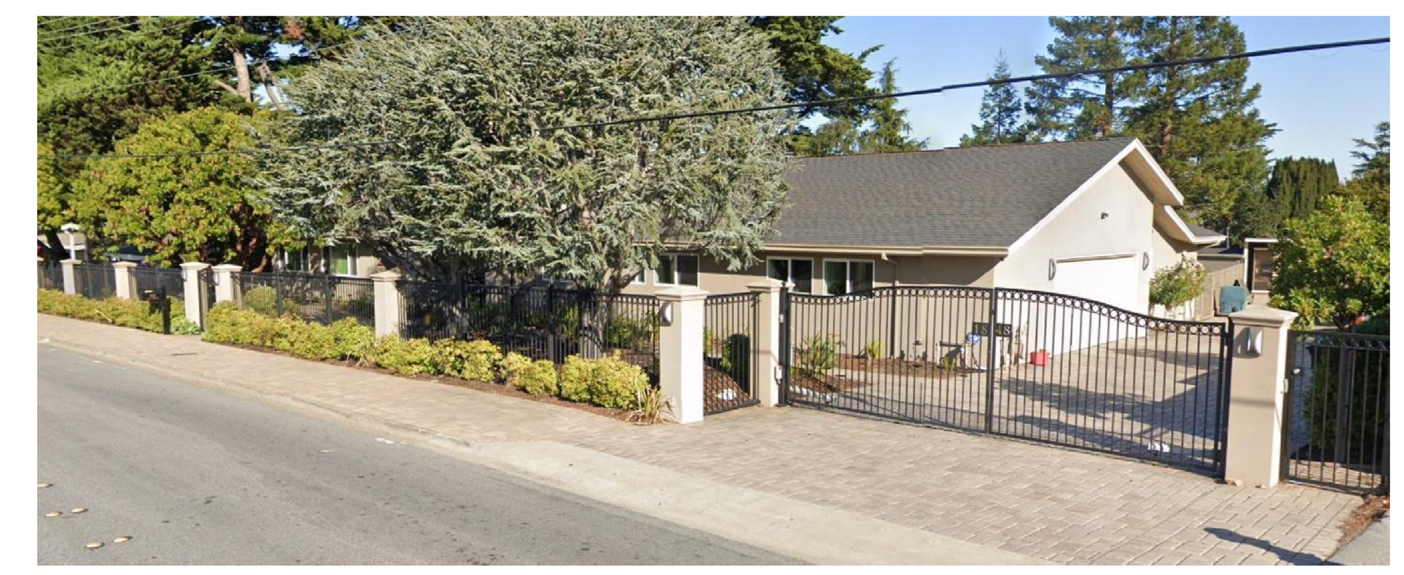
ATTACHMENT J



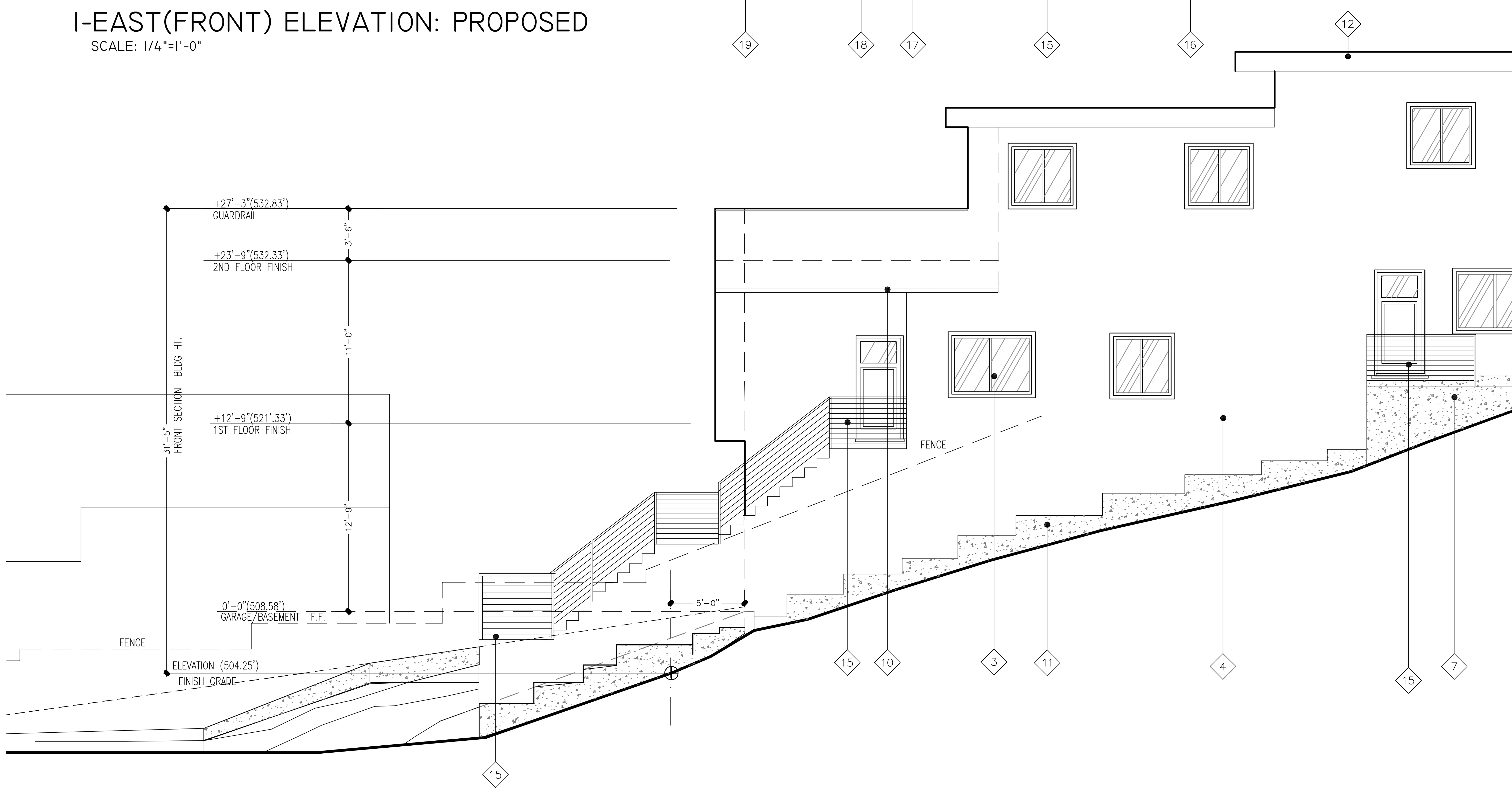
I-EAST(FRONT) ELEVATION: PROPOSED
SCALE: 1/4"=1'-0"

A2-WORK NOTES

1. PROVIDE AN ILLUMINATED ADDRESS NUMBER WITH CONTRASTING BACKGROUND AND A MIN. 1/2" STROKE BY 4" MIN. HT. THAT IS VISIBLE FROM THE STREET
2. (N) METAL/GLASS PANEL GARAGE DOOR
3. (N) ALUM. CLAD WOOD FINISH WINDOW AND DOOR, TYP. WITH RED WOOD TRIM
COLOR: VALSPAR, SANDSTONE SR10 DUSTY DUNE
4. (N) STUCCO FINISH , TYP
COLOR: VALSPAR, SANDSTONE SR9 BRUSHED BEIGE
6. (N) RECESSED FRONT ENTRY, WITH NEW ALUM. METAL DOOR
COLOR: INDINA RED
7. (N) CONCRETE WALL/FDN FINISH , TYP
8. (E) EXISTING CONTOUR LINE TO BE MODIFY
9. (E) EXISTING CONTOUR LINE TO BE REMAIN
10. TEMPERED GLASS CANOPY WITH METAL FRAME
COLOR: CLEAR
11. 26 GA. GALV. WEEP SCREED, 8" MIN. ABOVE GRADE, 2" MIN. ABOVE CONCRETE TYP.
12. STEP-UP ROOF, RECESSED FROM FRONT FACADE
15. GUARDRAIL, HORIZONTAL STEEL RAILING. THE TOP OF GUARDRAILS SHALL NOT BE PLACED LESS 42" A.F.F. RAILING DISTANCE B/W BALUSTERS SHALL NOT MORE THAN 4" O.C. (SUCH THAT A 4" ø SPHERE CAN'T PASS THROUGH)
COLOR: VALSPAR
BISTRO WHITE 7006-4
16. NEW 5-0" HT. IRON MAN DOOR WITH MAIL BOX INSERT
17. NEW 5'-0" HT. IRON FENCE
18. (N) 12"x12" STUCCO PILLAR, 5'-6" HT. W/EXTERIOR LIGHT FIXTURE
19. NEW (2)8'-0" WIDE x5'-0" HT.IRON GATES, 6'-0" MAX. W/KNOX BOX FOR FIRE ACCESS

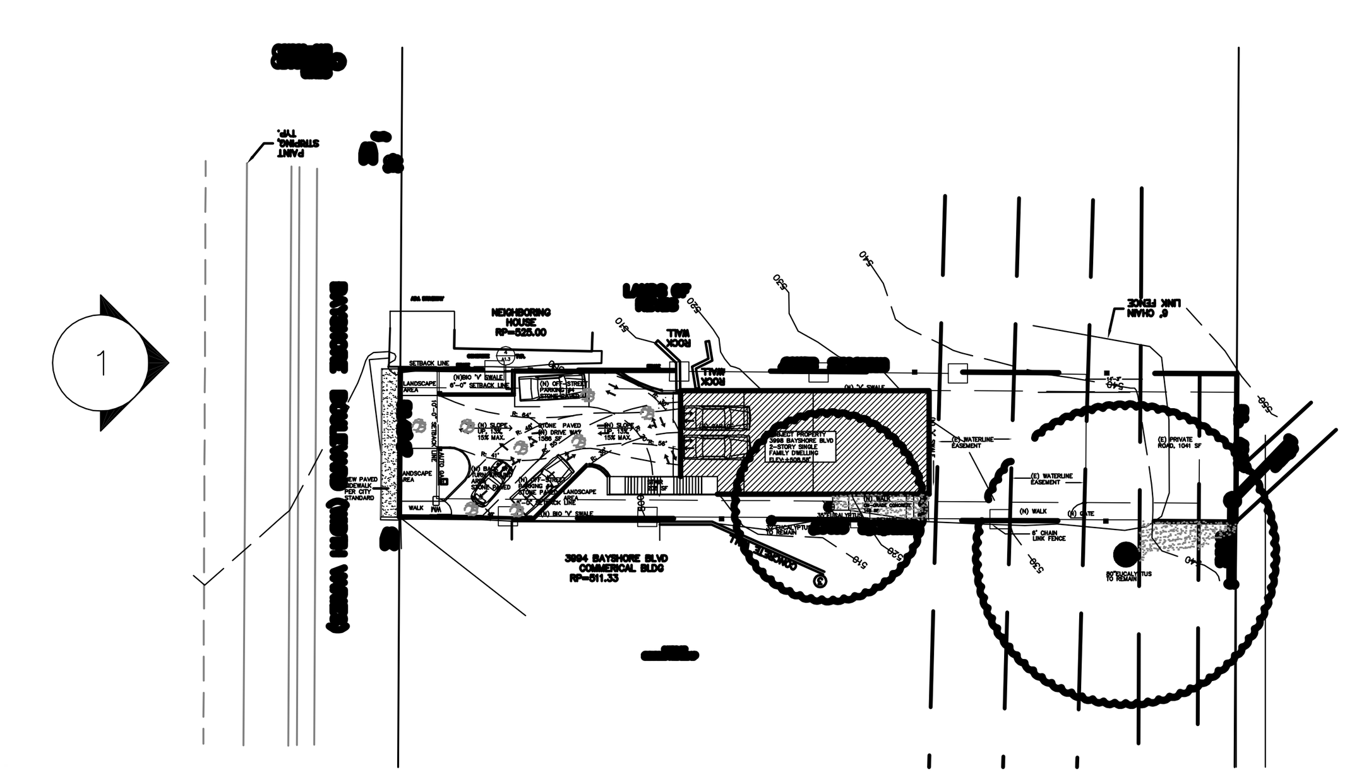


5-FRONT GATE ELEVATION SAMPLE
SCALE: 1/4"=1'-0"



2-NORTH(RIGHT) ELEVATION: PROPOSED SCALE: 3/16"=1'-0"

6. EXTERIOR LIGHT



A4-KEY MAP
NTS

PROJECT:

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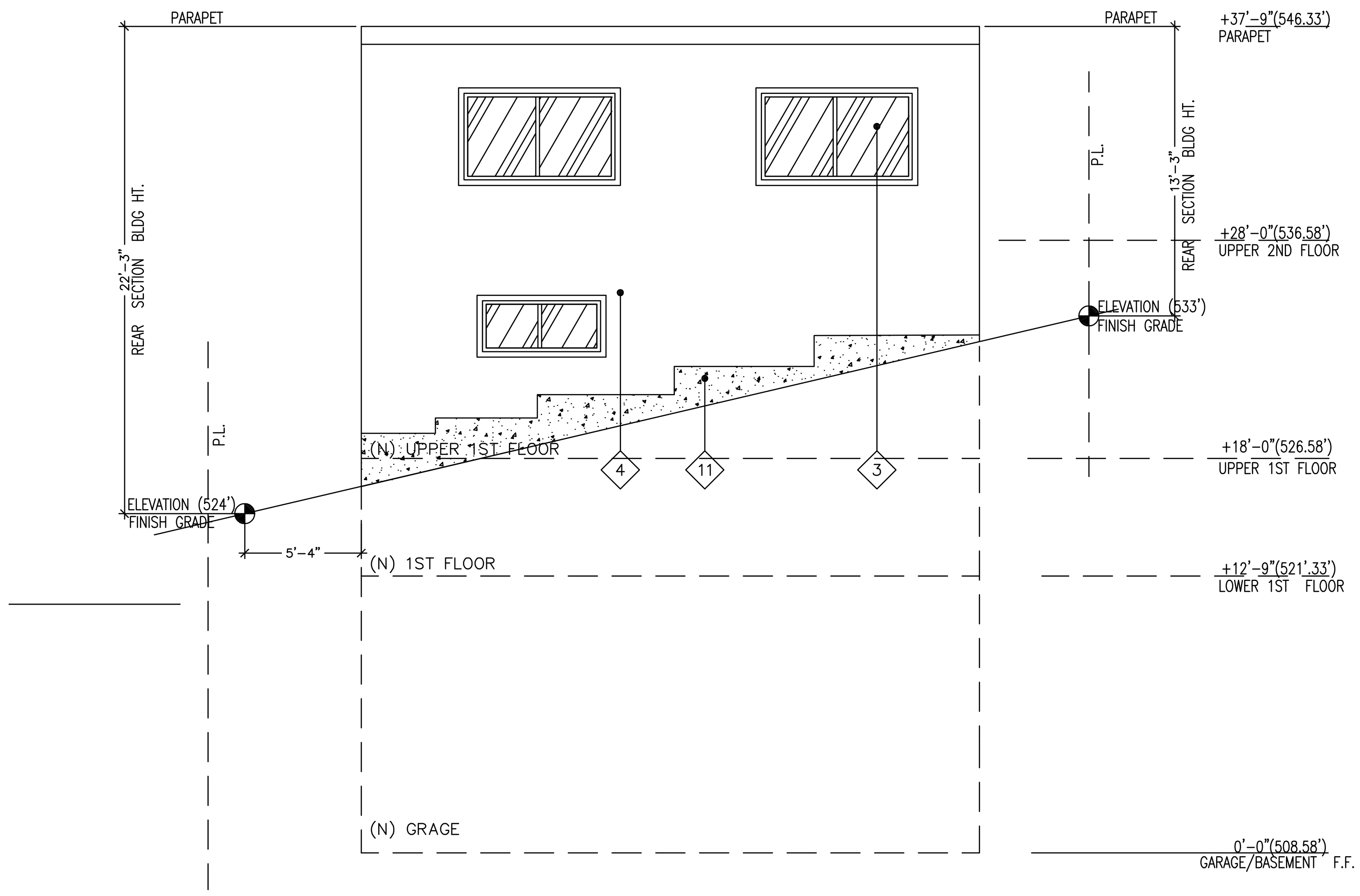
SHEET TITLE

EXTERIOR ELEVATIONS

A3.0

ATTACHMENT J



1-EAST(REAR) ELEVATION
SCALE: 3/16"=1'-0"

A2-WORK NOTES

1. PROVIDE AN ILLUMINATED ADDRESS NUMBER WITH CONTRASTING BACKGROUND AND A MIN. 1/2" STROKE BY 4" MIN. HT. THAT IS VISIBLE FROM THE STREET
2. (N) METAL/GLASS PANEL GARAGE DOOR
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COLOR: VALSPAR, SANDSTONE
SR10 DUSTY DUNE
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COLOR: VALSPAR, SANDSTONE
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COLOR: INDINA RED
7. (N) CONCRETE WALL/FDN FINISH , TYP
8. (E) EXISTING CONTOUR LINE TO BE MODIFY
9. (E) EXISTING CONTOUR LINE TO BE REMAIN
10. TEMPERED GLASS CANOPY WITH METAL FRAME
COLOR: CLEAR
11. 26 GA. GALV. WEEP SCREED,
8" MIN. ABOVE GRADE,
2" MIN. ABOVE CONCRETE TYP.
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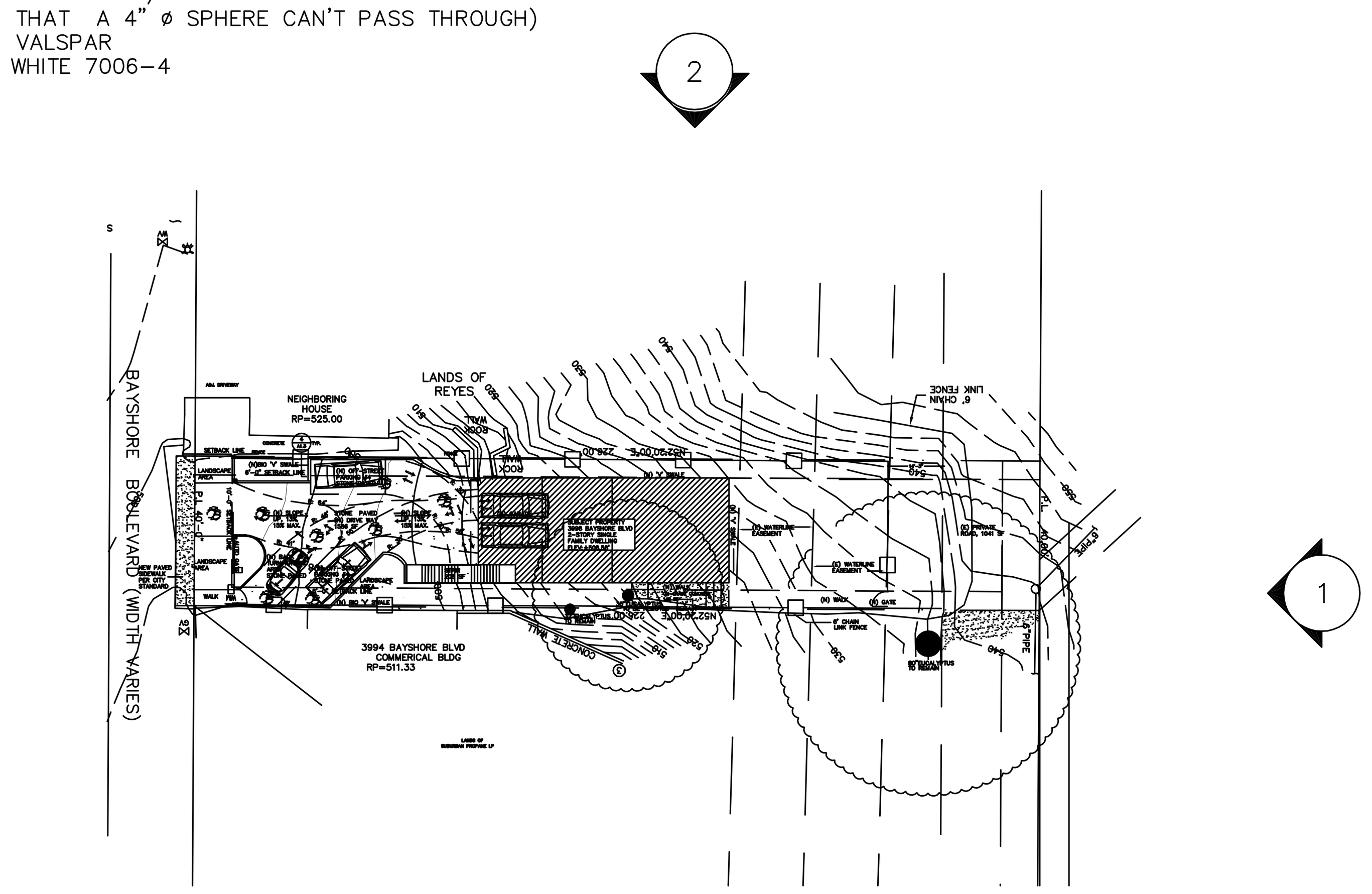
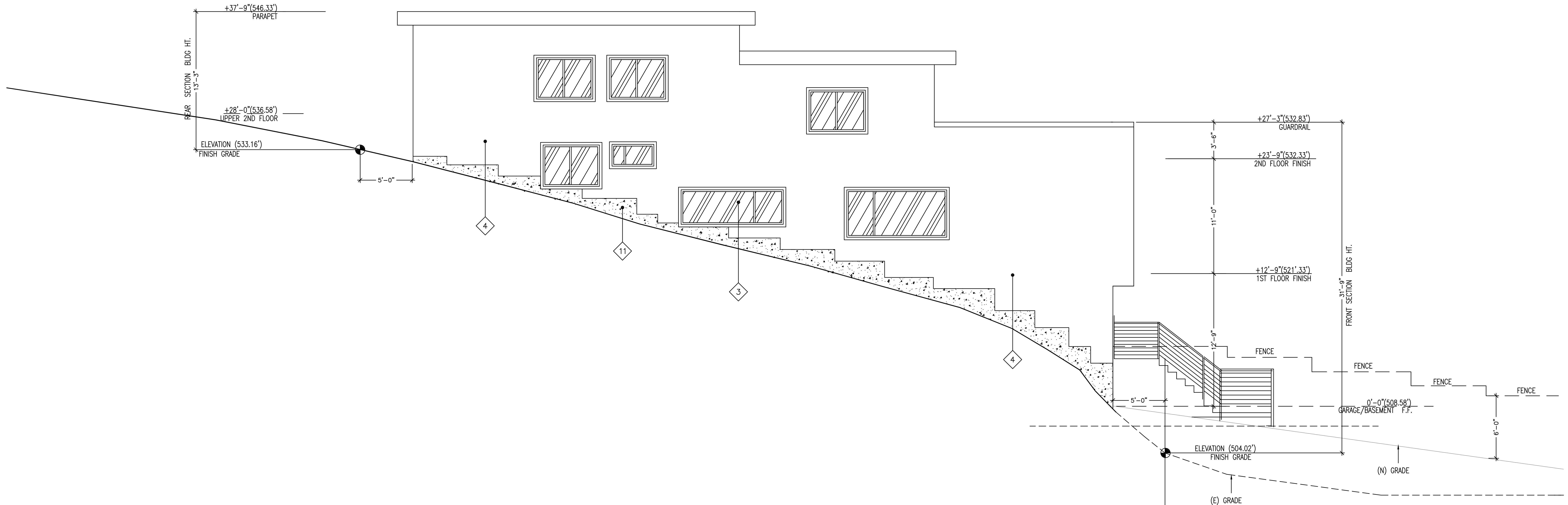
RAILING DISTANCE B/W BALUSTERS SHALL NOT MORE THAN 4" O.C.
(SUCH THAT A 4" ø SPHERE CAN'T PASS THROUGH)
COLOR: VALSPAR
BISTRO WHITE 7006-4



A4-KEY MAP



2-SOUTH(LEFT) ELEVATION
SCALE: 3/16"=1'-0"

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3998 BAYSHORE BLVD BRISBANE, CALIFORNIA

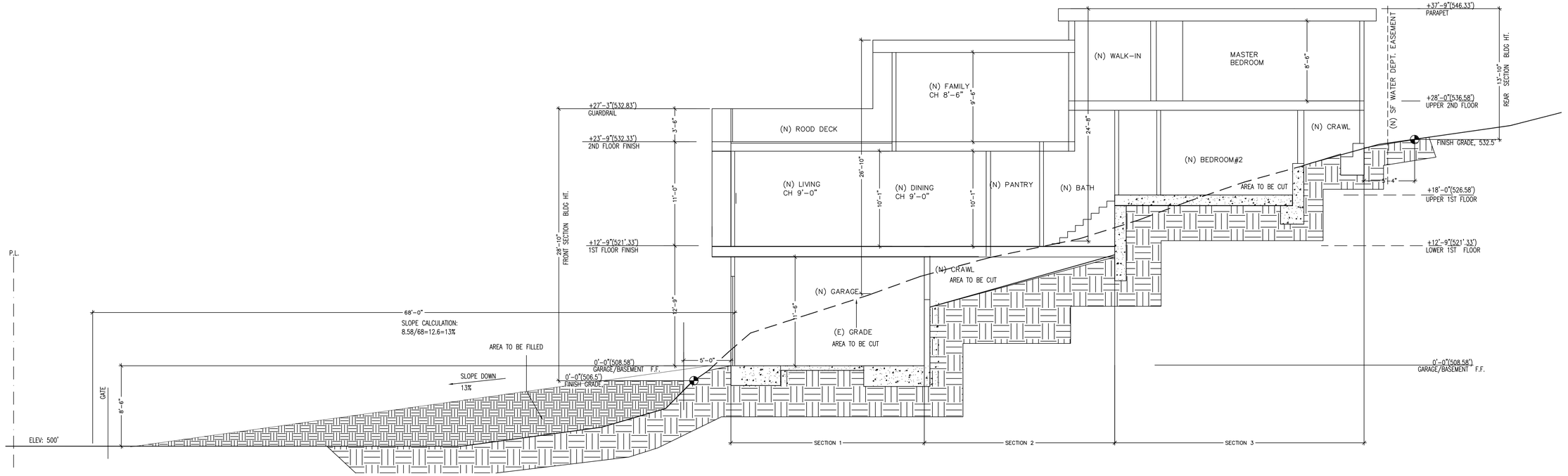
DRAWN BY: LI HONG
CHECK BY:
DATE:02/05/22

LICENSED ARCHITECT
XIE XING GUAN
No. C-32963
07/31/2023
RENEWAL DATE
STATE OF CALIFORNIA

SHEET TITLE

EXTERIOR ELEVATIONS

A3.1



I-LONGITUDINAL SECTION

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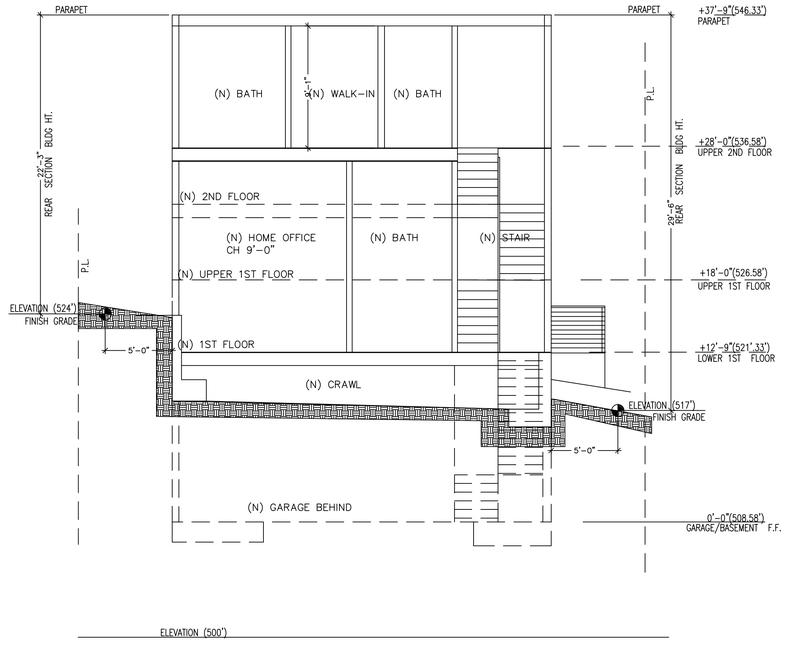
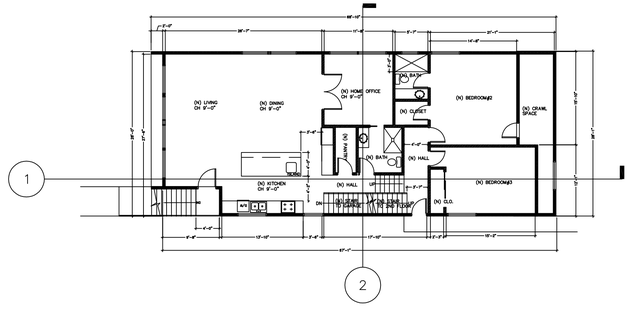


2-CROSS SECTION

SCALE: 3/16"=1'-0"



KEY MAP

ATTACHMENT J

PROJECT:

NEW RESIDENCE

FOR

GEORGIO ATANA

ARCHITECT

XIE ASSOCIATES, INC

Architectural Design & Planning

26 FARVIEW CT

SAN FRANCISCO, CA 94131

Tel: (415) 652-3047

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3998 BAYSHORE BLVD BRISBANE, CALIFORNIA

DRAWN BY: LI HONG

CHECK BY:

DATE: 02/05/22

LICENSED ARCHITECT
XIE XING GUAN
No. C-32863
07/31/2023
RENEWAL DATE
STATE OF CALIFORNIA

SHEET TITLE

BUILDING SECTIONS

A4.0

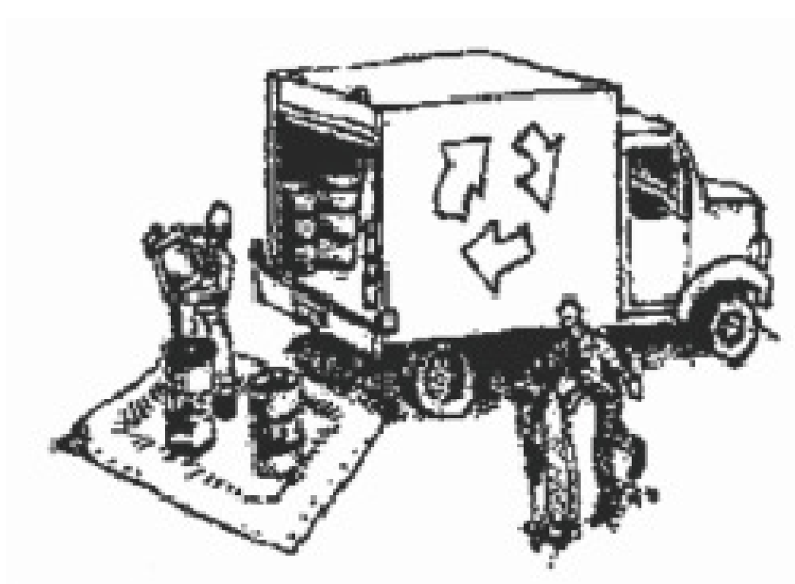
ATTACHMENT J

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

Construction Best Management Practices (BMPs)

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

Materials & Waste Management



Non-Hazardous Materials

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

Hazardous Materials

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

Waste Management

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

Construction Entrances and Perimeter

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

Equipment Management & Spill Control

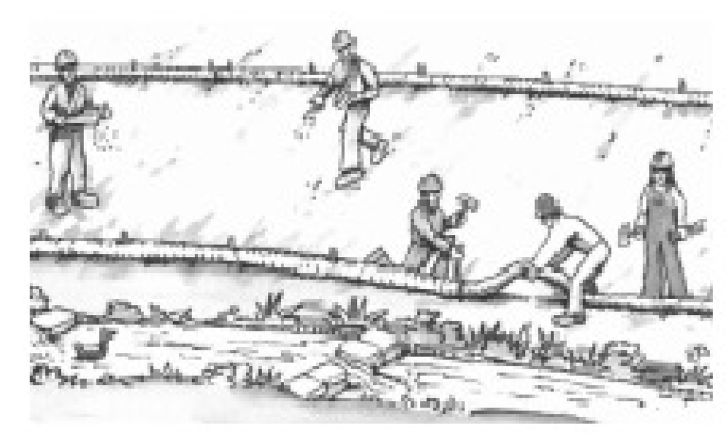
Maintenance and Parking

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

Spill Prevention and Control

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

Earthmoving

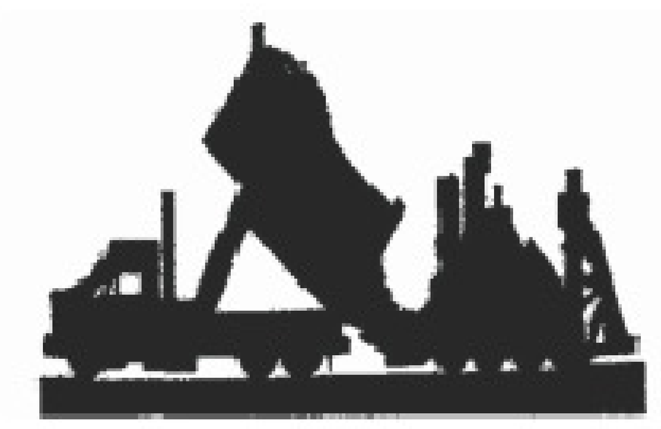


- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed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

Contaminated Soils

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

Paving/Asphalt Work



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

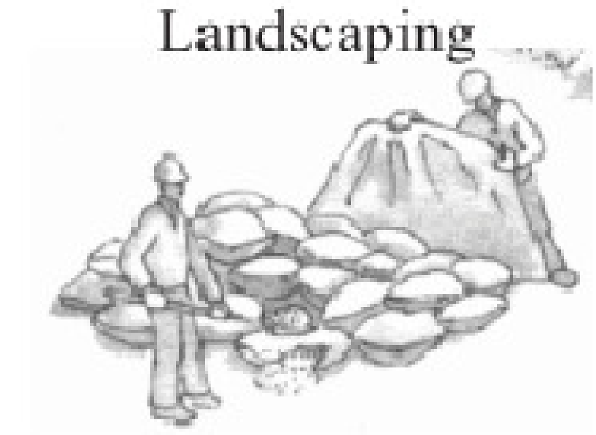
Sawcutting & Asphalt/Concrete Removal

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

Concrete, Grout & Mortar Application

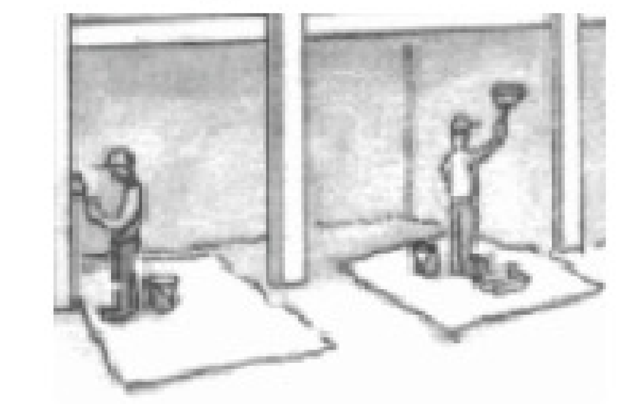
- ❑ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ❑ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that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

Landscaping



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

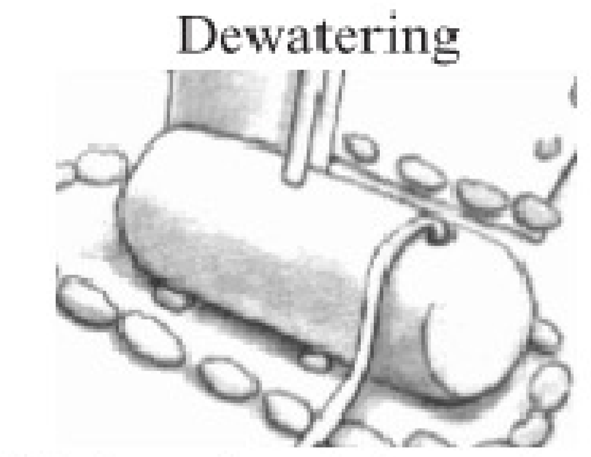
Painting & Paint Removal



Painting Cleanup and Removal

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

Dewatering



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

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

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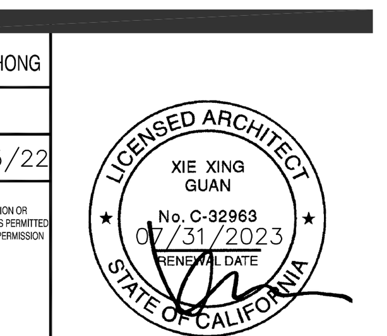

SHEET TITLE

BMPs

A6.0