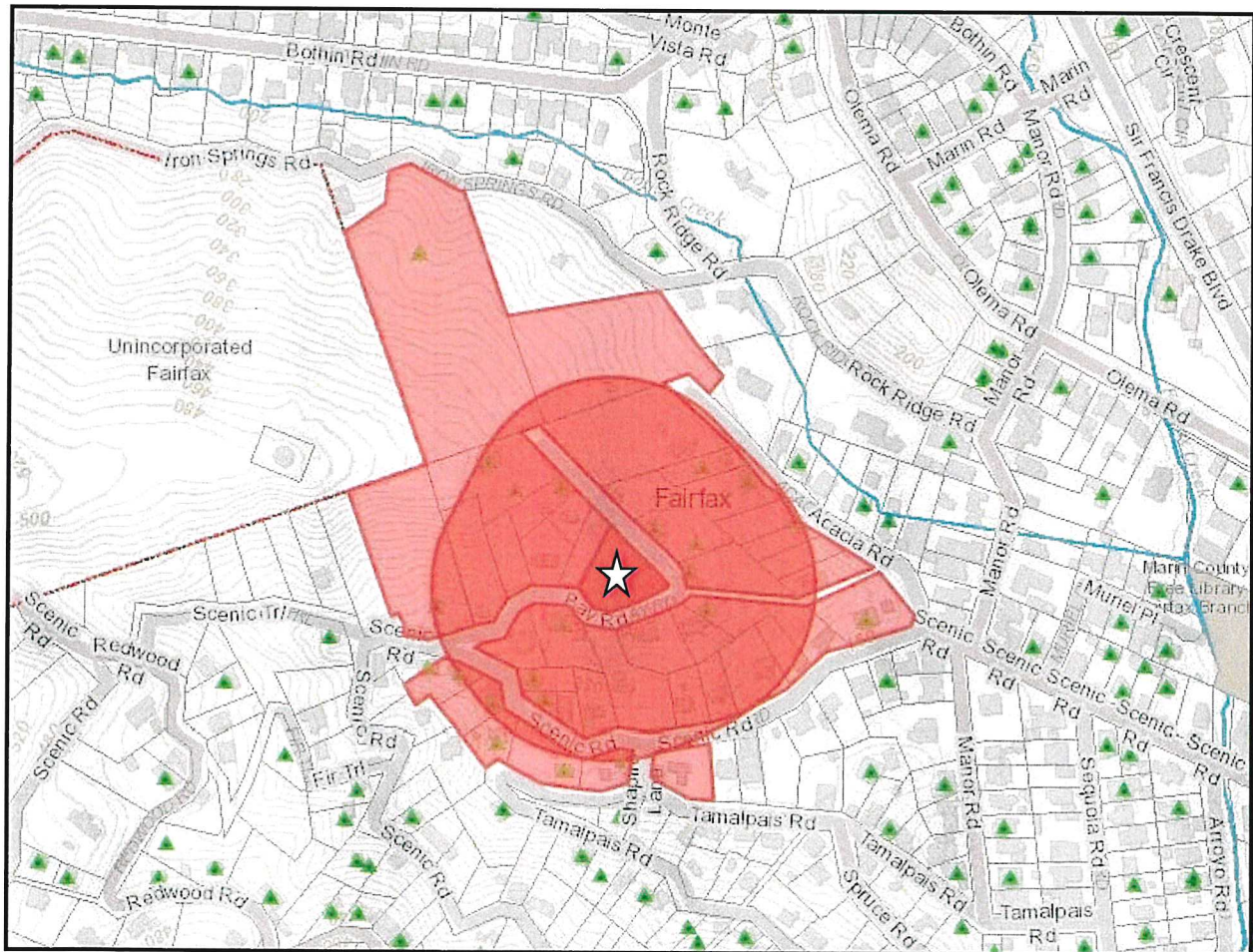


**TOWN OF FAIRFAX  
STAFF REPORT**  
Department of Planning and Building Services

**TO:** Fairfax Planning Commission  
**DATE:** July 28, 2022  
**FROM:** Kara Spencer, Assistant Planner  
**LOCATION:** 43 Bay Road; Assessor's Parcel Number 001-111-18  
**ZONING:** Residential Single-family RS 6 Zone  
**PROJECT:** Fifty percent remodel and two-story addition to single family residence  
**ACTION:** Hill Area Residential Development and Design Review Permits;  
Application # 22-13  
**APPLICANT:** Bill Engelhardt, Architect  
**OWNER:** Ella and Matt Adams  
**CEQA STATUS:** Categorically exempt, § 15301(e)(1)



**43 BAY ROAD**

**AGENDA #2**

## PROJECT DESCRIPTION/BACKGROUND

The project proposes a 516 square foot, two-story addition to the northeast side of an existing 1,795 square foot two-story, three-bedroom, two-bathroom, single-family dwelling to create a 2,311 square foot, two-story, three-bedroom, three-bathroom single-family dwelling. Over 50 percent of the existing home would be remodeled including reconfiguring both floors. The two-story addition would contain 258 square feet on each floor. The first floor of the addition would contain a hallway, storage closet, half bath and a laundry/mud room with a sink, shower, and exterior entrance. The second floor of the addition would contain a walk-in bedroom closet and bathroom. The project would create a new internal front entry foyer and external covered entry porch with the relocation of the existing first floor bathroom to the first-floor addition.

Other improvements consist of replacing the existing cantilevered second story deck and guardrail on the eastern side of the home; replacing existing siding and windows on the second floor to match the first floor; and, creating a new overhang at the dining room door. Proposed paint would match existing colors, which consist of Benjamin Moore 1616 "Stormy Sky" (slate gray) on the siding and Benjamin Moore OC-152 "Super White" on trim, windows, and doors. Refer to the design review materials in the plan sets for the proposed house colors. New exterior "dark skies" compliant lighting (consisting of Sleek Workshop #OL 18072 fixtures) is proposed to illuminate the new covered front entry porch (one fixture), the replaced cantilevered second story deck area on the eastern side of the home (two fixtures), and the new eastern side entry proposed for the first-floor laundry/mud room addition (one fixture); refer to pages A5.1 and A5.2 of the plan set for images of the proposed light fixtures. A variety of green building measures are included in the project in compliance with the 2019 California Green Building Standards Code including managing storm water drainage during construction and replacing noncompliant water fixtures with water conserving ones, etc. (see pages A12.1 and A12.2 of the plan set).

The project proposes to infiltrate storm water from roof downspouts into the soil with a dry well with an overflow to Bay Road. The dry well is proposed northeast of the proposed addition at the top of an existing cut slope along Bay Road; refer to page A1.2 of plans for the dry well detail and proposed location on the project property.

Project grading consists of approximately 34 cubic yards of cut material for the new foundation, porch, rear stair, and drainage improvements, as indicated on page A1.2 of the plans. No new plant material, irrigation, or landscape features are proposed to be added to the project site, with the exception of gravel finish proposed around the new addition. Three shrubs/bushes are proposed for removal, while remaining existing vegetation would be trimmed and pruned. No trees are proposed for removal. Refer to plan pages L01 and L02 of the plan set for landscape details.

The following project information required by the Hill Area Residential Development (HRD) Ordinance remains outstanding: a recorded record of survey, location/alignment of site utilities, a grading and erosion control plan, and drainage calculations. Staff

requested that the project applicant provide this information as part of the HRD application submittal. The applicant's response to this request is included in Attachment B. The Town Engineer reviewed the entire body of information provided by the applicant regarding the project, including the project engineering and architectural plans, as well as the geotechnical report by SalemHowes Associates, Inc., Geotechnical Consultants dated 9/18/21 (Attachment C). After completing the review and visiting the site on May 11, 2022, the Town Engineer determined that the missing information required by the Hill Area Residential Development Ordinance identified above can be submitted and reviewed as part of the building permit submittal for the project; refer to Attachment D the Town Engineer's final report on the project dated May 31, 2022.

It should be noted that after staff requested a recorded record of survey from the project applicant in compliance with the requirements of the Town's HRD Ordinance (Town Code Section 17.072.080), the applicant's surveyor reached out to the Board of Professional Engineers, Land Surveyors, and Geologists of the California Department of Consumer Affairs regarding this requirement. Ric Moore, Executive Officer of the Board of Professional Engineers, Land Surveyors, and Geologists in consultation with the Town Attorney determined that the Town and Town staff do not have the legal right to (1) require a survey to be recorded in connection with a development permit; and, (2) review or request clarification regarding surveying unless staff are authorized to practice land surveying pursuant to subdivision (c) of section 8726 of the Business and Professions Code (or Town staff are under the supervision of such individual). (See Attachment E). As a result of this information, staff are in the process of hiring a consulting surveyor to review surveys.

## **EXISTING CONDITIONS**

The project site consists of an approximately 17,740 square-foot lot that slopes up from Bay Road at an average rate of 32%. The project site is developed with the following: an approximately 1,795 square foot, two-story single-family home; a detached, two-story, 682 square foot accessory building with a 341 square foot, single car garage on the lower level and a 341 square foot bedroom above; a chicken coop; an asphalt driveway and parking area; various retaining walls; paved pathways; patios; and, landscape stairs/wooden fencing. Chain link fencing primarily surrounds property, with some wooden fencing in various locations. The first floor of the house contains a kitchen, dining room, living room, bedroom, and bathroom. The second floor contains two bedrooms and a bathroom. There is one 9"x19" covered parking space in the garage and two 9"x19" uncovered parking spaces in the paved parking area, off the driveway. Throughout the property there are native coast live oak and redwood trees, as well as a few other miscellaneous native and ornamental shrub species.

According to hand written tax assessor records from the Marin County Assessor's Office (see Attachment F), original construction of the house occurred in 1939 with subsequent construction/additions occurring in 1944, 1966, and 1969. The two-story accessory structure was constructed in 1966 with a building permit and extends past the property boundary into the public right of way.

The area where the addition is proposed is relatively level. Town of Fairfax Figure S-3 “Areas Susceptible to Landslides” (adopted by Ordinance No. 846 on February 25, 2020 by the Town Council) identifies the project site as “Multiple Landslides.”

The following table illustrates the project’s compliance with the regulations of the RS-6 Single-family Residential Zone, High-Density District where the property is located:

	Front Setback	Rear Setback	Combined Front/Rear Setback	Side Setbacks	Combined Side Setbacks	FAR	Lot Coverage	Height
<b>Required/ Permitted</b>	6 ft.	12 ft.	35 ft.	5 ft. & 5 ft.	20 ft.	.40	.35	28.5 ft., 3 stories
<b>Existing</b>	> 0 ft.	79.4 ft.	79.4 ft.	24.2' & 64.8'	89 ft.	.12	.12	23.8 ft. 2 stories
<b>Proposed</b>	> 0 ft.	79.4 ft.	79.4 ft.	24.2' & 64.8'	89 ft.	.15	.14	24 ft. 2 stories

### **REQUIRED DISCRETIONARY APPROVALS**

The project requires the approval of Hill Area Residential and Design Review permits. It meets the Town’s parking requirements [Town Code § 17.052.030(A)(1)] with the one covered space in the garage and two off-street spaces in the driveway/paved parking area.

### **Hill Area Residential Development**

The purpose of the Hill Area Residential Development Permit is to encourage the maximum retention of natural topographic features, minimize grading of hillside areas, provide a safe means of ingress and egress to and within hillside areas, minimize water run-off and soils erosion during and after construction, prevent loss of life, reduce injuries and property damage and minimize economic dislocations from geologic hazards, and to ensure that infill development on hillside lots is of a size and scale appropriate to the property and is consistent with other properties in the vicinity under the same zone classification [Town Code sections 17.072.010(A) and (B)].

Project implementation would not require or necessitate the removal or elimination of any natural topographic features from the site. The addition is proposed along the northeast side of the existing home in an area that is relatively flat. A modest amount of excavation would be necessary to construct the proposed improvements. A total of approximately 34 cubic yards (cy) of soil would be excavated for piers (0.9 cy), grade beams (23.3 cy), porch (2.1 cy), rear stair (2 cy), door overhang (0.7 cy), site drainage pipe (4 cy), and site drainage pit (1.3 cy). The proposed grading and drainage plan (page A1.2 of the plan set) does not indicate whether that excess soil will be hauled away from the site or be re-used onsite. Resolution 2022-17 includes a condition of

project approval requiring the Grading and Drainage Plan to be updated to indicate whether the spoils will be removed or re-used onsite prior to the issuance of building permits.

According to the Town Engineer, the proposed dry well location at the top of the cut slope would decrease stability and could lead to erosion from seepage or sloughing of the cut. The Town Engineer recommends that the project Geotechnical Engineer be consulted and consideration be given to moving the dry well farther from the cut slope. This recommendation has been included as a condition of project approval to be completed prior to the issuance of building permits; refer to Attachment A.

As noted above under the project description, the Town Engineer reviewed the project engineering and architectural plans, as well as the project geotechnical report and conducted a site visit of the project property. After completing the review and visiting the site, the Town Engineer determined that the geotechnical report is adequate to facilitate code-compliant design of the proposed improvements and that additional information required by the Town's Hill Area Residential Development Ordinance (location/alignment of site utilities, a grading and erosion control plan, and drainage calculations) can be submitted and reviewed as part of the building permit submittal (see Attachment D – the Town Engineer's Final Report on the project). Resolution 2022-17 includes a condition of project approval that the location/alignment of site utilities, a grading and erosion control plan, and drainage calculations be provided with the building permit plans for review and approval by the Town Engineer (See Attachment A)

### **Design Review**

Town Code §17.020.030(A) requires that the Fairfax Planning Commission review and approve the design of all new residences and projects that constitute 50% remodels to ensure compliance with the design review criteria contained in Town Code §17.020.040.

These criteria include but are not limited to the following:

“The proposed development shall create a well composed design harmoniously related to other facilities in the immediate area and to the total setting as seen from hills and other key vantage points in the community.”

“The size and design of the structure shall be considered for the purpose of determining that the structure is in proportion to its building site and that it has balance and unity among its external features so as to present a harmonious appearance.”

“The extent to which natural features, including trees, shrubs, creeks and rocks and the natural grade of the site are to be retained.”

The proposed addition would change the exterior appearance of the existing house by adding mass and dimension to the northern elevation that would complement the size, shape, and scale of the existing home. The new covered front entry at the western side



and overhang at the dining room door located on the southern side would add additional articulation to the house's exterior. The resulting house would look very similar to the existing dwelling with all new paint proposed to match existing colors, which consist of Benjamin Moore 1616 "Stormy Sky" (slate gray) on the siding and Benjamin Moore OC-152 "Super White" on trim, windows, and doors. In addition, existing siding and windows on the second floor would be replaced to match the first floor and the existing cantilevered second story deck and guardrail on the eastern side of the home would be replaced to match the existing deck and guardrail.

The project proposes minimal lighting with one fixture at the new covered front entry porch, one fixture at the new eastern side entry off the first-floor laundry/mud room addition, and two fixtures at the replaced cantilevered second story deck area on the eastern side of the home. All four lights would be dark sky compliant Sleek Workshop #OL 18072 fixtures. Pages A5.1 and A5.2 of the plan set provide images of the proposed light fixtures. The proposed lighting would direct the light downward in a manner that prevents light spillage beyond the area being lit.

The proposed a 516 square foot, two-story addition to the northeast side of the house would not have a significant visual impact on any of the neighboring residences due to the large setbacks it would maintain from the property lines. Additionally, the resulting 24 foot high, 2,311 square foot house would have a relatively small footprint in relation to the 17,740 square foot size of the site. The addition has been designed to be in scale with the project site and similar in size to other structures in the neighborhood and on similar sized and sloped sites throughout the hillsides of Fairfax. The table below provides a summary of lot and home sizes in the immediate area.

43 Bay Road – Immediate Neighborhood Comparison						
APN #	ADDRESS	LOT SIZE	HOUSE SIZE	# BEDROOMS	# BATHS	Floor Area Ratio
001-111-07	53 Bay Road	7,750 SF	875 SF	2	1	0.11
001-111-10	57 Bay Road	5,400 SF	560 SF	1	1	0.10
001-111-11	63 Bay Road	9,191 SF	1,275 SF	3	3	0.14
001-111-19	65 Bay Road	20,650 SF	1,348 SF	4	2	0.07
001-093-21	78 Bay Road	2,954 SF	139,768 SF	3	2.5	0.02
001-112-03	56 Bay Road	10,925 SF	1,304 SF	2	1	0.12
001-112-49	44 Bay Road	13,981 SF	2,557 SF	5	4	0.18
001-112-41	42 Bay Road	11,700 SF	1,263 SF	2	2	0.11
001-112-08	38 Bay Road	9,600 SF	668 SF	2	1	0.07
001-112-09	34 Bay Road	6,325 SF	1,886 SF	4	2	0.30
001-112-47	24 Bay Road	11,770 SF	1,938 SF	4	3.5	0.16
001-112-38	14 Bay Road	10,925 SF	2,257 SF	3	2	0.21
001-111-06	21 Bay Road	9,000 SF	936 SF	2	1	0.10
001-111-04	9 Bay Road	18,974 SF	882 SF	1	1	0.05
001-111-18	43 Bay Road	17,740 SF	2,652 SF*	3	3	0.15*

\*Adjusted to include the floor area of the accessory building bedroom

At approximately 17,740 square feet, the project site is large by Fairfax standards. Minimal site disturbance is proposed and consequently, the site would not look much different after project implementation. Proposed excavation consists of approximately 34 cubic yards for the new foundation, porch, rear stair, and drainage improvements. The only new landscape features consist of a gravel finish proposed around the new addition. Three shrubs/bushes are proposed for removal, while remaining existing vegetation would be trimmed and pruned. No trees are proposed for removal. No new plant material or irrigation would be added to the site. The vegetative management plan was approved by the Fire Department.

### **Northern Spotted Owl**

The site is within ¼ mile of a known Northern Spotted Owl nesting site so construction shall be prohibited during the Northern Spotted Owl nesting season from February 1st through July 31st, unless a plan for allowing construction activities during this period is submitted by a qualified biologist and approved by the State Department of Fish and Wildlife, with documentation of the approval provided to the Town, prior to initiation of any construction activities. All requirements listed in the plan, including potential onsite monitoring, must be met by the applicants at all times.

### **OTHER DEPARTMENT/AGENCY COMMENTS/CONDITIONS OF APPROVAL**

The only agency that commented on the project was the Ross Valley Fire Department. RVFD did not have any specific conditions or comments on the project. The Fire Department standard conditions of project approval have been included and can be reviewed in the attached Resolution No. 2022-17.

### **Marin Municipal Water District (MMWD)/ Ross Valley Sanitary District (RVSD)/Fairfax Public Works, Police, and Building Departments**

Ross Valley Sanitary District, Marin Municipal Water District, Fairfax Police, Public Works, and Building Departments had no comments on the project or project specific conditions of approval. Standard conditions of approval from the Ross Valley Sanitary District and Marin Municipal Water District apply and have been incorporated as conditions of approval.

### **RECOMMENDATION**

Move to approve application # 22-13 by adopting the attached Resolution No. 2022-17 setting forth the findings and conditions of project approval or continue the application to a date uncertain and direct the applicant to submit the following: (1) a revised site plan showing the location/alignment of site utilities; (2) a grading and erosion control plan; and, (3) drainage calculations.

## **ATTACHMENTS**

Attachment A – Resolution No. 2022-17

Attachment B – Applicant’s Response to staff’s request for additional Information

Attachment C – Geotechnical report by SalemHowes Associates, Inc., Geotechnical Consultants dated 9/18/21

Attachment D – Town Engineer’s final report on the project dated May 31, 2022

Attachment E – Email Correspondence Regarding HRD Survey Requirements

Attachment F – Hand Written Marin County Tax Assessor Records



## RESOLUTION NO. 2022-17

### **A Resolution of the Fairfax Planning Commission Approving Application No. 22-13 for Hill Area Residential Development (HRD) and Design Review Permits for the Expansion and Remodel of the Existing Residence at 43 Bay Road**

**WHEREAS**, the Town of Fairfax received an application from Bill Engelhardt for a 516 square foot two-story expansion and remodel of a 1,795 square-foot, two-story, single-family dwelling to create a 2,311 square foot single-family residence on January 5, 2022; and

**WHEREAS**, after holding a duly noticed public hearing on July 28, 2022, on the project the Planning Commission determined that the project complies with the Hill Area Residential Development Overlay Ordinance and the Design Review Ordinance and findings can be made to grant the requested HRD and Design Review permits at 43 Bay Road; and

**WHEREAS**, the Commission has made the following findings:

The project is consistent with the 2010-2030 Fairfax General Plan as follows:

Policy LU-7.1.5: New and renewed residential development shall preserve and enhance the existing characteristics of the Town's neighborhoods in their diverse architectural style, size and mass.

Policy LU-7.2.1: New and renewed development shall be compatible with the general design and scale of structures in the vicinity.

Policy LU-7.2.2: To the extent feasible natural features including the existing grade, mature trees and vegetation shall be preserved for new and renewed development.

#### **Hill Area Residential Development (Town Code § 17.072.110)**

1. The proposed development is consistent with the General Plan (see above) and consistent with the purpose and intent of the Zoning Ordinance, Title 17, of the Fairfax Town Code.
2. The site planning preserves identified natural features as much as possible. Grading is minimal and very little disturbance will occur to the project site.
3. Based on the geotechnical report findings, the site can be developed without geologic, hydrologic, or seismic hazards, as long as the recommendations in the geotechnical report and standard Marin County hill construction practices are followed.

4. Vehicular access and parking are adequate. The project site has two off-street, 9' by 19', uncovered parking spaces and one 9' by 19' covered parking space.
5. The proposed development harmonizes with the surrounding residential development, meets the design review criteria, and does not result in the deterioration of significant view corridors. The addition has been designed to be in scale with the project site and similar in size to other structures in the neighborhood and on similar sized and sloped sites throughout the hillsides of Fairfax. The resulting house would look very similar to the existing dwelling.

**Design Review (Town Code § 17.020.040)**

1. The project depicted in the plans submitted 7/11/22 and in the colors and materials page submitted 7/11/22 complies with the Design Review Criteria set forth in Town Code § 17.020.040.

**WHEREAS**, the Commission has approved the project subject to the applicant's compliance with the following conditions:

The project is approved based on the following plans and reports:

The architectural plans received by the Town on 7/11/22 and the colors and materials page received by the Town on 7/11/22; Geotechnical report by SalemHowes Associates, Inc., Geotechnical Consultants dated 9/18/21; and the Town Engineer's final report on the project dated May 31, 2022.

1. Prior to issuance of any of the building permits for the project the applicant or his assigns shall:
  - a) Submit a construction management plan to the Public Works Department for their approval. The plan shall include but is not limited to the following:
    - I. Construction delivery routes approved by the Department of Public Works.
    - II. Construction schedule (deliveries, worker hours, etc.)
    - III. Notification to area residents
    - IV. Emergency access routes
    - V. Construction worker staging area
2. The applicant shall prepare, and file with the Public Works Director, a video of the roadway conditions on the public construction delivery routes (routes to be pre-approved by Public Works Director).
3. Submit a cash deposit, bond, or letter of credit to the Town in an amount that will cover the cost of grading, weatherization, and repair of possible damage to public roadways. The applicant shall submit contractor's estimates for any grading, site weatherization and improvement plan for approval by the Town Engineer. Upon

approval of the contract costs, the applicant shall submit a cash deposit, bond or letter of credit equaling 100% of the estimated construction costs.

4. The foundation elements shall be designed by a structural engineer certified as such in the state of California. Plans and calculations of the foundation elements shall be stamped and signed by the structural engineer and submitted to the satisfaction of the Town Structural Engineer.
5. The grading, foundation, and drainage elements shall be stamped and signed by the project geotechnical engineer as conforming to the recommendations made by the project Geotechnical Engineer.
6. Prior to submittal of the building permit plans, the applicant shall secure written approval from the Ross Valley Fire Department, Marin Municipal Water District and the Ross Valley Sanitary District noting the development conformance with their recommendations.
7. Submit three copies of the project survey with the building permit plans to be reviewed and approved by the Town's Surveyor.
8. Submit three copies of the grading and erosion control plan, drainage calculations, and the site plan showing the location/alignment of site utilities with the building permit plans for review and approval by the Town Engineer.
9. Prior to the issuance of building permits the Grading and Drainage Plan shall be updated to indicate whether the spoils will be removed or re-used onsite.
10. Prior to the issuance of building permits, the Geotechnical Engineer shall be consulted and consideration shall be given to moving the dry well farther from the cut slope.
11. During the construction process the following shall be required:
  - a) The project Geotechnical Engineer shall be on-site during the grading process and shall submit written certification to Town Staff that the grading measures have been completed as recommended prior to installation of foundation, drainage improvements, and supply lines.
  - b) Prior to the concrete form inspection by the building official, the project Geotechnical and Structural Engineers shall field check the forms of the foundations and drainage elements and provide written certification to Town staff that the work to this point has been completed in conformance with their recommendations and the approved building plans.
  - c) The Building Official shall field check the concrete forms prior to the pour.

- d) All construction-related vehicles including equipment delivery, cement trucks and construction materials shall always be situated off the travel lane of the adjacent public right(s)-of-way. This condition may be waived by the Building Official on a case-by-case basis with prior notification from the project sponsor.
- e) Any proposed temporary closures of a public right-of-way shall require prior approval by the Fairfax Police Department and any necessary traffic control, signage or public notification shall be the responsibility of the applicant or his/her assigns. Any violation of this provision will result in a stop work order being placed on the property and issuance of a citation.

12. Prior to issuance of an occupancy permit the following shall be completed:

- a) The project Geotechnical Engineer shall field check the completed project and submit written certification to Town Staff that the foundation, grading, and drainage elements have been installed in conformance with the approved building plans and the recommendations of the geotechnical report. Additionally, the project Civil Engineer shall review the construction schedule and plans at each phase of project construction to determine the best order for each phase to occur.
- b) The Planning Department and Town Engineer shall field check the completed project to verify that any and all and planning commission conditions and required engineering improvements have been complied with. The Planning Department and the Town Engineer shall also review the construction schedule and plans at each phase of project construction to determine the best order for each phase to occur.

13. Excavation shall not occur between October 1st and April 1<sup>st</sup> of any year. The Town Engineer has the authority to waive this condition depending upon the weather.

14. The roadways shall be kept free of dust, gravel, and other construction materials by sweeping them, daily, if necessary.

15. Any changes, modifications, additions, or alterations made to the approved set of plans will require a modification of Application # 22-13. Modifications that do not significantly change the project, the project design or the approved discretionary permits *may* be approved by the Planning Director. Any construction based on job plans that have been altered without the benefit of an approved modification of Application 22-13 will result in the job being immediately stopped and red tagged.

16. Any damages to the public portions of Bay Road, Scenic Road, Manor Road, Olema Road, or other public roadway used to access the site resulting from construction activities shall be the responsibility of the property owner.
17. The applicant and its heirs, successors, and assigns shall, at its sole cost and expense, defend with counsel selected by the Town, indemnify, protect, release, and hold harmless the Town of Fairfax and any agency or instrumentality thereof, including its agents, officers, commissions, and employees (the "Indemnitees") from any and all claims, actions, or proceedings arising out of or in any way relating to the processing and/or approval of the project as described herein, the purpose of which is to attack, set aside, void, or annul the approval of the project, and/or any environmental determination that accompanies it, by the Planning Commission, Town Council or Planning Director or any other department or agency of the Town. This indemnification shall include, but not be limited to, suits, damages, judgments, costs, expenses, liens, levies, attorney fees or expert witness fees that may be asserted or incurred by any person or entity, including the applicant, third parties and the Indemnitees, arising out of or in connection with the approval of this project, whether or not there is concurrent, passive, or active negligence on the part of the Indemnitees. Nothing herein shall prohibit the Town from participating in the defense of any claim, action, or proceeding. The parties shall use best efforts, acting in good faith, to select mutually agreeable defense counsel. If the parties cannot reach agreement, the Town may select its own legal counsel and the applicant agrees to pay directly, or timely reimburse on a monthly basis, the Town for all such court costs, attorney fees, and time referenced herein, provided, however, that the applicant's duty in this regard shall be subject to the Town's promptly notifying the applicant of any said claim, action, or proceeding.
18. The applicant shall comply with all applicable local, county, state and federal laws and regulations. Local ordinances which must be complied with include, but are not limited to: the Noise Ordinance, Chapter 8.20, Polystyrene Foam, Degradable and Recyclable Food Packaging, Chapter 8.16, Garbage and Rubbish Disposal, Chapter 8.08, Urban Runoff Pollution Prevention, Chapter 8.32 and the Americans with Disabilities Act and Best Management Practices for Stormwater Pollution Prevention.
19. Conditions placed upon the project by outside agencies, Town departments or by the Town Engineer may be eliminated or amended with that agency's, department's, or the Town Engineer's written notification to the Planning Department prior to issuance of the building permit.
20. The building permit plans shall be reviewed and approved by the Town Engineer, at the expense of the applicant, prior to issuance of the building permit. The project shall be inspected by the Town Engineer prior to issuance of the occupancy permit for the residential structure for compliance with the engineering plans.

### **Ross Valley Fire Department Conditions**

21. All vegetation and construction materials are to be maintained away from the residence during construction.
22. The property is located within the Wildland Urban Interface Area for Fairfax and the new construction must comply with Chapter 7A of the California Building Code or equivalent.
23. A class A roof assembly is required.
24. The project requires installation of a fire sprinkler system that complies with the National Fire Protection Association regulation 13-D and local standards. The system will require a permit from the Fire Department and the submittal of plans and specifications for a system submitted by an individual or firm licensed to design and/or design-build sprinkler systems.
25. All smoke detectors in the residence shall be provided with AC power and be interconnected for simultaneous alarm. Detectors shall be located in each sleeping room, outside of each sleeping room in a central location in the corridor and over the center of all stairways with a minimum of 1 detector on each story of the occupied portion of the residence.
26. Carbon monoxide alarms shall be provided in existing dwellings when a permit is required for alterations, repairs, or addition and the cost of the permit exceeds \$1,000.00. Carbon monoxide alarms shall be located outside of each sleeping area in the immediate vicinity of the bedrooms and on every level of the dwelling, including basements.
27. Address numbers at least 4 inches tall must be in place adjacent to the front door. If not clearly visible from the street, additional numbers must be placed in location that is visible from the street. The numbers must be internally illuminated or illuminated by an adjacent light controlled by a photocell that can be switched off only by a breaker so it will remain illuminated all night.
28. Alternative materials or methods may be proposed for any of the above conditions in accordance with Section 104.9 of the Fire Code.
29. All approved alternatives requests, and their supporting documentation, shall be included in the plan sets submitted for final approval by the Fire Department.

### **Marin Municipal Water District (MMWD) Conditions**

30. All indoor and outdoor requirements or District Code Title 13, Water Conservation must be complied with.



31. Any landscaping plans must be reviewed and approved by the District.
32. Backflow prevention requirements must be met.
33. Ordinance 420, requiring installation of a grey water recycling system when practicable, must be incorporated into the project building permit plans or an exemption letter from the District must be provided to the Town.
34. All the District's rules and regulations in effect at the time service is requested must be complied with.

### **Ross Valley Sanitary District (RVSD) Conditions**

35. The project will require trigger the District's testing and lateral certification requirements. All work on the sewer lateral must be done with a Ross Valley Sanitary District (RVSD) permit, after the payment of applicable fees; must be inspected by RVSD Inspectors prior to backfill; must comply with District Codes including Ordinance 100; and, must obtain a Certificate of Compliance for the lateral prior to the project's final inspection.

### **Town Engineer Conditions**

36. Plans shall be revised to show an acceptable dry well location subject to approval by the Town Engineer prior to sumittal for the building permit.
37. The building permit plans shall be reviewed and approved by the Town Engineer prior to being routed to the building permit plan checker for review for compliance with the California Building Code.

### **Miscellaneous Conditions**

38. The site is within ¼ mile of a known Northern Spotted Owl nesting site so construction shall be prohibited during the Northern Spotted Owl nesting season from February 1<sup>st</sup> through July 31<sup>st</sup>, unless a plan for allowing construction activities during this period is submitted by a qualified spotted owl biologist and approved by the State Department of Fish and Wildlife, with documentation of the approval provided to the Town, prior to initiation any construction activities. All requirements listed in the plan, including potential onsite monitoring, must be met by the applicants at all times.
39. All the exterior fixtures must be dark sky compliant (fully shielded and emit no light above the horizontal plane with no sag or drop lenses, side light panels or uplight panels) as well as compliance with color temperature to minimize blue rich lighting. The lighting plan shall be submitted with the building permit application and be approved by the Planning Department prior to issuance of the project building permit. The lighting shall not emit direct offsite illumination

and shall be the minimum necessary for safety. The fixture to be mounted on the garage front wall must be reviewed and approved by the Planning Department prior to submittal of the building permit.

**NOW, THEREFORE BE IT RESOLVED**, the Planning Commission of the Town of Fairfax hereby finds and determines as follows:

The approval of the Hill Area Residential Development and Design Review permits for an approximately 516 square foot two-story addition are approved and the findings have been made to grant the requested discretionary permits. Therefore, the project is in conformance with the 2010 – 2030 Fairfax General Plan, the Fairfax Town Code and the Fairfax Zoning Ordinance, Town Code Title 17; and, construction of the project can occur without causing significant impacts on neighboring residences and the environment.

The foregoing resolution was adopted at a regular meeting of the Planning Commission held in said Town, on the 28th day of July 2022 by the following vote:

AYES:  
NOES:  
ABSENT:

---

Chair Norma Fragoso

Attest:

---

David Woltering, Acting Planning Director

**From:** [Bill Engelhardt](#)  
**To:** [Kara Spencer](#)  
**Cc:** [Scott A. Stephens](#); [Linda Neal](#); [David Kendall](#); [Ella Adams](#); [Matt Adams](#); [Michael Jewett](#)  
**Subject:** Re: 43 Bay Road Hill Area Residential Development Permit  
**Date:** Wednesday, June 8, 2022 10:06:10 AM

---

Hi Kara.

Unfortunately, I won't be available for the 6/23/22 meeting. Would it be possible to get on the agenda for the next meeting, which I think will be 7/28?

With regard to the risk of having our application continued, we agree with the town's consulting engineer's assessment that the items he listed can be deferred until building permit application because they are not critical to the planning commission's review so we would like to proceed.

We have expedited the review of our VMP and expect to have an approved plan very soon.

Because we intend to match the colors of the existing house, I included an annotated photograph of the house as our "color and materials board." I think that photo, color rendering, and exterior elevations should make it fairly easy for the planning commissioners to understand what is being proposed. We would be happy to also provide manufacturer and number/name of each color, if you would like.

I'm sorry that I missed the requirement for photos of neighboring sites. I'll be happy to provide those. Is there a requirement for exactly which and how many neighbors should be included?

Thanks for your help and flexibility.

Bill Engelhardt

Engelhardt Architecture  
126 Laurel Avenue  
San Anselmo, CA 94960  
415.572.8895

On Jun 7, 2022, at 11:05 AM, Kara Spencer <[kspencer@townoffairfax.org](mailto:kspencer@townoffairfax.org)> wrote:

Hi Bill,

Staff can schedule the project for the June meeting. The caveat is that we don't have all the information that the Planning Commission is used to seeing on applications, so they

**ATTACHMENT B**

may continue the project to another meeting, so the information can be provided. Also, it may be worth noting that the information requested is based on what the Planning Commission has asked for at Planning Commission meetings over the years.

Please review the attached letter and let us know how you would like to proceed.

Best Regards,  
Kara Spencer  
Assistant Planner  
Town of Fairfax

**From:** Bill Engelhardt <[bill@en-arch.com](mailto:bill@en-arch.com)>  
**Sent:** Monday, June 6, 2022 6:04 PM  
**To:** Scott A. Stephens <[SStephens@millerpac.com](mailto:SStephens@millerpac.com)>; Kara Spencer <[kspencer@townoffairfax.org](mailto:kspencer@townoffairfax.org)>  
**Cc:** David Kendall <[marinls9405@gmail.com](mailto:marinls9405@gmail.com)>; Ella Adams <[ella.adams@mikesbikes.com](mailto:ella.adams@mikesbikes.com)>; Matt Adams <[matt.adams@mikesbikes.com](mailto:matt.adams@mikesbikes.com)>; Michael Jewett <[MJewett@millerpac.com](mailto:MJewett@millerpac.com)>  
**Subject:** Re: 43 Bay Road Hill Area Residential Development Permit

Hi Kara and Scott.

I'm just checking in to see where things stand with this. Is anything more needed at this time or can we proceed to the planning commission?

Thanks.

Bill Engelhardt

Engelhardt Architecture  
126 Laurel Avenue  
San Anselmo, CA 94960  
415.572.8895



## **TOWN OF FAIRFAX**

142 Bolinas Road, Fairfax, California 94930  
(415) 453-1584 /www.townoffairfax.org

June 7, 2022

Bill Engelhardt  
126 Laurel Avenue  
San Anselmo, CA 94960

Re: 43 Bay Road; Planning Application

Dear Bill,

Thank you for putting together the information requested by the Planning Department. Staff can take your application forward to the Planning Commission at the June 23<sup>rd</sup> Planning Commission meeting with what was provided. However, the following items required by the Town's HRD Ordinance were deferred to the building permit stage by the Town's consulting engineer: a recorded record of survey, design-level grading & drainage plan (including location/alignment of site utilities, confirmed dry well location, and site grading details), structural plans, erosion control plans, and drainage calculations. In addition, a color board that includes exterior finish/color (with manufacturer and color name and number), window trim, roof material, siding materials and colors, etc. was not provided, nor were photographs of adjacent neighboring sites. A VMP approved by Ross Valley Fire Department has not yet been received by staff. The HRD fee of \$9,800 has not been paid.

Please be advised that the Planning Commission is used to reviewing applications that contain the missing items identified above. The items referenced above are essential for property owners within 300 feet of the project site who may live out of the area and for Commissioners whose schedules may not allow time for them to perform a site visit. If you move forward without providing the information, you run the risk of having the project continued so that the required information can be provided for Planning Commission review. The Planning Commission has to make legal findings to approve a Hill Area Residential Development project. These findings include but are not limited to, the project not creating geotechnical, hydrologic, safety, or any other hazards for neighboring properties or for the public roadway improvements. The application is also supposed to give a complete picture to the Planning Commission and residents who cannot visit the site or who are not familiar with what the final project will look like. For instance, is the existing and proposed siding wood or some other material. What kind of wood is it? Is the addition and resulting house in character or out of character with the neighborhood?

If you want to go forward with what was provided, please provide a written statement indicating that you are asking staff to schedule the project for a public hearing with the information that has been provided to date and acknowledging that not all the required items in the planning application checklist have been provided.

Best Regards,

A handwritten signature in black ink, appearing to be 'Kara Spencer', written in a cursive style.

Kara Spencer  
Assistant Planner





# SALEM HOWES ASSOCIATES INC

GEOTECHNICAL CONSULTANTS

1202 Grant Avenue, Ste F  
Novato, CA 94945  
415/892-8528

REPORT  
GEOTECHNICAL INVESTIGATION

ADAMS RESIDENCE  
43 BAY ROAD  
FAIRFAX, CA.

18 SEPTEMBER 2021

ATTACHMENT C



SALEMHOWESASSOCIATES INC.  
GEOTECHNICAL ENGINEERS AND GEOLOGISTS

43 Bay Road

18 September 2021

Matt and Ella Adams  
43 Bay Road  
Fairfax, CA 94930-1520

Copy: Bill Engelhardt [bill@en-arch.com](mailto:bill@en-arch.com)

Job #: 2107039

SUBJECT: Report  
Geotechnical Investigation,  
43 Bay Road, Fairfax

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### Introduction

This report presents the results of our geotechnical investigation for the proposed addition located at the above address. It conforms to the requirements of section 1803 in the 2019

California Building Code (CBC). The purpose of our investigation was to evaluate the geotechnical feasibility of the proposed development, assess the suitability of the building site, and provide detailed recommendations and conclusions as they relate to our specialty field of practice, geotechnical engineering and engineering geology. The scope of services specifically excluded any investigation needed to determine the presence or absence of issues of economic concern on the site, or of hazardous or toxic materials at the site in the soil, surface water, ground water, or air.

If this report is passed onto another engineer for review it must be accompanied by the approved architectural and structural drawings so that the reviewer can evaluate the exploration and data in the context of the complete project. Ground conditions and standards of practice change; therefore, we should be contacted to update this report if construction has not been started before the next winter or one-year from the report date.

For us to review the drawings for compliance with our recommendations the four following notes must be on the structural drawings:

- The geotechnical engineer shall accept the footing grade / pier holes prior to placing any reinforcing steel in accordance with the CRC requirements. Notify geotechnical engineer before the start of drilling. (If that isn't stated they may require inspections in accordance with CBC Chapter 2-Definitions, "Special Inspections, Continuous". This would require a full time inspector during drilling.)
- Drainage details may be schematic, refer to the text and drawings in the geotechnical report for actual materials and installation.
- Refer to Geotechnical Report for geotechnical observation and acceptance requirements. Along with the structural drawings, to complete the review, we need the pertinent calculations from the structural engineer or the geotechnical design assumptions should be included on the drawings notes per requirements of the 2019 CBC.
- ***It is the owner's responsibility*** that the contractor knows of and complies with the BMP's (Best Management Practices) of the Regional Water Quality Control Board, available at [www.swrcb.ca.gov](http://www.swrcb.ca.gov), ↓ water quality ↓ stormwater ↓ construction

The fieldwork consisted of reconnaissance mapping of exposed geologic features on the site and in the immediate surrounding area and the drilling of a two test boring at the location of the proposed addition. The borings were advanced using a portable hydraulic drill rig with 3-inch flight augers and sampled by Standard Penetration Tests\* (see "notes to borings logs"). Fieldwork was conducted in August of 2021. During this period we reviewed select geotechnical references pertinent to the area and examined stereo-paired aerial photographs of the site, which were available from Pacific Aerial Surveys in Oakland.

### Discussion and Summary

Bedrock was encountered at depths averaging 3½ feet below grade. The bedrock will provide substantial bearing to support a footing or drilled pier type foundation, depending the type of

construction used, slab on grade or raised joists. Ground water was not encountered in the test boring.

During our investigation we did not observe any local geologic hazards that would adversely affect the site. The site is almost level and is not located in a slide or other geotechnical hazard zone. We judge that following the recommendations in this report and standard Marin County hillside construction practices a structure can be safely constructed on this site without adversely impacting the slope stability or changing the drainage in any measurable manner. Detailed discussions and recommendations are covered in the following sections of this report.

#### Geology and Slope Stability

The site has been mapped by others <sup>(1)</sup> as the Cretaceous Sandstone [Ks] member of the Franciscan Geologic Assemblage. The bedrock is described in the literature as a thinly to massively bedded sandstone that is fractured, inclined, friable where weathered and can often be bedded with shale. Rock resembling that described in the literature was encountered in both of the borings. The proposed area of addition lies between borings "A" and "B" at the eastern side of the existing residence adjacent to the existing garage upon a somewhat flat lawn area. Borings "A" and "B" encountered sandstone bedrock at three feet below thin fill at boring "A" and at four feet below thin fill and thicker residual soil. Boring "B" is also located near a utility trench as well. The fill that covers the area of addition is relatively thin up to one foot thick and is likely the topsoil horizon of the area over the years. The residual soil is relatively stiff to hard near the residence and is likely unconfined near boring "A" due the road cut and small retaining wall struggling to retain the soils. The ridge that Bay Road is located upon is mapped as sandstone as well as sheared shale and flanked on all sides by slide deposits. These slide deposits may be generalized and are likely present yet not common at the crest of the slope. Bay Road is located below the area of addition and is somewhat cut into the slope exposing weathered bedrock at the base of the cut. A small wooden garden wall retains the lawn area and area of addition and is rotating downslope somewhat due to the fill it retains.

Rice et al<sup>1</sup> mapping shows the landslides to be located on the flanks of the slope and not extending up to the ridge line. Our field mapping confirms his interpretation. The "slope stability map by Rice<sup>(1)</sup> shows the site to be located in a #2 Zone stability area." Zone 2 - Includes narrow ridge and spur crests that are underlain by relatively competent bedrock, but are flanked by steep potentially unstable slopes". The area of the proposed ADU has less than one percent slope.

Rock of this formation has been classified <sup>(1)</sup> as highly stable on natural slopes and fresh sandstone will stand in vertical cuts except where blocks slip along outward dipping joints or bedding planes. The sandstone encountered within the borings will stand up in vertical cuts for long periods of time as the rock is weak and often highly weathered. The sandstone bedrock weathers readily to a silty, non-swelling, easily erodible soil. Rock surfaces of low relief are covered with a thick layer of deeply weathered soil; however steep slopes are stripped essentially bare of soil cover. Landslides and debris flows in this formation are confined to well-developed swales and drainages where deep soil deposits have accumulated. The topographic position of this property upon the crest of a natural slope may expose it to these types of natural hazards if certain conditions are exacerbated due to over steepening of cuts, undercutting soil embankments and overloading upslope soils. During our

investigation we did not identify any geomorphic features that would indicate that any unusual geologic hazards would affect this site.

#### Ground Water

Ground water was not observed in any of the borings during our investigation. There are no surface seeps or any clusters of Pampas Grass (*Cortaderia Jubata*) or Sedge (*Cortaderia Selloana* and *Carex*) which are indicators of high ground water. However, ground water conditions vary with the seasons and annual fluctuations in weather. A general rise in ground water can be expected after one or more seasons of above average rainfall. Based on the limited time we have been able to collect ground water data on this site, it is not possible to accurately predict the range of ground water fluctuations in the future. Therefore, ground water sensitive structures such as retaining walls, basements and wine cellars should be designed to anticipate a rise in the water level that could potentially affect their function and stability. During construction it should be anticipated that ground may be encountered at the soil/rock contact.

#### Earthquake Hazards and Seismic Design

This site is not subject to any unusual earthquake hazards, located near an active fault, within a current Alquist-Priolo Special Studies Zone or Seismic Hazards Zone as shown on the most recently published maps from the California Geologic Society. There were no geomorphic features observed in the field or on air photos, or geologic features in the literature that would suggest the presence of an active fault or splay fault traces. However, historically the entire San Francisco Bay Area has the potential for strong earthquake shaking from several fault systems, primarily the San Andreas Fault which lies approximately seven miles to the southwest and the Hayward/Rodgers Creek Faults, 11 miles to the northeast. The U.S. Geologic Survey estimates <sup>(2)</sup> (we realize these percentage estimates have been up dated practically every year; however, the basic message is that we live in earthquake country and one should be prepared) there is up to 21 percent chance of a major quake (Magnitude 8) from 2000 to 2030 on the San Francisco Bay region segment of the San Andreas Fault. The probability is lower north of San Francisco and increases to the south. However, in the same period, there is a 32 percent chance of a major event (Magnitude 7) on the Hayward fault and Rodgers Creek Faults. The total 30-year probability of one or more large earthquakes occurring in the entire San Francisco region is 70 percent (see Plate 1). Based on the bedrock and soils observed at the site, we do not anticipate those seismically induced hazards, specifically: liquefaction, settlement and differential compaction, landsliding, and flooding are present. Generally speaking structures founded on bedrock fare far better during an earthquake than structures on soil, fill or bay mud.

For California Building Code design purposes on this site the top 100 feet of the ground has an average Soil Profile Site of Class B per Table 20.3-1 ASCE-7. Seismic design criteria in conformance with the latest edition of the CBC and ASCE-7 should be obtained from the USGS web site. In California, the standard of practice requires the use of a seismic coefficient of 0.15, and minimum computed Factor of Safety of 1.5 for static and 1.1 to 1.2 for pseudo-static analysis of natural, cut and fill slopes.

As a homeowner there are a number of measures one can take to limit structural damage, protect lives and valuable objects in the event of a major earthquake. To be prepared and understand the mechanics of earthquakes we strongly recommend that you purchase a very practical book entitled

"Peace of Mind in Earthquake Country" by Peter Yanev. This book is written for the homeowner and, while currently out of print, used copies are available in paperback (Chronicle Books/S.F.) from Amazon.com and other locations.

#### Foundation Conditions

Shale bedrock lies about 3½ feet below the surface in the area of the proposed construction. The depth to the top of bedrock at the location of the test borings is shown on Drawing A. The rock, albeit hard, is generally highly fractured and can normally be excavated by common means; however, hard massive areas may be encountered that could require the use of an excavator mounted "hoe ram" or core barrel.

CalOSHA regulations require shoring on cuts over five feet. Temporary slopes and shoring design are the responsibility of the contractor.

No laboratory testing was performed; since all foundations will be in rock, soil properties, such as moisture and density, do not provide any relevant engineering data for foundation design. In view of the fact that bedrock features in the Franciscan Formation can rarely be correlated over short distances, testing of small rock pieces provides no viable data for use in design. We based our recommendations on assessment of rock mass properties. During exploration in situ testing and sampling of the soil was performed by Standard Penetration Tests (ASTM D-1586)\*. We will continue to evaluate the ground conditions during excavation and modify our recommendation if warranted.

#### Design Recommendations

All foundations must bear on the unweathered sandstone/shale bedrock by footings or drilled pier. Structures with footings in the soil section above the bedrock are not recommended. The depth to rock can be interpolated from the data on Drawings A.

Structures with foundations on rock will not experience any measurable settlement and there are no conditions that require provisions to mitigate the effects of expansive soils, liquefaction, soil strength or adjacent loads. The slope setback provisions in §1808.7 of the CBC do not apply to foundations on slopes that are bottomed in bedrock. Except for seismic none of the requirements in CBC § 1803.5.11 and .12 apply.

#### Summary of Design Parameters

The design engineer should compare the topography, building elevations and geotechnical report to determine the appropriate active earth pressures and type of foundation to be used. The actual type of foundation should be determined by the architect and design engineer based on construction and economic considerations. The use of a mixed foundation design is usually a practical solution. Design parameters in this report were determined by field observations and testing and per section 1806.2 of the CBC supersede the presumptive values in the CBC table 1806.2.

- Seismic Design (See Earthquake Hazards Section)  
Soil Profile Site Class Type B, Ground motion parameters from USGS web site with site coordinates.



- Active earth pressure: (see lateral loading formula in Eq. and Seismic Design Section)  
In a Soil Section = 35 for level and 45 lbs/ft<sup>3</sup> equivalent fluid pressure for sloping backslope  
In a Rock Section = 35 lbs/ft<sup>2</sup> (pounds per square foot)
- Allowable Bearing Capacity ( $P_{allow}$ ) On Bedrock<sup>(1)</sup>  
 $P_{allow} = 0.33 * 10.0 * (\text{footing width in feet}) = (\text{kips/ft}^2)$  (Not to exceed 10.0)  
A 20-percent increase is allowed for each additional foot, beyond one-foot, of depth that the footing is excavated into the bedrock subgrade.
- Lateral Bearing In Bedrock  
Passive equivalent fluid pressure of 750 lbs/ft<sup>3</sup> and a friction factor of 0.45 to resist sliding. They may be combined and a one third increase is allowed for transitory loading.
- Pier Design (Per 2019 CBC section 1807)  
Rock passive pressure: 800 lbs/ft<sup>2</sup>/ft to calculate  $S_1$  or  $S_3$  (1.5-ft below the top of rock on slopes)  
Adhesion: (skin friction) 900 lbs/ft<sup>2</sup> (In the rock)
- Tiebacks  
Refer to Table 1
- Foundation Drainage  
Include items in "Drainage Check List"

Details on the application of these design values are included in the following sections of this report.

#### Drilled Piers (CIDH)

Drilled, cast-in place, reinforced concrete piers should be a minimum of 18 inches in diameter and should extend at least six feet into competent bearing stratum as determined by the Engineer in the field. The structural engineer may impose additional depths. The piers shall extend into the bearing stratum six feet below a 30° line projected up from the bottom of the nearest cut slope or bank. Piers should be designed to resist forces from the gravitational creep of the soil layer. The height of the piers subject to the creep forces is equal to the depth to the top of rock. For design purposes this may be, interpolated from the data on Drawing A. Creep forces should be calculated using an equivalent fluid pressure<sup>(3)</sup> of 45 lbs/ft<sup>3</sup> acting on two pier diameters. Because the rock and soil are discontinuous media, for geotechnical considerations, the piers should have a nominal spacing of eight feet or less on center and connected by tie and grade beams in a grid like configuration. The piers should be no closer than two-diameters, center to center. In general, isolated interior and deck piers should be avoided. Normally end bearing should be neglected (see conditions below).

Piers should be designed by the formula in section 1807 of the 2019 CBC, with 'P' equal to the soil creep forces between the surface and top of rock (plus any lateral loads from the structure) and 800 lbs/ft<sup>2</sup>/ft used to calculate ' $S_1$ ' or ' $S_3$ '. **Note** that in this formula 'b' is the actual diameter of the pier not a multiple and 'h' is measured from the point of fixity. These values are not appropriate for other methods of design. The structural engineer should contact us for the applicable values if another method of pier design is to be used.

**Note:** (The value used to calculate "s" for the fractured bedrock was selected by rock mass classification and conservatively assuming the bedrock to be a dense gravel with a  $\phi = 50^\circ$  <sup>(4)</sup> then equating the results of Bowles<sup>(3)</sup> design for cantilevered sheet piles in a granular soil to the CBC formula. Since bed rock features in the Franciscan Formation can rarely be correlated over short distances, testing of small rock pieces provides no viable data for design. Using these values to calculate "s" in the CBC formula results in a conservative pier depth calculation. The "s" values are not passive pressure in the technical soil mechanics sense; they are only related to the CBC formula)

We judge that when piers are in a full rock cut or the tops are connected by rigid moment connections, in the upslope-downslope direction, fixity occurs at the rock surface and the conditions result in a constrained top of the pier. For this case the depth may be calculated by using the CBC formula in section **1807.3.2.2 Constrained**.

#### Design Parameters

Depth of fixity below top of bedrock surface for a sloping area:	1.5 feet
Soil active pressure on pier	45 lbs/ft <sup>3</sup> on 2 Ø
Rock active pressure:	$K_a = 0.0$
Rock passive pressure:	800 lbs/ft <sup>2</sup> /ft to calculate $S_1$ or $S_3$
Adhesion: (skin friction)	900 lbs/ft <sup>2</sup>

*Neglect adhesion in the soil section*

The values recommended for the calculation of "S" incorporate a factor of safety. There is no requirement for the retaining wall designer to add an additional factor of safety for overturning.

Piers drilled into bedrock are completely confined and should not be designed as columns; there is no shear in the pier below the rock surface.

In order for these strength values to be realized, the sides of the pier holes must be scaled of any mudcake.

End bearing may be used if the bottoms of the holes are thoroughly cleaned out with a "PG&E" spoon or other means. Drilled piers may be any convenient diameter that allows for readily cleaning the bottom of the holes. The end allowable bearing capacity may be determined as follows:<sup>(1)</sup>

$$P_{\text{allow.}} = 0.33 * 10.0 * (\text{pier width in feet}) = (\text{kips/ft}^2) \quad (\text{Not to exceed } 10.0)$$

Bearing may be increased 10 percent of the allowable value for each foot of depth extending below one foot of the rock surface.

Notice: We will not accept the foundation for concrete placement if the pier holes are over 48 hours old and will require that they be redrilled. One should plan ahead and have the pier cages assembled prior to drilling the holes so that there is no delay in placing the concrete. The contractor may submit plans for remedial measures, such as spraying or covering the excavation, to extend this time period. However, acceptance is always subject to the condition of the foundation grade immediately prior to the pour.

Ground water may be encountered in the drilled pier holes and it may be necessary to dewater, case the holes and/or place the concrete by tremie methods. All construction water displaced from the pier holes must be contained on site and filtered before discharging into the storm water system or natural drainages. Hard drilling will be necessary to reach the required depths. The contractor should be familiar with the local conditions in order to have the appropriate equipment on hand. The rock to be encountered in the drilling can be observed in outcrops in the area.

#### Footings

Footing foundations may only be used where the entire footing is excavated into unweathered rock.

For retaining wall footings the toe of the footing must be excavated into rock, if a keyway is not used the top of the toe must have three feet of horizontal confinement in the unweathered rock.

As a minimum, spread footings should conform to the requirements of Section 1809 of the CBC except that for foundations bottomed on rock the "Depth below Undisturbed Ground Surface" in the Table shall be interpreted as to mean "The Depth below the Top of Weathered Rock". The footings should be stepped as necessary to produce level bottoms and should be deepened as required to provide at least 10 feet of horizontal confinement between the footing base and the edge of the closest slope face. Stepped footing configuration per 1809.3 shall be accepted by the soil engineer. In addition, the base of the footing should be below a 30 degree line projected upward from the toe of the closest cut slope or excavation. For geotechnical considerations, since rock and soil are discontinuous media, footings should be connected up and downslope in a grid like fashion by tie beams. Isolated interior and deck footings should be avoided.

The maximum allowable bearing pressure for dead loads plus Code live loads for footing type foundations bottomed in rock can be determined by the following formula<sup>(1)</sup> :

$$P_{\text{allow.}} = 0.33 * 10.0 * (\text{footing width in feet}) = (\text{kips/ft}^2) \quad (\text{Not to exceed } 10.0)$$

A 20-percent increase is allowed for each additional foot, beyond one-foot, of depth that the footing is excavated into the subgrade. The portion of the footing extending into the undisturbed subgrade may be designed with a coefficient of passive earth pressure ( $K_p$ ) equal to 6.0 with rock unit weight of 130 lbs/ft<sup>3</sup> or a passive equivalent fluid pressure of 750 lbs/ft<sup>3</sup> and a friction factor of 0.45 to resist sliding. Lateral bearing and lateral sliding may be combined and a one third increase is allowed for transitory loading.

Note: (The allowable bearing pressure was based on visual rock mass classification and one-half the presumptive value in NAVFAC DM-7.2 Table 1<sup>(1)</sup> for this rock type; lateral bearing was calculated assuming  $\theta = 45^\circ$  and  $\gamma = 130 \text{ lbs/ft}^3$ )

### Retaining Walls

All retaining walls should be supported on rock by piers or spread footing type foundations. Design parameters for retaining wall foundations are covered under the appropriate section for footings or drilled piers. The toe of footing type retaining walls should be excavated below grade and the concrete poured against natural ground, the toe should not be formed.

Retaining walls supporting *sloping soil slopes* or the soil portion of the cut above the rock contact should be designed for a coefficient of active *soil* pressure ( $K_a$ ) equal to 0.41, or an equivalent fluid pressure of 45 lbs/ft<sup>3(4)</sup>. Level backslope may use 35 lbs/ft<sup>3</sup> for active pressure. For seismic loading from the soil portion of the cut, refer to the previous section on Seismic Design. Since the backfill never truly provides rigid support that prevents mobilization of the active pressure, this value is appropriate for normal or restrained walls. Based on the principles of Rock Mechanics, when protected from erosion intact bedrock does not produce an active fluid pressure with a triangular distribution; therefore, the portion of any wall *supporting a rock backslope may be designed for a nominal pressure of 35 lbs/ft<sup>2</sup>* (yes, that is square feet). See Drawing A for the depth of the soil layer. Any wall where the backfill is subject to vehicular loads within an area defined by a 30-degree (from vertical) plane projected up from the base of the wall or *top of bedrock*, should have the design pressure increased equivalent to a 200-lbs/ft<sup>2</sup> ( $q'$ ) surcharge. In this case if a uniform surcharge load  $q'$  acts on the soil behind the wall it results in a pressure  $P_s$  in lbs/ft. of wall equal to:

$$P_s = q' * (\text{height of wall}) * K_a \text{ (where } K_a \text{ is taken as 0.41)}$$

It acts midway between the top and bottom of the wall. Or the design height of wall may be increased two feet to account for the surcharge.

When determining wall loads the civil structural engineer should consult with us if using a proprietary design program to be sure the soil loads are appropriately applied.

Allowable foundation bearing and lateral resistance to sliding should be obtained from the formulae in the respective sections on pier or footing foundations. The factor of safety may be reduced to 1.1 for combined static and dynamic loading.

If the shoring is constructed with rock bolts (see following sections), reinforced shotcrete may be used in lieu of structural concrete walls. Conventional concrete structural retaining walls may be constructed without forming by using shotcrete and chimney drains. However, complete waterproofing with this system is very difficult and one should consult a waterproofing specialist.

Piers for 'garden' type walls (supporting only landscaping) founded in the stiff soil may be designed using the criteria in section 1807.3.2.1 (Equation 18-1) of the CBC, with an allowable lateral bearing pressure of 200 lbs/ft<sup>2</sup>/ft of depth to calculate  $S_1$ . Also Marin County Standard Type A, B or C may be used<sup>(3)</sup>.

All retaining walls should have a backdrainage system consisting of, as a minimum, drainage rock in a filter fabric (e.g. Mirafi™ 140N) with at least three inch diameter perforated pipe laid to drain by gravity. If Caltrans specification Class 2 Permeable is used the filter fabric envelope may be omitted. The pipe should rest on the ground or footing with no gravel underneath. **The pipe should be rigid drainpipe, 3000 triple wall HDPE, 3 or 4 inch ID, ASTM F810 or Schedule 40.** Pipes with perforations greater than 1/16 inch in diameter shall be wrapped in filter fabric. A bentonite seal should be placed at the connection of all solid and perforated pipes. All backdrainage shall be maintained in a separate system from roof and other surface drainage. The two systems may be joined two-feet in elevation below the lowest backdrain at a bubbler to prevent surface water from backing up and into the backdrainage system. Cleanouts should be provided at convenient locations, per §1101.12 of the CPC; however, that is a plumbing and maintenance consideration and not a geotechnical concern.

Retaining walls which are adjacent to living areas should have additional water proofing such as three dimensional drainage panels and moisture barriers (e.g. "Miradrain™ 6000" panels and "Paraseal™") and the invert of the drainage pipe should be a minimum of four inches below the adjacent interior finished floor or crawl space elevation. Drainage panels should extend to 12 inches below the surface and be flashed to prevent the entry of soil material. The heel of the retaining wall footing should be sloped towards the hill to prevent ponding of water at the cold joint; the drainage pipe should be placed on the lowest point on the footing. The backslope of the retaining walls should be ditched to drain to avoid infiltration of surface run-off into the backdrainage system. All waterproofing materials must be installed in strict compliance with the manufacturer's specifications. A specialist in waterproofing should be consulted for the appropriate products, we are not waterproofing experts and do not design waterproofing, we only offer general guidelines that cover

the geotechnical aspect of drainage. We have worked with Division 7 in Novato for waterproofing design services.

#### Geotechnical Considerations for Slab on Grade Construction

Slab on grade construction which spans cut and fill or rock and soil sections will settle differentially and crack. Therefore this type of construction is not recommended for living areas or garages unless the areas are completely excavated into rock or underlain by compacted fill or the slab is designed as a structural slab. If the slab is underlain by a wedge of fill or natural soil over rock a floating slab will still settle differentially, sloping towards the thickest section of fill. Because the loads on a floating slab are usually small the settlement may be negligible.

At the slab-on-grade location remove loose deleterious substances such as expansive clay, rubbish, and organic, perishable or uncompactable material. Compact the footing bottom with a "jumping jack" hand compactor. This applies to larger areas such as the sub-base for slabs-on-grade. If soft areas of soil are encountered at foundation grade they should be overexcavated to firm material as directed by the engineer and backfilled to grade with Caltrans Specification Class 2 Material. All fill densities should be verified by testing procedures ASTM D-1556 and D-1557, or ASTM D-2292 and D-3017 (Nuclear Method).

The base for slabs on grade should consist of a 4-inch capillary moisture break of clean free draining crushed rock or gravel with a gradation between 1/4 and 3/4 inch in size. The base should be compacted by a vibratory plate compactor to 90 percent maximum dry density as determined by ASTM D-1557. A 10-mil impermeable membrane moisture vapor retarder should be placed on top of the gravel. An under-slab drain system, as shown on the attached drawing, should be installed in/under the drainrock. The gravel should be "turned down" by a vibratory roller or plate to provide a smooth surface for the membrane. Recycled material is never acceptable.

Where migration of moisture vapor would be undesirable (e.g. under living spaces and areas covered by flooring) a "true" under-slab vapor barrier, such as "Stego® Wrap", should be installed. In this case one should consult an expert in waterproofing, our recommendations only apply to the geotechnical aspect of drainage and do not address the prevention of mold or flooring failures.

The top of the membrane should be protected during construction from puncture. Any punctures in the membrane will defeat its purpose. The contractor is responsible for the method of protecting the membrane and concrete placement. *Drains and outlets should be provided from the slab drain rock.* (See attached Drawing for Typical Under-slab Drains)

#### Cuts and Fills

Unsupported cuts and fills are generally not recommended for this site. Fills behind retaining walls should be of material approved by the geotechnical engineer and compacted to a maximum dry density [MDD] of 90 percent as determined by ASTM D-1157. Fills underlying pavements shall have the top 12 inches compacted to 95 percent MDD. Unclassified landscape fills need only be compacted to 80-percent MDD. After clearing and grubbing native soil (if accepted by the engineer) underlying pavements and hardscape shall be scarified to a depth of 12-inches and compacted to 90-percent MDD. Structural fills shall be compacted to 90-percent MDD and placed under the direction of the geotechnical engineer.

For fill specifications in utility trenches refer to the project civil drawings. Do not use standard PG&E trench specifications, as the trench will act as a drain and has caused landslides.

#### Geotechnical Drainage Considerations

These recommendations apply to the geotechnical aspect of the drainage as they affect the stability of the construction and land. They do not include site grading and area drainage, which is within the design responsibility of civil engineers and landscape professionals. The civil and landscape professionals should make every effort to comply with the Marin County "Stormwater Quality Manual for Development Projects In Marin County" by the Marin County Stormwater Pollution Prevention Program (MCSTOPPP [www.mcstoppp.org](http://www.mcstoppp.org)) and Bay area Stormwater Management Agencies Association (BASMAA [www.basmaa.org](http://www.basmaa.org)) when possible.

The site should be graded to provide positive drainage away from the foundations at a rate of 5 percent within the first ten feet (per requirements of the CBC section 1804.3). All roofs should be equipped with gutters and downspouts that discharge into a solid drainage line. Gutters may be eliminated if roof runoff is collected by shallow surface ditches or other acceptable landscape grading. All driveways and flat areas should drain into controlled collection points and all foundation and retaining walls constructed with backdrainage systems. Surface drainage systems, e.g. roofs, ditches and drop inlets *must be maintained separately* from foundation and backdrainage systems. The two systems may be joined into one pipe at a drop-inlet that is a minimum of two feet in elevation below the invert of the lowest back or slab drainage system. A bentonite seal should be placed at the transition point between drainpipes and solid pipes.

One should observe the ponding of water during winter and consult with your landscape professional for the location of surface drains and with us if subdrains are required.

All drop inlets that collect water contaminated with hydrocarbons (e.g. driveways) should be filtered before discharged into a natural drainage.

All cross slope foundations should have backdrainage. In compliance with section 1805.4.2 of the CBC foundation drains should be installed around the perimeter of the foundation. On sloping lots only the upslope foundation line requires a perimeter drain. Interior and downslope grade beams and foundation lines should be provided with weep holes to allow any accumulated water to pass through the foundation. The top of the drainage pipe should be a minimum of four inches below the adjacent interior grade and constructed in accordance with the attached Typical Drainage Details. All drainpipes should rest on the bottom of the trench or footing with no gravel underneath. Drain pipes with holes greater than 1/8-inch should be wrapped with filter fabric, if Class 2 Permeable is used, to prevent piping of the fines into the pipe. If drain rock, other than Class 2 Permeable, is used the entire trench should be wrapped with filter fabric to prevent the large pore spaces in the drain rock from silting up. On hillside lots it may not be possible to eliminate all moisture from the substructure area and some moisture is acceptable in a well-ventilated area. Site conditions change due to natural (e.g. rodent activity) and man related actions and during years of below average rainfall, future ground water problems may not be evident. One should expect to see changes in ground water conditions in the future that will require corrective actions.

All surface and ground water collected by drains or ditches should be dispersed across the property below the structure. Since a legally recognized storm drainage system is not present downslope, we recommend that your attorney be consulted to determine the legal manner of discharging drainage from the roof and surface area drains. It should be noted that improperly discharged concentrated drainage might be a source of liability and litigation between adjacent property owners. The upslope property owner is always responsible to the adjacent lower property owner for water, collected or natural, which may have a physical effect on their property.

One suggestion is that water from drains or ditches should be naturally dissipated across the surface of the slope along a length equal to that of the collected area. Some engineers believe that a buried dispersal system might increase the risk of slope instability and surficial soil sliding. There are numerous civil engineering and landscape solutions to the dispersal of surface water; some are more aesthetically pleasing than others, for instance the dispersion pipe can be located behind garden walls or in shrubbery. We should discuss possible solutions with your landscape professional at an appropriate time. Suggested dispersion field details are attached. When it is not possible to locate outfalls in an established drainage, there is a risk that sloughing may occur. The owner should be diligent in maintaining the energy dissipating riprap and correcting minor slumps as they occur. The upslope property owner is always responsible to the adjacent lower property owner for water, collected or natural, which may have a physical effect on their property.

All laterals carrying water to a discharge point should be SDR 35, Schedule 40 or 3000 triple wall HDPE pipe, depending on the application and should be buried. 'Flex pipe' is never acceptable. Cleanouts for stormwater drains should be installed in accordance with §1101.12 of the CPC, without pressure testing. However, this is not a geotechnical consideration and is the responsibility of the drainage contractor.

Retaining walls should be graded to prevent water from running down the face of the slope. Diverted water should be collected in a lined "V" ditch or drop inlet leading to a solid pipe.

If the crawl space area is excavated below the outside site grade for joist clearance, the crawl space will act as a sump and collect water. If such construction is planned, the building design must provide for *gravity or pumped drainage from the crawl space*. If it is a concern that moisture vapor from the crawl space will affect flooring, a specialist in vapor barriers should be consulted, we only design drainage for geotechnical considerations.

The owner is responsible for periodic maintenance to prevent and eliminate standing water that may lead to such problems as dry rot and mold.

Construction grading will expose weak soil and rock that will be susceptible to erosion. Erosion protection measures must be implemented during and after construction. These would include jute netting, hydromulch, silt barriers and stabilized entrances established during construction. Typically fiber rolls are installed along the contour below the work area. Refer to the current ABAG<sup>(9)</sup> manual for detailed specifications and applications. Erosion control products are available from Water Components in San Rafael. The ground should not be disturbed outside the immediate construction area. Prevention of erosion is emphasized over containment of silt. Post construction erosion control is the responsibility of your landscape professional. ***It is the owner's responsibility*** that the

contractor knows of and complies with the BMP's (Best Management Practices) of the Regional Water Quality Control Board, available at [www.swrcb.ca.gov](http://www.swrcb.ca.gov), ↓ water quality ↓ stormwater ↓ construction. In addition, summer construction may create considerable dust that should be controlled by the judicious application of water spray. After construction, erosion resistant vegetation must be established on all slopes to reduce sloughing and erosion this is the responsibility of a landscape professional. Periodic land maintenance should be performed to clean and maintain all drains and repair any sloughing or erosion before it becomes a major problem.

#### Drainage Checklist

Before submitting the project drawings to us for review the architect and structural engineer should be sure the following applicable drainage items are shown on the drawings:

- Under-slab drains and outlets
- Crawl space drainage
- Cross-slope footing and grade beam weep holes
- Retaining wall backdrainage pipes with no gravel under the pipes
- Top of retaining wall heel sloped towards rear at 1/8 - inch per foot
- Drain pipe located at lowest part of footing
- Invert of foundation drains located 4-inches below interior grade
- No gravel under any drainpipe
- Upslope exterior foundation drains
- Drains installed in accordance with §1101.12 of the CPC
- Bentonite seals at drainpipe transition to solid pipe
- Proper installation of the drainage panels
- Outfall details and location

In lieu of the above details actually being shown on the drawings there may be a:

- **Note on the structural drawings:** "Drainage details may be schematic and incomplete, refer to the text and drawings in the geotechnical report for actual materials and installation"

#### Construction Observations

In order to assure that the construction work is performed in accordance with the recommendations in this report, SalemHowes Associates Inc. must perform the following applicable inspections. We will provide a full time project engineer to supervise the foundation excavation, drainage, compaction and other geotechnical concerns during construction and accept the footing grade / pier holes prior to placing any reinforcing steel in accordance with the CRC or CBC Section 1702-Definitions and Table 1704.9 continuous inspections for drilled piers and earthwork, if required. Otherwise, if directed by the Owner, these inspections will be performed on an "periodic as requested basis" by the Owner or Owner's representative. We will not be responsible for construction we were not called to inspect. In this case it is the responsibility of the Owner to assure that we are notified in a timely manner to observe and accept each individual phase of the project.

#### Key Observation Points

- Map excavations in progress to identify and record rock/soil conditions.
- Observe and accept pier drilling and final depth and conditions of all pier holes. *We must be on site at the start of drilling the first hole.* We will perform special inspections in



accordance with the CRC or, unless otherwise required by the building official, CBC Chapter 2-Definitions, "Special Inspections, Continuous".

- Accept final footing grade prior to placement of reinforcing steel.
- Accept subdrainage prior to backfilling with drainage rock.
- Accept drainage discharge location.

#### Additional Engineering Services

We should work closely with your project engineer and architect to interactively review the site grading plan and foundation design for conformance with the intent of these recommendations. We should provide periodic engineering inspections and testing, as outlined in this report, during the construction and upon completion to assure contractor compliance and provide a final report summarizing the work and design changes, if any.

Any engineering or inspection work beyond the scope of this report would be performed at your request and at our standard fee schedule.

#### Limitations on the Use of This Report

This report is prepared for the exclusive use of Matt and Ella Adams and their design professionals for construction of the design and construction of the proposed new residence. This is a copyrighted document and the unauthorized copying and distribution is expressly prohibited. Our services consist of professional opinions, conclusions and recommendations developed by a Geotechnical Engineer and Engineering Geologist in accordance with generally accepted principles and practices established in this area at this time. This warranty is in lieu of all other warranties, either expressed or implied.

All conclusions and recommendations in this report are contingent upon SalemHowes Associates being retained to review the geotechnical portion of the final grading and foundation plans prior to construction. The analysis and recommendations contained in this report are preliminary and based on the data obtained from the referenced subsurface explorations. The borings and exposures indicate subsurface conditions only at the specific locations and times, and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between such locations. The validity of the recommendations is based on part on assumptions about the stratigraphy made by the geotechnical engineer or geologist. Such assumptions may be confirmed only during earth work and foundation construction for deep foundations. If subsurface conditions are different from those described in this report are noted during construction, recommendations in this report must be re-evaluated. It is advised that SalemHowes Associates Inc. be retained to observe and accept earthwork construction in order to help confirm that our assumptions and preliminary recommendations are valid or to modify them accordingly. SalemHowes Associates Inc. cannot assume responsibility or liability for the adequacy of recommendations if we do not observe construction.

In preparation of this report it is assumed that the client will utilize the services of other licensed design professionals such as surveyors, architects and civil engineers, and will hire licensed contractors with the appropriate experience and license for the site grading and construction.

We judge that construction in accordance with the recommendations in this report will be stable and that the risk of future instability is within the range generally accepted for construction on hillsides in the Marin County area. However, one must realize there is an inherent risk of instability associated with all hillside construction and, therefore, we are unable to guarantee the stability of any hillside construction. For houses constructed on hillsides we recommend that one investigates the economic issues of earthquake insurance.

In the event that any changes in the nature, design, or location of the facilities are made, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by SalemHowes Associates Inc. We are not responsible for any claims, damages, or liability associated with interpretations of subsurface data or reuse of the subsurface data or engineering analysis without expressed written authorization of SalemHowes Associates Inc. Ground conditions and standards of practice change; therefore, we should be contacted to update this report if construction has not been started before the next winter.

We trust this provides you with the information required for your evaluation of geotechnical properties of this site. If you have any questions or wish to discuss this further please give us a call.

Prepared by:

SalemHowes Associates, Inc.  
A California Corporation

Reviewed by:



E Vincent Howes  
Geotechnical Engineer  
GE #965 exp. 31 Mar 22

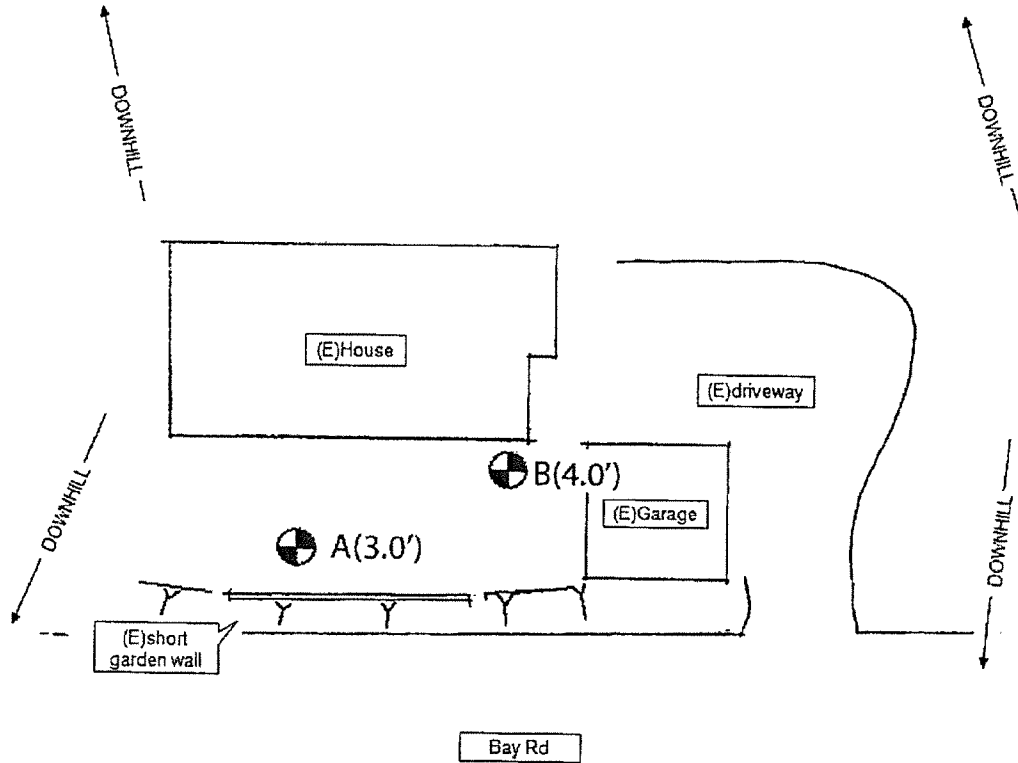


Attachments: Drawing A, Site Plan and Location of Test Borings  
Typical Under-slab Drains  
Typical Drain Detail  
Typical Dispersion Field Details  
Typical Retaining Wall Drainage  
Logs of Test Borings  
Plate 1, San Francisco Bay Region Earthquake Probabilities


References: General: 2019 California Building Code and Residential Building Code

- <sup>(1)</sup> Rice, Salem J; Smith, Theodore C and Strand, Rudolph G.; Geology for Planning Central and Southeastern Marin County, California. California Divisions of Mines and Geology, 1976 OFR 76-2 SF.
- <sup>(2)</sup> USDA, Soil Conservation Service, Soil Survey of Marin County California, March 1985
- <sup>(2)</sup> U.S. Geological Survey, Probabilities of Large Earthquakes in the San Francisco Bay Region, 2000 to 2030, Open-File Report 99-517, 1999
- <sup>(3)</sup> California Department of Conservation, Division of Mines and Geology, Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada, February 1988, International conference of Building Officials
- <sup>(4)</sup> Department of the Navy, Naval Facilities Engineering Command, Soil Mechanics, Design Manual 7.1, 7.2, (NAVFAC DM-7) May 1982,
- <sup>(5)</sup> Uniform Construction Standards, most recent edition, Marin County Building Department
- <sup>(6)</sup> Leps, Thomas M., Review of Shearing Strength of Rockfill, Journal of the Soil Mechanics and Foundation Division, Proc. ASCE, Vol.96 No.SM4, July 1970, pp1159
- <sup>(7)</sup> Bowles, Joseph, E., Foundation Analysis and Design, fourth edition, McGraw-Hill, 1988 pg. 614
- <sup>(8)</sup> Seed, H.B. and Whitman, R.V. (1970) Design of Earth Structures for Dynamic Loads. Lateral Stresses in the Ground and Design of Earth Retaining Structures, ASCE, Cornell University
- <sup>(9)</sup> Association of Bay Area Governments (ABAG), Manual of Standards for Erosion & Sediment Control Measures. Most recent edition. Storm Water Quality Task Force, California Storm Water Best Management Practice Handbooks, Construction Activity, March 1993.
- <sup>(10)</sup> USGS web site at <http://earthquake.usgs.gov/research/hazmaps/design>  
Terzaghi and Peck 1967 *Soil Mechanics in Engineering Practice* 2<sup>nd</sup> ed, Wiley and Sons, NY  
Teng, W.C. 1962 *Foundation Design*, Prentice-Hall, Englewood Cliffs, N.J.

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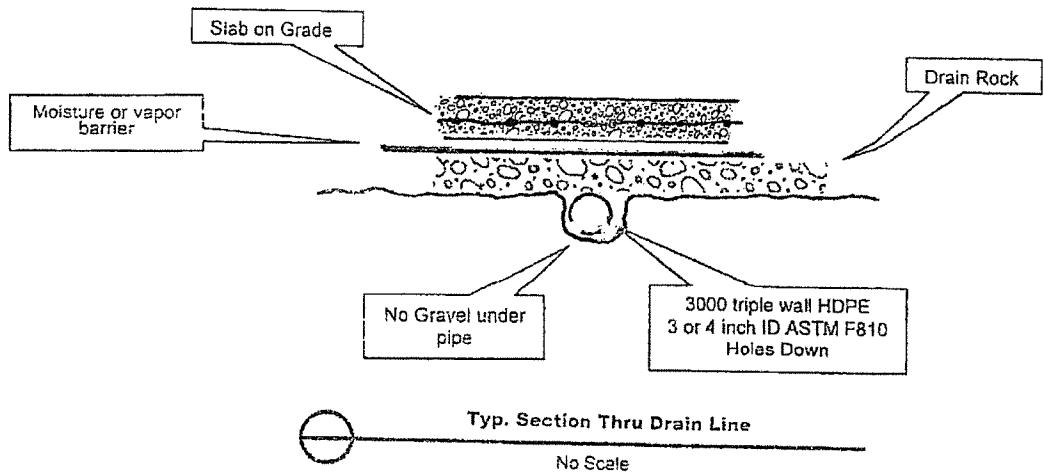
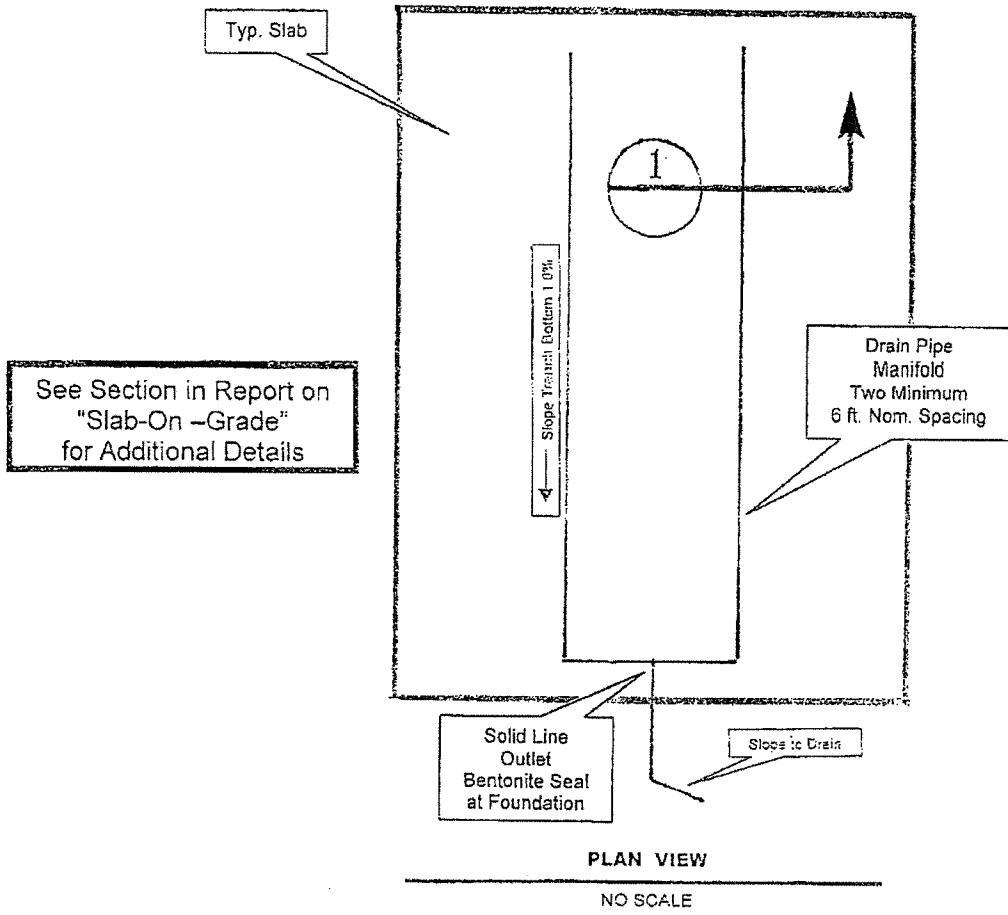
LEGEND

 Location of test boring  
(n) Depth to rock in feet



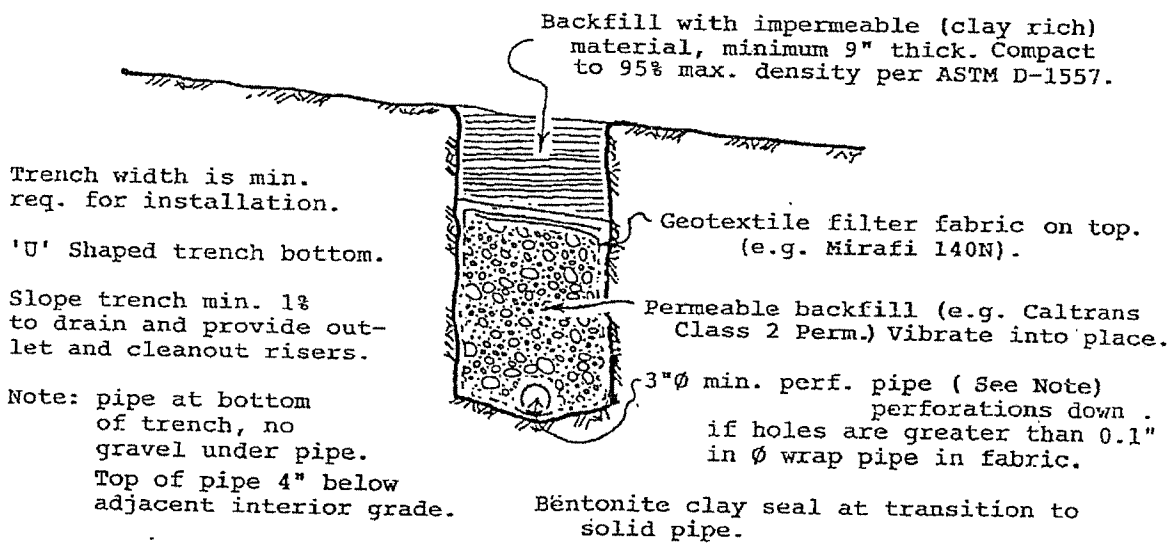
SITE PLAN AND LOCATION OF TEST BORINGS

SKETCH == S.A.D.



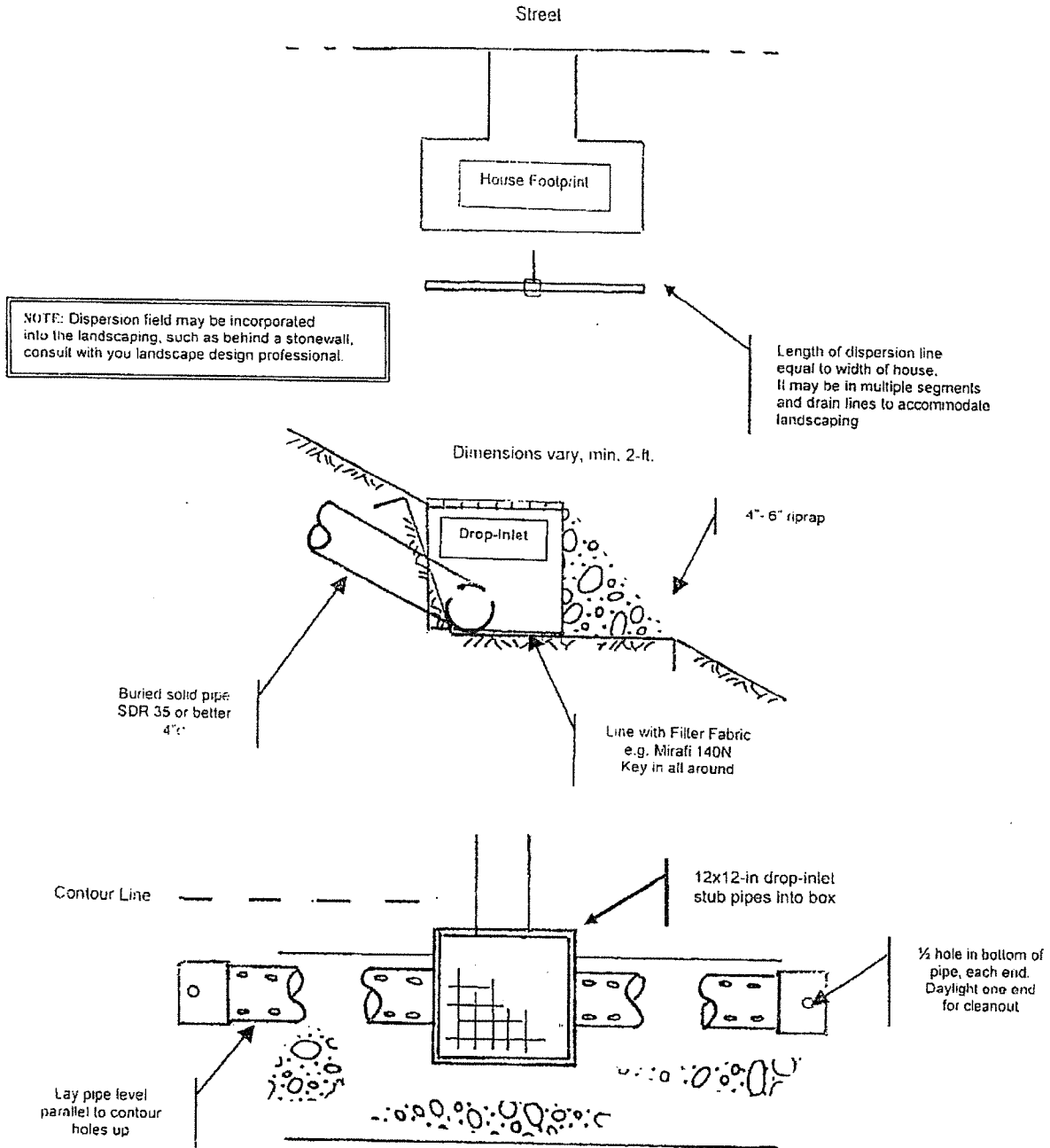
**TYPICAL UNDERSLAB DRAINS**

NO SCALE



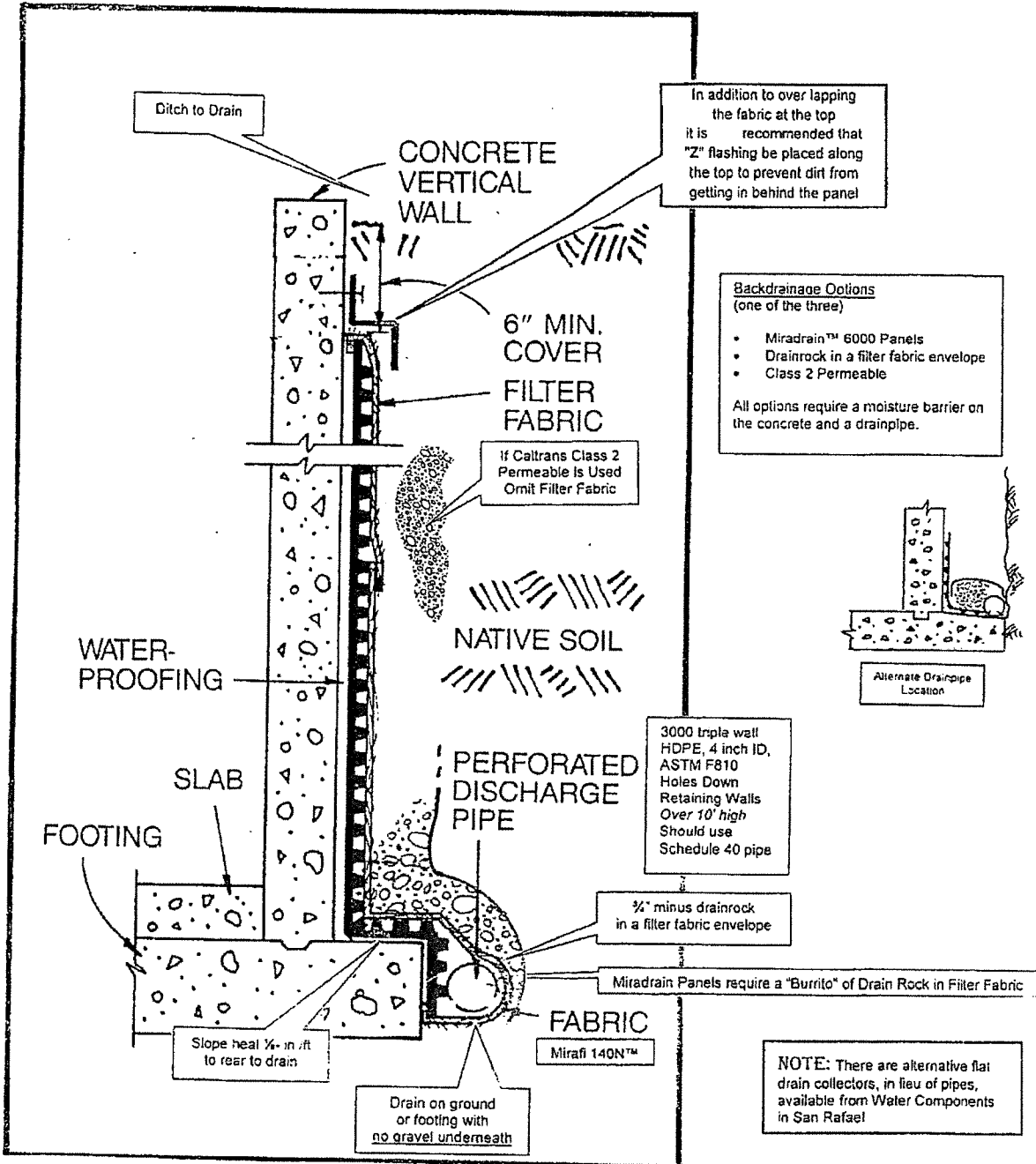
NOTE: We recommend rigid drainpipe 3000 triple wall HDPE, 3 or 4 inch ID, ASTM F810.

TYPICAL DRAIN DETAILS



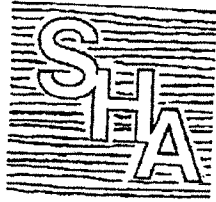
**SKETCH-TYPICAL DISPERSION FIELD DETAILS**

NO SCALE



TYPICAL RETAINING WALL DRAINAGE DETAILS





**PROJECT:** 43 Bay Rd      **BORING:** A  
**ENGINEER:** E. V. Howes      **LOGGED BY:** J. Gillis  
**JOB # :** 2107039      **DATE:** 24 August 2021

PLASTICITY INDEX (PI)	LIQUID LIMIT	SAMPLE TYPE	(N) Blows Per foot	DEPTH (feet)	WATER LEVEL	DESCRIPTIVE LOG	GRAPHIC LOG	REMARKS
				1		FILL [Qaf] 0.0'-1.5' loose, grayish brown silty to silty clayey [ML-CL] soil behind short garden wall. very dry, trace sandstone clast		Top of rock 3.0' SANDSTONE [Ks]
		SPT	38	2				
				3				
				4		SANDSTONE [Ks] 3.0'-4.5' hard, weathered, fractured and friable fine to medium grained sandstone. dry, no rooting		
				5		End of Log		
				6				
				7				
				8				
				9				
				10				
				11				
				12				
				13				
				14				
				15				
				16				
				17				
				18				
				19				
				20				
				21				

Ground water was not Encountered in boring

**DRILLED BY:** TransBay      **EQUIPMENT:** Portable Hydraulic  
**BORING SIZE:** 3"      **SHEET:** 1 of 1



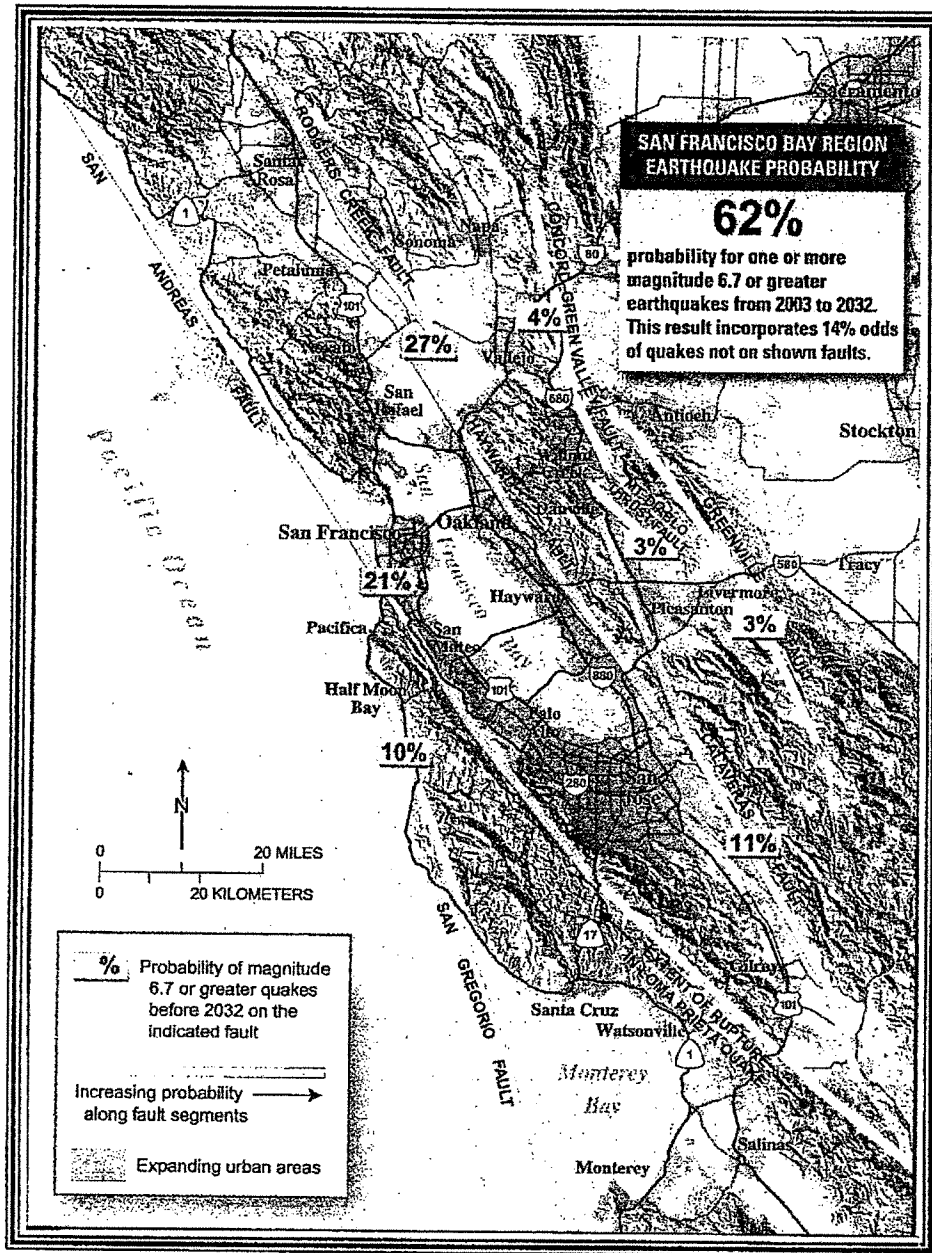
## Notes to Boring Logs

- 1) Soil designations in this report conform to the Unified Soil Classifications per ASTM D22487, Classification of Soil for Engineering Purposes. Rock classifications conform to NAVFAC DM-7.
- 2) The SPT, Standard Penetration Test, is made using a standard 2" OD - 1.375" ID sampler driven by a 140# hammer falling 30" (per ASTM D-1586). A MPT, Modified penetration Test, is made using the same standard sampler driver by a 70# hammer falling 30". Other sampler and hammer size data for information only. TW indicates a Thin Wall sampler. The sample is driven 18" and the number of blows required to penetrate the last 12" is indicated on the log. "REF" (refusal) indicates the number of blows required to penetrate 6" exceeded 50.
- 3) Borehole and test pit data are considered representative of the subsurface condition only for the time and location at which the data were obtained. Interpretation or extrapolation of these data represent an exercise in judgment based on education and experience and is not warranted as precisely representing subsurface conditions at all locations. During construction variations will be observed in the field and field design changes should be expected.
- 4) PP indicates in situ measurements made by a standard pocket penetrometer in tons per square foot unconfined compressive strength.  
TV indicates in situ measurements made by a Torvane in kilograms per square centimeter.
- 5) LL indicates the Liquid Limit of soils and  
PI indicates the Plasticity Index of soils per ASTM D-4318  
Quc indicates the unconfined compressive strength per  
ASTM D-2166  
TX/UU indicates an Unconsolidated Undrained Triaxial Test,  
Confinement pressure/Ultimate strength in psf.  
DD indicates dry density in pcf.  
mc indicates moisture content in percent.
- 6) Qaf = artificial fill  
Ks = sandstone-shale bedrock

Topsoil: The fertile, dark-colored organic surface soil

Residual Soil- Soil formed in place by the disintegration and decomposition of the rocks and the consequent weathering of the mineral materials. Presumably developed from the same kind of rock as that on which it lies.

Bedrock- The solid rock that underlies gravel, soil, or other superficial material. The top of the continuous rock deposits of the earth's mantle.



Using newly collected data and evolving theories of earthquake occurrence, U.S. Geological Survey (USGS) and other scientists have concluded that there is a 62% probability of at least one magnitude 6.7 or greater quake, capable of causing widespread damage, striking somewhere in the San Francisco Bay region before 2032. A major quake can occur in any part of this densely populated region. Therefore, there is an ongoing need for all communities in the Bay region to continue preparing for the quakes that will strike in the future.

Plate 1, San Francisco Bay Region Earthquake Probabilities



May 31, 2022  
File: 201.213altr.doc

Town of Fairfax  
Planning and Building Services Department  
142 Bolinas Avenue  
Fairfax, California 94930

Attn: Ms. Linda Neal, Principal Planner

Re: **Revised** First Planning-Level Geologic, Geotechnical, and Civil Engineering Review  
Two-Story Addition to Existing Single-Family Residence  
43 Bay Road (APN 001-111-18)  
Fairfax, California

### Introduction

In response to your request and in accordance with our agreement dated March 20, 2018, this letter summarizes our first planning-level review of project plans and supporting documentation for the planned two-story addition to the existing single-family residence at 43 Bay Road (APN 001-111-18) in Fairfax, California. The purpose of our services is to review the submitted documents, comment on the completeness and adequacy of the submittal in consideration of Town requirements, and to provide a recommendation to Town Planning staff regarding project approval.

The scope of our services to date has included:

- A site reconnaissance to observe existing conditions and review proposed development features;
- Development of opinions regarding project compliance with applicable Town Hill Area Residential Development Overlay Zone requirements; and
- Development of recommendations to Town staff as to whether the project may be safely constructed in consideration of any geologic, hydrologic, or geotechnical hazards.

The purpose of our current review is to determine whether all planning-level geotechnical comments and conditions of approval are appropriately reflected by the building plans. It should be noted that the scope of our review is limited solely to geologic, geotechnical, and civil portions of the project, and does not include review of structural, architectural, mechanical, or other items beyond the scope of our qualifications. We recommend that non-geotechnical aspects of the plans be reviewed by suitably qualified professionals.

### Project Description

The project generally includes construction of a new two-story, 516 square-foot addition on the northeast side of the existing two-story, 1,679 square-foot residence. Ancillary improvements will include interior reconfiguration and remodeling, new siding, and other "typical" residential items. Relatively minor grading, limited to excavations for new foundation elements, is expected for the project.

Project Review

We performed a brief site reconnaissance on May 11, 2022 to observe existing conditions at the site. Additionally, we reviewed the following documents provided by the Town:

- Engelhardt Architecture (2022), "Adams Addition & Renovation, 43 Bay Road, Fairfax, California" (Preliminary Architectural Plans), Sheets A0.1 through A12.2, B Revision set dated April 28, 2022.
- First American Title Insurance Company (2020), "Preliminary Report, 43 Bay Road, Fairfax, CA 94930, APN 001-111-18, Order No. 00501519-ME, dated May 21, 2020.
- Marin Land Services (2021), "Site Plan, Lands of Matthew and Ella Adams, 43 Bay Road, Fairfax, California" (Topographic and Boundary Survey), Project 2110, 3<sup>rd</sup> Revision dated March 7, 2022
- Salem Howes Associates (2021), "Report, Geotechnical Investigation, 43 Bay Road, Fairfax, California", dated September 18, 2021.

Conclusions

Based on our site reconnaissance and document review, the following submittal items required by the Town of Fairfax Hill Area Residential Development Ordinance remain outstanding:

**Hill Area Residential Development Ordinance**

- Section 17.072.080(B) – Topographical and Boundary Survey
  - 1) The submitted title report and topographic and boundary survey appear to contain conflicting information regarding the bearing of one of the property lines. Specifically, along the northwest side of the site (just north of the eastern property corner) the survey indicates a property line bearing of N 34°38'30" W and extending 29.70 feet. Conversely, the title report indicates this segment of the property boundary has a bearing of N 39°30'0" W. Per discussions with the project surveyor, this discrepancy is a typo in the title report.
  - 2) A recorded Record of Survey was not provided for our review. A recorded record of survey should be provided as part of the building permit submittal.
- Section 17.072.080(C) – Site Plan
  - 3) The topographic survey indicates that the existing electric and gas meters are located on the east side of the house in the area of the proposed addition but does not show the service lateral alignments for either. The survey also does not show locations, alignments, or points of connection for sewer, water, or other utilities. All existing and proposed utilities, including water, sewer, electrical, and gas, should be shown on the Site Plan and labelled with their sizes. If and where utilities are to be relocated as part of the work, the proposed new alignments and connection points should be shown.

- Section 17.072.080(E) – Geotechnical Report

The project geotechnical report was prepared by Salem Howes Associates of Novato, California on the basis of 2 exploratory soil borings extending to maximum depths of about 4.5-feet below the ground surface. No laboratory testing was apparently performed for the project.

The report provides brief discussion of local geologic and slope-stability mapping and regional seismicity, and provides recommendations for seismic design, shallow footing, and drilled-pier foundations, retaining walls, concrete slabs on grade, cut and fill slopes, fill compaction, and site drainage.

- Section 17.072.080(F) – Grading and Erosion-Control Plan

4) The Grading and Drainage Plan indicates that excavation spoils will total about 35 cubic yards of material but does not indicate whether that excess soil will be hauled away from the site or be re-used onsite. The Grading and Drainage Plan should be updated to indicate whether the spoils will be removed or re-used.

5) A dry well is planned to infiltrate storm water from roof downspouts into the soil with an overflow to Bay Road. The dry well is currently located at the top of an existing cut slope along Bay Road. Injection of water at the top of the cut slope will decrease stability and could lead to erosion from seepage or sloughing of the cut. We recommend that the Geotechnical Engineer be consulted, and that consideration be given to moving the dry well farther from the cut slope. An encroachment permit should be required for all work within the Bay Road right-of-way.

- Section 17.072.110(C) – Geotechnical Report Adequacy

6) We judge that the geotechnical report is adequate to facilitate code-compliant design of the proposed improvements.

### Recommendations

We recommend project processing continue. Based on our site reconnaissance and document review, the following items (required by the Town of Fairfax Hill Area Residential Development Ordinance) remain outstanding, but can be submitted and reviewed as part of building permit submittal; a recorded record of survey, design-level grading & drainage plan (including location/alignment of site utilities, confirmed dry well location, and site grading details), structural plans, erosion control plans, and drainage calculations.

We trust that this letter contains the information required at this time. If you have any questions, please call. We will directly discuss our comments with the applicant's consultants if they wish to do so.

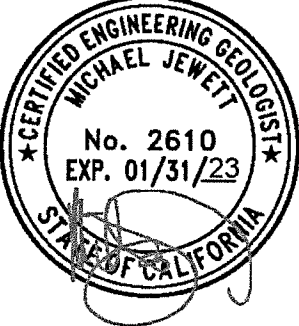
# MILLER PACIFIC ENGINEERING GROUP

Town of Fairfax  
Page 4

May 31, 2022

Yours very truly,  
MILLER PACIFIC ENGINEERING GROUP

REVIEWED BY:



Mike Jewett  
Town of Fairfax Contract Geologist  
Engineering Geologist No. 2610  
(Expires 1/31/23)



Scott Stephens  
Town of Fairfax Contract Engineer  
Geotechnical Engineer No. 2398  
(Expires 6/30/23)



**From:** [Linda Neal](#)  
**To:** [Kara Spencer](#)  
**Subject:** FW: 43 Bay Road Hill Area Residential Development Permit  
**Date:** Tuesday, June 21, 2022 8:32:34 AM

---

FYI.

Linda Neal  
Principal Planner  
(415) 453-1584

**From:** Grant Orbach <Grant.Orbach@bbkllaw.com>  
**Sent:** Friday, June 17, 2022 3:39 PM  
**To:** 'Ric.Moore@dca.ca.gov' <Ric.Moore@dca.ca.gov>  
**Cc:** Linda Neal <lneal@townoffairfax.org>; Janet Coleson <Janet.Coleson@bbkllaw.com>  
**Subject:** RE: 43 Bay Road Hill Area Residential Development Permit

Ric,

I have had a chance to confer with the Town and can communicate the following for the Town which I trust will resolve your concerns: (1) the Town will not require the survey to be recorded in connection with the development permit, (2) if further surveying or clarification regarding such subject is required by the Town, it will be required by a person authorized to practice land surveying or under his or her supervision, (3) the Town will apply this approach going forward to other development permit applications, and (4) the Town will utilize the persons designated in subd. (c) of section 8726 of the Business and Professions Code when performing the tasks and duties described therein. I trust that this sufficiently resolves your June 7, 2022 demand for satisfactory assurances, but if I am mistaken and you require further assurances, please notify me immediately so that I can communicate that to the Town promptly.

Again, I have deliberately not copied Messrs. Stephens, Jewett, and Kendall. I expect that Messrs. Stephens and Jewett will receive direction to this effect from the Town, and that Mr. Kendall will be informed accordingly in connection with his project. And I trust that the concessions set forth above render academic my initial reading of the constitutional limits of a city's police power and its relationship to a record of survey set forth below, as the Town is not requiring a survey to be recorded in connection with the development permit and does not intend to do so in the future with respect to this development permit or other development permits.

Please feel free to give me a call if you have any questions.

Thanks,

-Grant



**Grant Orbach**  
Associate

**ATTACHMENT E**



**[grant.orbach@bbklaw.com](mailto:grant.orbach@bbklaw.com)**

T: 916 329-3692

**[www.BBKlaw.com](http://www.BBKlaw.com)**  

MISCELLANEOUS STRUCTURES

STRUCTURE FOUND	CONS	EST	ROOF	FLOOR	INT	SIZE, ETC
2nd Deck						16 X 28 - 340

COMPUTATIONS

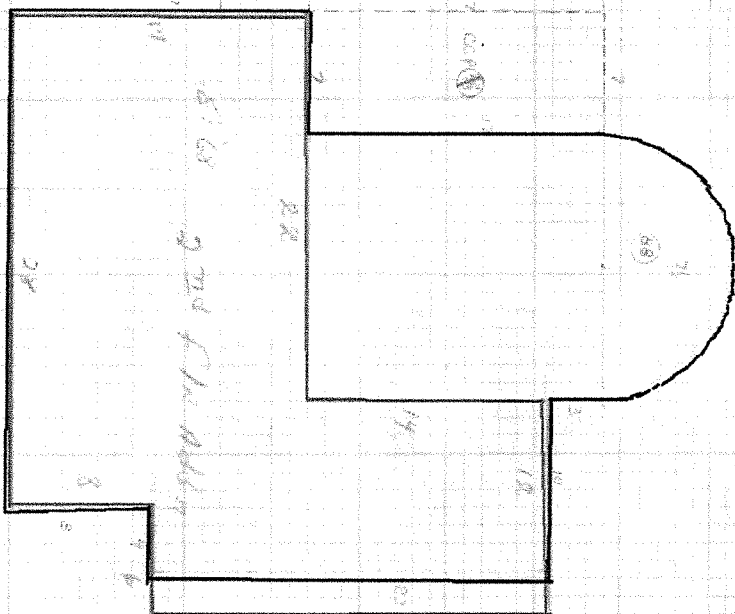
2nd Deck  
 16 X 28 = 448  
 16 X 14 = 224  
 448 + 224 = 672

REMARKS

1. 2nd Deck - 16' x 28' - 448 sq ft  
 2. 1st Deck - 16' x 14' - 224 sq ft  
 3. 1st Deck - 16' x 14' - 224 sq ft  
 4. 1st Deck - 16' x 14' - 224 sq ft  
 5. 1st Deck - 16' x 14' - 224 sq ft  
 6. 1st Deck - 16' x 14' - 224 sq ft  
 7. 1st Deck - 16' x 14' - 224 sq ft  
 8. 1st Deck - 16' x 14' - 224 sq ft  
 9. 1st Deck - 16' x 14' - 224 sq ft  
 10. 1st Deck - 16' x 14' - 224 sq ft

001-111-09

1. 2nd Deck - 16' x 28' - 448 sq ft  
 2. 1st Deck - 16' x 14' - 224 sq ft  
 3. 1st Deck - 16' x 14' - 224 sq ft  
 4. 1st Deck - 16' x 14' - 224 sq ft  
 5. 1st Deck - 16' x 14' - 224 sq ft  
 6. 1st Deck - 16' x 14' - 224 sq ft  
 7. 1st Deck - 16' x 14' - 224 sq ft  
 8. 1st Deck - 16' x 14' - 224 sq ft  
 9. 1st Deck - 16' x 14' - 224 sq ft  
 10. 1st Deck - 16' x 14' - 224 sq ft



WARNING: Assessor-Recorder-County Clerk not liable for accuracy of contents. See Rev. & Tax Code § 408.3.

ATTACHMENT F

Name: Di Carlo Phone: \_\_\_\_\_  
 Address: 43 Bay Road Fairfax Phone: \_\_\_\_\_  
 Referred to: \_\_\_\_\_  
 Taken by: Z. Miller Date: 6-14-66

Number \_\_\_\_\_  
 Code Area \_\_\_\_\_  
 Community \_\_\_\_\_

PARCEL NUMBER	ASSESSED VALUES				COST DATA		CONTROL	
	LAND	IMPROVEMENTS	PERSONAL PROPERTY			PROCESS	Initial	Date
1-11-08	19	19	19	19		A. V. Entered by		
1-11-09						Real Estate:		
						On 510		
						On 530		
						On Land Field Book		
						On Imp. Field Book		
						Personal Property:		
						On Field Sheet		
						On Appraisal Record		
						On Control Card		
						On Statement		
						Administrative:		
						On Roll		
						Request to B/S		
						O.K. to File		

ASIS OF COMPLAINT City of Fairfax says parcel 1-11-08 is a lean but difficult building site. In order for it to be developed it would have to be serviced by a common driveway. It is the opinion of the owner that a house on parcel 1-11-09 would detract from the existing houses.

Make interior inspection for water damage  
 Signature: D. Carlo  
 Property Owner

REPORT OF INVESTIGATION:  
 I have investigated the above and my report is as follows:

Parcel 1-11-08 while a difficult site is nevertheless a buildable site. It is highly likely that a common driveway might be the best solution but this possibility would be resolved only when it is decided to build on this parcel. Since considerable slope construction would be necessary, a land reduction of 500 appears justified. Roof & sidewalk of res. both level & bldg has suffered water damage. Roof was repaired but resin damaged by the second tenant flooded wiring in house and ceiling in 1 dry room (over)

Date: \_\_\_\_\_ Supervisor: [Signature]  
 WARNING: Assessor-Recorder County Clerk not liable for accuracy of contents if necessary, continue report on Rev. Ass. & Tax Code § 408.3.  
 For the Assessor

# RESIDENTIAL APPRAISAL RECORD

SHEET 1 OF 1  
 PARCEL  
 1-11-09

SITUS ADDRESS: **43 BAY ROAD** CITY: **FAIRFAX** LOT: **PH 32 BLK.**  
 SUBDIVISION: **FAIRFAX MANOR** COST DATA SUMMARY

CODE 1	CHANGES	CODE 2	BUILDING DATA	CODE 3	COST FACTORS
1	NEIGHBORHOOD 601-03	34	CLASS & SHAPE D.C.S.C.	67	COST BASE YEAR 70
2	TRACT 0	35	DESIGN ATT. (DEL.)	68	BASIC AREA 1693
3	TAX RATE AREA 3-000	36	ARCHITECTURE CONY. MOD.	69	1ST FL. AREA 995
4	USE CODE 1	37	PATTERN	70	2ND FL. AREA 698
5	NO. OF UNITS 1	38	CONST. YEAR 39	71	2ND FL. FACTOR 100 %
LAND & TOTAL PROP.		39	EFF. YEAR 44	72	3RD FL. AREA 0
6	WIDTH (EFF.) 22	40	DEP. TABLE 60-2	73	3RD FL. FACTOR 0 %
7	DEPTH (EFF.) 190	41	LIVING ROOM 1	74	ATTIC AREA 0
8	SQ. FT. ACTUAL 9800	42	DINING ROOM 6	75	ATTIC FACTOR 0 %
9	SQ. FT. USABLE 9800	43	DINING AREA 1	76	FIN. BSMT. AREA 0
10	CUL-DE-SAC 0	44	FAMILY ROOM 0	77	FIN. BSMT. FACTOR 0 %
11	CORNER 0	45	KITCHEN 1	78	UNF. BSMT. AREA 0
12	STREET COND. POOR 0	46	BREAKFAST AREA 6	79	UNF. BSMT. FACTOR 0 %
13	NUISANCE INFL. 0	47	DEN/LIBRARY 0	80	ADD. AREA 320
14	UTIL. UNDERGRND. 0	48	BEDROOMS 3	81	ADD. AREA FACTOR 86 %
15	SEPTIC TANK 0	49	SUPP. ROOMS 0	82	GARAGE AREA 320
16	VIEW 1 2 3 4	50	BATHS 2-0	83	GARAGE FACTOR 29 %
17	ZONING USE CODE 1	51	KIT. BLT. INS 0	84	REC. POR. AREA 119
18	WATERFRONT 0	52	BATHS MOD. 0	85	REC. POR. COST 559
19	LAND PROBLEM 0	53	STOR. SP. ADEQ. N 0	86	ACCESS POR. COST 299
20	EASE BURDEN 0	54	CENTRAL HEAT N 0	87	FIREPLACE COST 650
21	LDSCP. BELOW AVG. 0	55	CENTRAL HEAT N 0	88	HEAT/COOL AREA 1693
22	LDSCP. ABOVE AVG. N 0	56	CENTRAL COOL 0	89	HEAT/COOL COST 846
23	HILLSIDE N 0	57	FUNCT. PLAN/POOR N 0	90	EX. PLUMB. COST 0
24	BENCH N 0	58	PARKING ADEQ. N 0	91	BLT. INS COST 0
25	ARCH. ATT. POOR N 0	59	DEF. MAINT. N 0	92	YD. IMPS COST 2000
26	ARCH. ATT. EXC. N 0	60	PERMIT 0	93	MISC. STRUC. COST 0
27	UNDERIMP. 0	61	INSR. DATE 09-13-71	94	SP. FEAT. COST 0
28	OVERIMP. 0	62	EMPLOYEE NO. 34-71	95	MISC. ITEMS COST 0
29	RECONSTRUCTION N 0	63	USABLE IN REG. N 0	96	POOL AREA 0
30	% OF BASE LOT 105.0	64		97	POOL COST 0
31	APP. DATE 03-19-74	65		98	SLOPE COST 0
32	EMPLOYEE NO. 34-74	66		99	PLANNING FEES 0

ASSESSMENT YEAR: 1976  
 APPRAISER: INTERIM  
 MO/DAY/YEAR: 1-28-76  
 IMP. R.C.N.: 1976  
 IMP. R.C.L.N.D.: TB-5  
 LAND VALUE: 160000  
 TOTAL PROP. VALUE: 510000

LAND ADJUSTMENT SUMMARY  
 BASE LOT VALUE = 10500  
 ADJ. LAND VALUE = 10500  
 ADJ. VAL. + BASE VAL. = 21000

E.D.P. STAMP  
 INPUT: D/P  
 WARN: G

ASSESSOR: 60-111-11-10  
 RECORDER: 60-111-11-10  
 COUNTY CLERK: 60-111-11-10

ASSESSOR: 60-111-11-10  
 RECORDER: 60-111-11-10  
 COUNTY CLERK: 60-111-11-10

TRANSACTION RECORD

GRANTEE

DATE STAMPS SALE PRICE  
 59 1979  
 3/83 -0- WOP \$/A  
 001-111-09 \$ NA  
 DEC 6 95 \$ 95058720-2  
 LOCKHART, GENEVIEVE J TR  
 D. CARLO, SAMUEL + GENEVIEVE 1321-810  
 D. CARLO, GENEVIEVE J. 3535-077  
 D. CARLO, GENEVIEVE J.  
 Lockhart, Genevieve J. 83-10918

001-111-09 \$ NA  
 DEC 6 95 \$ 95058720-2  
 LOCKHART, GENEVIEVE J TR

CONSTRUCTION RECORD

PERMIT NO. FOR AMOUNT DATE APP. YR

1089 RES 1,400 39  
 Remod. 10-66  
 ADD 8,000 5-69 1972  
 P-10133 Repair 7,000 2-86 1987

ROOM & FINISH DETAIL

PERMIT NO.	FOR	AMOUNT	DATE	APP. YR	ROOMS	B	1	2	FLOOR	WALL	CL.
1089	RES	1,400	10-66	1972	TYPICAL				WOOD	PL	PL
P-10133	Repair	7,000	2-86	1987	ENTRY AREA				WOOD	PL	PL
					LIVING				WOOD	PL	PL
					DINING				WOOD	PL	PL
					DINING AREA				WOOD	PL	PL
					FAMILY				WOOD	PL	PL
					KITCHEN				WOOD	PL	PL
					BREAK AREA				WOOD	PL	PL
					DEN/LIBRARY				WOOD	PL	PL
					BED				WOOD	PL	PL
					BED				WOOD	PL	PL
					"				WOOD	PL	PL
					SUPP. ROOM				WOOD	PL	PL
					BATH				WOOD	PL	PL

COMPUTATIONS:

REMARKS: P-10133 Stick 12-3-86; Sawd  
 for shed repair; No change  
 DANKSHEIM 12-3-86

MISCELLANEOUS STRUCTURES

STRUCTURE	CLASS	SIZE	AREA	FNDM	EXT.	INT.	ROOF	FLR.	COST
GAR + LAUNDRY		16x20	320	CONC	SHR	0	TRG	CONC	1280
BEDROOM ADD '66		16x20	320	CONC	SHR	0	TRG	CONC	3840

FOUNDATION

REIN. CONC.	BRICK	STUCCO	COMPO.	TAR & GRAV.	RANGE/HOOD
Y					

EXTERIOR

WOOD	D.H.	WOOD	BREAK. BAR	C.F.A.H.
Y				

WINDOWS

WOOD	CRYST.	WET BAR	INTERCOM.	RADIATOR
Y				

JOISTS

WOOD

PLATE

SL GLASS DOOR

REFRIG.

DISHWASHER

LIGHTING

REC.

AMARINIS

Assessor-Recorder

County Clerk

for their

accuracy of contents

See Rev. & Tax Code § 408.3

1/3

RESIDENTIAL PROPERTY APPRAISAL RECORD

TAX CODE 3-000  
 USE CODE 11  
 # UNITS    

PARCEL 1-111-09

3-000

NAME OF PROPERTY

ADDRESS H3 Bay Rd.

COMMUNITY Fairfax

SUBDIVISION

BLK. P LOT. Pln 32

SHEET 1-B OF 1 SHEETS

CHARACTER OF SUBJECT PROPERTY				CHARACTER OF NEIGHBORHOOD			
USE	TOPOGRAPHY	LAND IMP.	BUILDING	USE	TOPOGRAPHY	TREND	
<input checked="" type="checkbox"/> Single	Level	Sidewalk	Class: <u>3x2</u>	Residential	Commercial	Industrial	Level
<input checked="" type="checkbox"/> Double	Low	Curb	Built: <u>1954</u>	<input checked="" type="checkbox"/> Single	Retail	Light	Low
Duplex	<input checked="" type="checkbox"/> High	Gutter	Stories: <u>1</u>	Income	Wholesale	Heavy	<input checked="" type="checkbox"/> High
Flat	<input checked="" type="checkbox"/> Hill 4 30°	<input checked="" type="checkbox"/> Pavement	Area: <u>995</u>	Area	Spotted	Spotted	<input checked="" type="checkbox"/> Hilly 100%
Apartment	<input checked="" type="checkbox"/> Bank ↑ 4-15'	<input checked="" type="checkbox"/> Orn. Lights	<input checked="" type="checkbox"/> Proper	Spotted	Spotted	Spotted	
<input checked="" type="checkbox"/> Zoning: R-1	<input checked="" type="checkbox"/> Slope	Park Strip	Typical	Ribbon	Ribbon	Ribbon	
UTILITIES				GENERAL			
<input checked="" type="checkbox"/> All Installed	Underground	Parkway	Under Imp.	Desirability: <u>A</u>	Planning: <u>P</u>	Utilities: <u>A</u>	Com. Cent'rs: <u>F</u>
	Poles: Rear	Parkg Treas		Stability: <u>A</u>	Land Imps: <u>A</u>	Transp.: <u>F</u>	Date Imps.: <u>1970</u>
	<input checked="" type="checkbox"/> Poles: Front						Typ. No. Stories: <u>1</u>
	<input checked="" type="checkbox"/> View						Built-up %: <u>75</u>
							Race: <u>W</u>

SUMMARY

Assessment Year	Appraiser	Date	Improvement Replacement Cost	Improvement R.C.L.N.D.	Land Value	Total Property R.C.L.N.D.	Capitalized Earning Ability	Indicated Sale Price	Listed Price
1968	Fitz	2-1-68							
1969	Smith	4-10-69	21	719	25	956	33	310	
1970	Smith	3-31-70	18	631	21	523	26	281	
			7	500	7	500	8	500	
			26	121	29	043	35	181	
									Lt 50
									T+35

Total Property Value	Land Value	Improvement Value	Assessed Value
22,750	9,500	13,250	31,500
34,580	7,580	27,000	39,000
16,000	7,580	8,420	10,500
18,500	1,850	16,650	28,500
			34,740
			34,760

Entered	3	1	3
Land			
Improvements			
Household Effects			

TRANSACTION RECORD

REMARKS

Date	I.R.S.	Tr. Deed	Indicated Price	Grantee	Source
1959				Dr. Carley, former Pt. Pleasant	1321-512

RENTALS

St. No.	Front	Depth	Tenancy	19	19	19	19	19	19	19	19

1) Repairs listed in RI 67 applied to have been corrected - Removed 1/2 w/o  
 2) 4-10-69 - w/o \$1000 for interior painting & minor roof repairs - 1st 2nd fire addn (shell) as R. Lamp S. Am - RCR 70 - Smokey  
 3) Re-comp. fl. at roof compl. & w/o. \$1000 as cost to cure - continued  
 Numerous w/o of \$1000. Survey 3-31-70  
 \$163500 net 2000 for Del Maint  
 \$1000 for Interior & Exterior of Addn - 1000 for Markability of Room Over Gar - 500 Excess VI 12-27-71 Phillips

CAPITALIZED EARNING ABILITY

	19	19	19	19	19	19	19	19	19
Fair Rent									
Land Value									
Imp. R.C.N.									
Formula									
C.E.A.									

COMPUTATION OF MODIFYING FACTOR

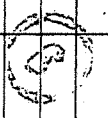
Lot	Width	Depth	Area	METHODS USED				Mod. Fact.
				Base Dpth No.	Corner No.	Misc. No.	Misc.	

METHODS USED

WARNING: Assessor-Recorder-County Clerk not liable for accuracy of contents. See Rev. & Tax. Code § 408.3.

LAND VALUE COMPUTATION

Year	Width Area	Mod. Fact.	Unit Value	Ft. Ft. Value	Value





P-8037

# RESIDENTIAL PROPERTY APPRAISAL RECORD

TAX CODE  
USE CODE  
# UNITS

PARCEL 1-111-09  
AREA CODE 3-000  
CITY Fairfax  
COMM 1-A 04 1

SUBDIVISION \_\_\_\_\_  
Amended Map of Fairfax Manor

ADDRESS 43 Bay Rd  
BLK P LOT Ptn 32

## CHARACTER OF SUBJECT PROPERTY

USE	TOPOGRAPHY	LAND IMPS.	BUILDING
<input checked="" type="checkbox"/> Single	Motel	Level	Class: DGC
<input checked="" type="checkbox"/> Double	Low	<input checked="" type="checkbox"/> Sidewalk	Bull: 1539
<input checked="" type="checkbox"/> Duplex	High	<input checked="" type="checkbox"/> Curb	Stories: 1
<input checked="" type="checkbox"/> Flat	Marginal	<input checked="" type="checkbox"/> Gutter	Area: 995
<input checked="" type="checkbox"/> Apartment	SubMarg'l	<input checked="" type="checkbox"/> Pavement	<input checked="" type="checkbox"/> Area: 995
<input checked="" type="checkbox"/> Zoning: R-1	Slope	<input checked="" type="checkbox"/> Gen Lights	<input checked="" type="checkbox"/> Proper
	Fill	<input checked="" type="checkbox"/> Park Strip	<input checked="" type="checkbox"/> Typical
	Underground	<input checked="" type="checkbox"/> Park Way	<input checked="" type="checkbox"/> Over Imp.
<input checked="" type="checkbox"/> All installed	Poles, Rear	<input checked="" type="checkbox"/> Parking/Trees	<input checked="" type="checkbox"/> Under Imp.
	Poles, Front		
	<input checked="" type="checkbox"/> View		

## CHARACTER OF NEIGHBORHOOD

USE	TOPOGRAPHY	TREND
<input checked="" type="checkbox"/> Residential	Level	<input checked="" type="checkbox"/> Developing
<input checked="" type="checkbox"/> Single	Low	<input checked="" type="checkbox"/> Stationary
<input checked="" type="checkbox"/> Income	High	<input checked="" type="checkbox"/> Declining
<input checked="" type="checkbox"/> Area	Hilly 100%	<input checked="" type="checkbox"/> Blighted
<input checked="" type="checkbox"/> Spotted		
<input checked="" type="checkbox"/> Ribbon		
Zoning: Residential		
GENERAL		
Desirability: F	Com. Centrs: F	Typ. No. Stories: 1
Stability: A	Land Imps: A	Typ. Date Imps: 1920
Utilities: A	Transp.: F	Built-up %: 75
		Race: LL

## SUMMARY

Assessment Year	1958	1961	1961	1963	1964	1966	1967	1967
Appraiser	BRANTON	Feeling				GRISSELL	ARELL	Phillips
Date	5-3-57	12-12-60				12-9-65	6-25-66	2-20-67
Improvement Replacement Cost	13,184	15,517						15,500
Improvement R.C.L.N.D.	10,467	12,414						9,500
Land Value	4,000	5,000						23,000
Total Real Estate	14,467	17,414						
Capitalized Earning Ability		18,175						
Indicated Sale Price	10,000*							
Listed Price	55	30,000						

## APPRAISAL

H.C. (15-033-21)	1958	1961	1961	1963	1964	1966	1967	1967
Total Real Estate Value	13,184	17,414				22,750	21,900	19,750
Land Value	4,000	5,000				9,500	9,500	7,750
Improvement Value	11,184	12,414				13,250	12,400	12,000

## ASSESSED VALUES

Improvement	Land	Total	1958	1961	1961	1963	1964	1966	1967	1967
Improvement	Land	Total	11,184	12,414				22,750	21,900	19,750
Improvement	Land	Total	4,000	5,000				9,500	9,500	7,750
Improvement	Land	Total	11,184	12,414				13,250	12,400	12,000

**TRANSACTION RECORD**

Date	I.R.S.	Tr. Deed	Indicated Price	Grantee	Source
1955			19,000	Belli, Martha G. & Rinaldo E.	multi
1955	20.90		19,000 *	Barr H. & Rona Randolph	
10-28-55	10/28			DICARLO, S.L. & SPOUSAL	1331-5710

**REMARKS**

*This sale included prices 1/11/58. Normal 2 1/4 % R.O.T.S = 85% R.E.L. RALDD 13175  
land 5000  
Adj Sum 18175  
Wrote off 1000. Res suggest from functional obs. only 1 Red Book  
66 X R-WHITE DRAINAGE CURTAINS  
SEE ALL AREA 01/27/66  
① Addn over Gar w/0<sup>o</sup> continued 2-20-67 Phillips*

**RENTALS**

St. No	Front	Depth	Tenancy	19	19	19	19	19	19	19	19

**CAPITALIZED EARNING ABILITY**

Fair Rent	19	19	19	19	19	19	19	19	19
Land Value									
Imp. R.C.N.									
Formula									
C.E.A.									

**COMPUTATION OF MODIFYING FACTOR**

Lot	Width	Depth	Area	METHODS USED						Depth	Mod. Fact.
				Base Dpth	No.	Corner	No.	Misc.	No.		
B	50	25	1250					25		71	

WARNING: Assessor-Recorder-County Clerk not liable for accuracy of contents. See Rev. & Tax Code § 408.3.

**ADJUSTMENTS TO 19**

Ind. Sale Pr. X =  
Land Value X =  
Cap. E. A. X =

**LAND VALUE COMPUTATION**

Year	Width	Area	Mod. Fact.	Unit Value	Fr. Ft. Value	Value
1956	1			SV		5000.

D. Carib

RESIDENTIAL BUILDING RECORD

1-11-09

DESCRIPTION OF BUILDING

ROOM AND FINISH DETAIL

CLASS & SHAPE	CONSTRUCTION	STRUCTURAL	EXTERIOR	ROOF	LIGHTING	AIR CONDITION	ROOMS	FLOORS	ROOM FINISH	TRIM	INTERIOR FINISH
CLASS	Light	Frame	Succo on	Flat 1/4 Pitch	Wiring	Heating	Bed	1	Hard	UNF	Walls
SHAPE	Sub-Standard	2" x 4" - 12'6"	Gothic	K.T. Conduct	Gravily	Refrig.	Bed	1	ply	UNF	Ceilings
ARCHITECTURE	Standard	Shooking	Hip 4/4	B.K. Cable	Gravily	Almost	Bed	1	ply	UNF	
	Above-Standard	Block	Shed 4/4	FIXTURES	Cleaning	Humid	Bed	1	ply	UNF	
	Special	B&B, T&G	Cut Up	Rew	Central	Zonulu	Bed	1	ply	UNF	
TYPE	Stories	Brick	Singles	Burners	Avg. Medium	Floor Un	Bed	1	ply	UNF	
	Special	Brick	Shakes	Shingles	Special	Well Un	Bed	1	ply	UNF	
USE	DESIGN	FOUNDATION	Shakes	Gutters	Plumbing	Radiant	Bed	1	ply	UNF	
	Concrete	Floor Joist:	B&B, T&G	Oil Burner	Water Heater	M-BTU	Bed	1	ply	UNF	
	Reinforced	1st: 2" x 8" - 12'6"	Brick	Shingle	Automatic	M-BTU	Bed	1	ply	UNF	
	Brick	2nd: "x" - "	Brick	Shake	Elect	Fireplace 800	Bed	1	ply	UNF	
	Wood	Sub Floor	Stone	Tile	Arch. Func. Con.	Storage-Space	Bed	1	ply	UNF	
	Wood	Concrete Floor	Stone	Tile	Form	Work.	Bed	1	ply	UNF	
	Piers	Concrete Floor	Stone	Tile Trim	Space	FL. No.	Bed	1	ply	UNF	
	Model	Insulated Ceilings	DK. Cement	Tile Trim	Water Heater	Work.	Bed	1	ply	UNF	
		Insulated Ceilings	Met. Lash	Compo. Shingle	Water Heater	Work.	Bed	1	ply	UNF	
		Insulated Ceilings	Screens	Compo. Shingle	Water Heater	Work.	Bed	1	ply	UNF	

CONSTRUCTION RECORD

No.	Permit	Amount	Date	EFFEC. YEAR	APPR. YEAR	NORMAL % GOOD	RATING (E,G,A,F,P)	BATH DETAIL	SHOWER
1089	For	81,000	5-69	1944	1972	78 34 602 81	A A A A A A	Material: Tile	Shower
	Res	1,400	10-69	1944	1969	25 36 602 83	A A A A A A	Material: Tile	Shower
	Res	1,400	10-69	1944	1969	25 36 602 83	A A A A A A	Material: Tile	Shower

COMPUTATION

Appraiser	Date	Area	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost	Unit Cost
Appraiser B	Date 10-13	995	810	8060	10,200	149	9.65	9,601	1408	14	209	559
Res		119	540	643	6,800	809	3.22	3,883	4,70		559	
CCP		85	200	170	2,000	170	2.50	212	258		212	
CCP		35	150	38	1,500	37	3.50	87	350		87	
AC		698	50	173	50	172	4.00	680	1408	9	827	846
FP		1693	500	840	500	840	2.00	960	1408	2	280	558
YT		320	200	640	3,000	960	3.00	960	4.00	1	280	
Garage		152	2.25	432	2,500	480	5.00	1,600	18.00	3	340	
Laundry		152	2.25	432	2,500	480	5.00	1,600	18.00	3	340	
TOTAL		1108	1324	60	15,517	1,603	15	843	70	33	312	
NORMAL % GOOD		1108	1324	60	15,517	1,603	15	843	70	33	312	

WARNING: Assessor-Recorder's Office does not list the responsibility of contractors. See Rev. & Tax 10083, 2/5/03

AH 530-A CONSULTANT'S F. 5-92/1260 1020

PARCEL 1-11-09 OF SHEETS

REPORT OF INVESTIGATION  
B. W. BROEMMEL, ASSESSOR OF MARIN COUNTY

Name Dionardo  
Address # 43 Bay Rd Fairfax

Phone 453-6429

Number June 25<sup>th</sup>  
Code Area Before noon  
Community Hall  
Date 6/1/67

Address Hatch's Hall  
Taken by Hatch's Hall  
Referred to Hatch's Hall

PARCEL NUMBER	ASSESSED VALUES				PERSONAL PROPERTY	COST DATA		CONTROL	
	LAND	IMPROVEMENTS	INC	PERSONAL		Date of Purchase	Full Price	PROCESS	Initial
1-111-09	19	19	19	19			A. V. Entered by		
							Real Estate:		
							On 510		
							On 530		
							On Land Field Book		
							On Imp. Field Book		
							Personal Property:		
							On Field Sheet		
							On Appraisal Record		
							On Control Card		
							On Statement		
							Administrative:		
							On Roll		
							Request to B/S		
							Insurance		

BASIS OF COMPLAINT OR CHANGE: Review value due to slide in Jan. See attached estimate for repairs.

REPORT OF INVESTIGATION:  
I have investigated the above and my report is as follows:

REVIEWED PROPERTY IN/OWNER. RECOMMENDED ASSESSOR TP REDUCTION TO FOLLOWING LAND 1750 (1750 SLIDE REPAIR - WORK SET WALL, RIP-RAP DRAINAGE CORRECTION, 500 FOOT TOP REPAIR AND EARTHWORK PARALLEL TO TOP DRAINAGE AREA). IMPR 1750 (1750 WORK BEHIND WATER CUP, 1750 INCREASE REPAIRS, 1750 REPAIRS CONCRETE AND CUP & CUP).

*[Signature]*  
Property Owner

Date 6/1/67  
WARNING: Assessor-Recorder-County Clerk not liable for accuracy of contents. See Rev. & Tax. Code S 408.3.  
If necessary, continue report on reverse side  
For the Assessor