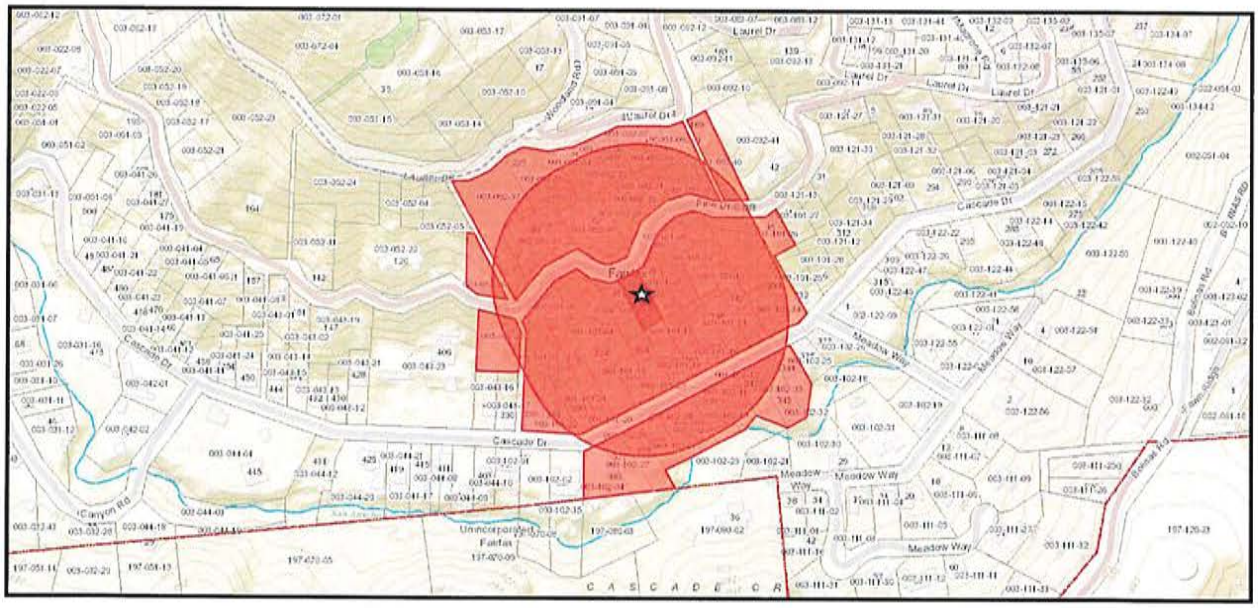
TOWN OF FAIRFAX
STAFF REPORT ADENDUM
Department of Planning and Building Services

TO: Planning Commission
DATE: July 28, 2022
FROM: Linda Neal, Principal Planner
LOCATION: 75 Pine Drive; APN # 003-101-06
ZONING: Residential Single-family RS-6
PROJECT: Construction of a single-family residence and parking
ACTION: Hill Area Residential Development, Design Review, Tree Removal, Excavation, and Encroachment permits and Parking and Combined Side-yard Setback Variances; Application # 22-14
APPLICANT: Lauri Puchall and Turk Kauffman
OWNER: Same
CEQA STATUS: Categorically exempt, §15303(a)



75 PINE DRIVE

PROJECT DESCRIPTION

The project encompasses demolition of the existing, 2,549 square-foot, three bedroom, one bathroom, single family residence and parking deck to construct a 1,417 square-foot, two story (split level), two bedroom, two bathroom, single-family residence with an attached three car parking deck at street level.

AGENDA # 3

Construction will require the excavation of one hundred and nine cubic yards and fill of five cubic yards of material to install the foundation, construct the house and access stairs and install the drainage system.

No new landscaping is proposed as part of the project as the applicants intention is to keep the site in its natural condition and strive to maintain the health of the existing oaks and other trees on the site.

The proposed residence will comply with the regulations of the RS 6 Zone District as follows:

	Front Setback	Rear Setback	Combined Front/rear Setback	Side Setbacks	Combined Side Setbacks	FAR	Lot Coverage	Height
Required/ Permitted	**6 ft.**	**12 ft.**	**35 ft.**	**5 ft. & 5 ft.**	**20 ft.**	**.40**	**.35**	**28.5 ft. ft., 3 stories**
Proposed	**0 ft.**	**82 ft.**	**82 ft.**	**5 ft. & 5 ft.**	**10 ft.**	**.19**	**.09**	**34 ft. 2 stories**

EXISTING CONDITIONS/BACKGROUND

The 7,140 square-foot site slopes down from Pine Drive at an average rate of 58% with the front property line located approximately sixteen feet from the edge of the improved public roadway.

The existing residence was constructed in 1960 as a 1,224 square-foot, three bedroom, two bathroom, single-family residence with a two car parking deck. The previous property owner allowed the property to fall into disrepair in addition to performing significant demolition/expansion work without the required permits from the Planning Commission or the Building Department. When the Building Official performed a resale inspection of the site and structure in 2018 the structure was in such bad shape that he directed PG & E to disconnect the service and remove the electric and gas meters (Attachment B).

A three foot wide Ross Valley Sanitary Sewer easement runs across the site from the west side to the east side where it joins a five foot sewer easement and continues down the hillside behind 69 Pine Drive and then across 360 Cascade and to the sewer main in Cascade Drive below the project site. The existing residence at 75 Pine Drive is built across this easement.

REQUIRED DISCRETIONARY APPROVALS

The project requires the approval of Hill Area Residential (HRD), Excavation, Tree Removal, Design Review and Encroachment Permits and Parking and Combined Side-yard Setback Variances.

Hill Area Residential Development Permit and Excavation Permit

Town Code § 17.080.050 requires that a Conditional Use Permit or a Hill Area Residential Development Permit be obtained prior to any physical improvements on a site failing to meet the minimum size and width requirements based on its slope.

A conforming project site with a 58% slope similar to the 75 Pine Drive site would have to be 50,000 square-feet in size and 194 feet wide to conform to the code [Town Code § 17.080.050(C)].

The project is located within a landslide hazard on the Fairfax General Plan Safety Element Figure S-3, Areas Susceptible to Landslides Map (Town Code § 17l072.020(A). Construction will require the excavation/fill of 114 cubic yards of material. Therefore, in accordance with Town Code §17.072.020(A)(4), the project will require the approval of a Hill Area Residential Development (HRD) permit.

The project also requires the approval of an Excavation Permit by the Planning Commission in accordance with Town Code § 12.20.080 because more than one-hundred cubic yards material will be excavated and filled to construct the new house and parking.

The purpose of the HRD permit is to; 1) encourage maximum retention of natural topographic features such as drainage ways, streams, slopes, ridgelines, rock outcroppings, vistas and natural plant formations and trees; 2) to minimize grading of hillside areas; 3) provide safe ingress and egress for vehicular and pedestrian traffic; 4) minimize water run-off and soil erosion during and after construction; 5) prevent loss of life, minimize the potential of injuries, property damage and economic dislocations from geologic hazards; and, 6) to ensure that infill development on hillsides sites is of a size and scale appropriate to the property and consistent with other properties in the vicinity under the same zone classification [Town Code sections 17.072.010(B)(1) through (6)].

The criteria set forth in the code for reviewing excavation permits shares many aspects of the purpose of the HRD ordinance as follows: 1) eliminating projects that would unlawfully remove the lateral or subjacent support of the adjacent land; 2) result in dangerous topographic conditions; 3) cause seepage or slides; 4) inappropriately divert the flow of drainage waters; and/or, 5) create a nuisance, or otherwise endanger the health, safety or property of any other person, despite all precautions which the applicant might be ready, willing and able to take. The staff report will cover both the HRD and Excavation permits in this discussion.

The structure has been designed to step down the hillside following the contour of the slope to minimize the height of the structure while also minimizing the amount of excavation required to keep the house under the height limit. See pages A-2.4 and 2.5 of the architectural plan set for a visual representation of how the architectural design keeps the height of the house on this very steep lot under the thirty-five foot height limit without setting the house to far into the hillside, keeping the excavation and site disturbance to a minimum.

Pine Drive was built, as many of the hillside roads in Fairfax, by cutting the hillside and pushing the spoils onto the hillside below to level a roadway. This type of road construction means the slope immediately below Pine Drive is fill material. The parking deck of the existing house spans over the fill material from the road construction. The roadway fill has settled leading to cracking of the outer edge of Pine Drive. The proposed new construction will stabilize and support the new three car parking deck in addition to adding support to the edge of Pine Drive.

The soils report by Herzog Geotechnical Consulting Engineers indicates that bedrock was encountered during the test borings at five feet or less below grade (Attachment C). The report also noticed the presence of previous earth movement within the swale areas flanking the northeastern and southeastern sides of the project site (none was noted on-site) so the project engineer has recommended the following:

1. The foundation piers shall extend into bedrock and shall be designed to resist lateral pressures imposed by the soils above the bedrock.

2. A slough catchment system shall be installed above the residence.

3. Drainage shall be directed away from potentially unstable slopes;

4. Water catchment systems shall be installed to catch water between retaining walls: and

5. Cuts and fills shall be retained with engineered retaining walls.

As a result of the project engineer's report identifying earth movement in the swales on either side of the site, the Town Engineer is requiring that energy dissipater proposed at the rear of the site be located away from the swales. The project engineering plan page C-2 indicates that this dissipater will be located during the construction phase of the project. Staff has included as a condition of approval that the location of the dissipater must be identified on the building permit plans and approved by the Town Engineer prior to issuance of the building permit.

The existing house intersects with the sewer line and easement and the new design pulls the house back from the sewer easement approximately seven feet eliminating any conflicts with the existing sewer location.

The runoff/drainage from the hillside above Pine Drive, the road bed, parking deck and house will be captured in three v-ditches that will run west to east beneath the parking deck, immediately above the new house and at the rear of the new house. Additionally a two line system of storm drains will be installed along the east side of the residence, one to capture surface water from the structure, and the other to capture subsurface water, and direct the run-off to the energy dissipation system to be located at the rear of the site, with the final location determined prior to issuance of the building permit.

The excavation of one hundred and nine cubic yards and fill of five cubic yards of material to install the foundation, construct the house and access stairs and install the drainage system is the minimum necessary to allow redevelopment of this steep hillside site.

The Town Engineer has reviewed the following preliminary architectural and engineering plans and engineering reports and inspected the site:

1. Architectural Plan set received by the Town on 7/27/22 by architects/owners Lauri Puchall and Turk Kauffman.
2. Site survey by David O. Knell, Professional Land Surveyor, recorded on 7/16/20.
3. Topographic survey by Eric A. Humann, dated 7/9/20.
4. Vegetative Management Plan approved by the Ross Valley Fire Department on 2/1/21.
5. Engineering plan set, revision date 5/25/22 by Orion W. Agnew, Registered Professional Engineer
6. Geotechnical Report by Herzog Geotechnical Consulting Engineers dated 5/8/18.
7. Geotechnical Report Update/Response to Town Engineer comments dated 11/8/21.

After reviewing the project plans and entire body of submitted information the Town Engineers have determined that the site can be developed without geologic, hydrologic or seismic hazards and without negatively impacting neighboring private properties or the public right-of-way (Attachment D).

The complete findings supporting approval of the HRD and Excavation permits and conditions for the project approval can be viewed in the attached Resolution No. 2022-18 (Attachment A).

Design Review Permit

When considering a project application for action on a Design Review Permit the Commission is directed by the code to consider the certain Design Review Criteria which include but are not limited to the following (Town Code 17.020.040):

1. 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.

2. The proposed development shall be of a quality and character appropriate to, and serving to protect the value of, private and public investments in the immediate area.

3. The extent to which the structure conforms to the general character of other structures in vicinity insofar as the character can be ascertained and is found to be architecturally desirable.

4. 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 a balance and unity among its external features so as to present a harmonious appearance.

5. 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 residential structure façade is set twenty-eight feet from the Pine Drive roadbed, below the proposed three car parking deck. The design hugs the hillside with small portions of the structure excavated into the hill and the underfloor areas not exceeding three to six feet in height. The structure steps down the hillside with the maximum height of a small portion of the rear southeast roof eave line being the only part of the building that will reach thirty-four feet in height. Town Code § 17.080.060(A) allows structures on downhill properties to reach up to thirty-five feet in height and three stories (See architectural plan page A-2.3 and Attachment E – applicant's supplemental project information).

The structure is also articulated on the sides and rear as follows:

1. The northern portion of the second, split level, floor projects toward the east side of the site closest to 69 Pine Drive maintaining a five foot setback from the east side property line.

2. The dining room on the second floor is L-shaped with the western portion of the living room pulled back from eastern side of the room, breaking up the southern wall face (see sheet A-1 of the architectural plan sheets).

3. The master bedroom wall of the first floor of the house and the shorter portion of the second floor, L-shaped living room project beyond rest of the house further articulating the southern side of the structure (see dotted line depicting the "line of living room bay above" on sheet A-1.1 of the architectural plan sheets).

4. The western wall of the longest portion of the L-shaped living room projects three feet beyond the first floor towards 81 Pine Drive, creating an overhang further

articulating the west side of the building (see the dotted line depicting the "line of the lower floor" on page A-1 of the architectural plan sheets).

The siding will be plaster painted a tan color (Eco Stucco natural lime plaster – Savoniere 90 textured with decolime lime wash known as "fossil"), the doors and windows will be Milgard thermally improved dark bronze rails and casings. The roof will be General Analine and Film (GAF) Timberline Ultra HD Architectural Singles in a shade of grey/green (Birchwood). Deck railings will be Open Guard rails in a pewter color while the roof eaves and underside of the cantilevered sunroom and underside of the parking deck (see materials board below).

The area where the new house is proposed is within the footprint of the existing house so the project will have a minimal impact on the rest of the site. Four bay trees are marked to be removed on the plans but they are being removed to improve the health of the existing oak trees on the site. The Tree Committee took action approving the removal of the four bay trees on May 24, 2021 (Attachment D – includes arborist report). Two of the bays have already been removed. Therefore, disturbance to the site vegetation has been minimized.

The project will include construction of a new parking deck that will provide two standard nine-foot by nineteen-foot parking spaces, and one compact eight foot by sixteen foot parking space. The proposal complies with the Parking Ordinance with respect to the required number of parking spaces for a single-family residence, which is three [Town Code § 17.052.030(A)(1)(c) and (A)(2)]. Since this is a downslope parcel with over a 15% slope, there is no requirement to make one of the parking spaces a covered space. The parking configuration will require the approval of a parking variance to have one of the spaces be a compact, eight foot by sixteen foot space and to have a driveway width that exceeds twenty feet [Town Code §§ 17.17.052.(C) and 12.12.030]. The variance for the compact space is discussed below but the driveway width variance is subject to review and approval of the Fairfax Town Council which will be scheduled for a hearing if the Commission takes action approving the project as proposed (Town Code § 12.12.090).

The proposed house square footage and mass is similar to that of other residential structures within the Cascades Subdivision neighborhood ***on similar sized and sloped properties*** (see table below):

75 PINE DRIVE – COMPARABLE HOUSE NEIGHBORHOOD HOUSE SIZES							
APN #	ADDRESS	LOT SIZE	*HOUSE SIZE*	# BEDROOMS	# BATHS	GARAGE	FAR
003-101-07	69 Pine Dr.	6750	1707	3	2	399	.25
003-101-08	65 Pine Dr.	8500	1662	3	2	0	.20
003-101-24	81 Pine Dr.	6750	2042	3	3	0	.30
003-101-26	45 Pine Dr.	5350	1813	3	2	460	.34
003-101-27	41 Pine Dr.	5350	1722	3	2	0	.32
PROJECT SITE							
003-101-06	75 Pine Dr.	7140	1417	2	2	0	.20

Seven rectangular brass step lights will be installed around the west and south stucco wall of the parking deck and two will be installed on the east and west sides of the balcony off the second-floor kitchen. One LED Pathfinder wall sconce will be installed adjacent to the front entry door. These fixtures will be dark sky compliant.

No new landscaping is proposed as part of the project. The applicants intend is to keep the site in its natural condition and strive to maintain the health of the existing oak and other trees on the site.

Based on the above discussion the project complies with the Design Review Criteria set forth in Town Code § 17.020.040. The design review permit findings and project conditions of approval can be viewed in the attached Resolution No. 2022-18 (Attachment A).

Combined Side-yard Setback Variance [Town Code § 17.080.070(B)(2)]

The project site is located within a row of similar sized and sloped properties created by the recording of Amended Map No. 2 of the Cascades, filed for record in October 11, 1921. The map created parcels that were only fifty feet wide. Narrow properties are easier to develop when the required side setbacks are a minimum of five feet on each side. However, in 1973, the Town adopted Ordinance 365 which incorporated the requirement for combined setbacks (front/rear, side) in the residential zones. These combined setbacks are often difficult to comply with for projects proposed on the small and narrow lots typically created in the 1900's or earlier.

The houses on either side of 75 Pine Drive maintain similar five foot setbacks from the side property lines they share with the project site. The house has been designed so that neither neighbor has the entire new house situated just five feet from their homes. Most of the proposed residence maintains a combined side yard setback of twenty-feet but the entry stairs and deck and the portion of the living room that extends beyond the

foundation on the west side if the site, maintain a combined side-yard setback of only ten feet and require the approval of a Combined Side Yard Setback Variance.

The proposed structure has a smaller impact on the neighboring properties and increases the side setbacks maintained by most of the house mass. Therefore, the findings can be made to support approval of the Combined Side-yard Setback Variance.

The Combined Side-yard Setback findings and conditions of the project approval can be found in the attached Resolution No. 2022-18 (Attachment A).

Note: Uncovered parking decks are permitted to be located within the required front yard setback on sites that have over a 15% slope[17.052.010(C)(2)]. Therefore, this project with a site that has a 58% slope does not require a front-yard setback variance.

Parking Variance [Town Code § 17.052.040(B)(1) and (2)]

Town Code §§17.052.030(A)(1) requires that each two bedroom residence be provided with two parking spaces. Town Code §17.052.030(A)(2) requires that third guest parking space also be provided if a space with standard dimensions is not available within the public right-of-way along the property frontage. Town Code §17.052.040(B)(1) and §(2) indicate that the standard dimensions for parking spaces shall be nine feet in width by nineteen feet in length.

The project proposes that one of the three required parking spaces be a compact parking stall measuring eight feet by sixteen feet [Town Code § 17.052.040(C)]. Provision of a smaller, compact, guest parking space on this narrow and steeply sloping site will minimize the amount of public easement the private development monopolizes while also minimizing the site disturbance that would be increased by the creation of a larger third parking space and will allow more light into the upper floor kitchen since the parking deck will not extend over the house below in the area of the third compact parking space.

The findings to support the requested Parking Variance and the conditions of the project approval can be viewed in the attached Resolution No. 22-18 (Attachment A).

Encroachment Permit

Town Code 12.32.010 allows the Planning Commission to grant a revocable encroachment permit to any owner wishing to building private parking or other private improvement that encroaches into the public right-of-way if the area is not being used by the general public and if the owner has no suitable place on their own site for the improvement(s).

The improved portion of Pine Drive and the edge of the public right-of-way (also the front property line of 75 Pine Drive) is located approximately fifteen feet from the 75

Pine Drive front property line. This distance coupled with the steep 58% slope of the site are the factors that result in the parking deck encroaching into the right-of-way. The only way to construct a parking deck to serve the site, while also complying with driveway grade break regulations, minimizing excavation and fill and site disturbance is to locate the parking immediately adjacent to the edge of the paved road.

The proposed approximately fifteen foot encroachment by the three car parking deck is the minimum necessary to allow the proposed construction.

The findings for the Encroachment Permit and the conditions for the project approval can be found in attached Resolution No. 2022-18 (Attachment A).

TREE REMOVAL PERMIT (Town Code Chapter 8.36)

Town Code § 8.36.040(A) requires owners to obtain tree removal permits prior to removing any trees from their property or the adjacent public right-of-way without first obtaining a tree removal permit. Town Code §8.36.030(B) indicates that if trees are proposed for removal due to a development application, the Tree Committee shall make a recommendation to the decision making body regarding the tree removal request within thirty days of the tree removal application being submitted.

The applicants submitted their tree removal application on 3/1/21 and the Tree Committee took action approving the tree removal permit to allow the removal of four bay trees on 5/24/21. The request was based on the requirement that the bay trees be removed by Ross Valley Fire Department and the determination by the project arborist that the removal of the bay trees would benefit the adjacent oak trees (Attachment C – tree removal application including arborist report and e-mail from Ross Valley Fire). Subsequent to this action the owners removed the two bay trees at the rear of the site (Attachment F – Tree removal permit, trees 3 and 4 on the VMP).

Trees 1 and 2 have not yet been removed. Their removal was previously approved by the Tree Committee based on the VMP for the existing residence. Staff is asking that the Commission re-affirm approval of the 5/24/21 Tree Committee action for the two remaining bay trees that have yet to be removed based on the new house proposal which situates the new development within the footprint of the existing house that is to be demolished.

The finding can be made for the requested tree removals and the findings and conditions of the project approval can be found in Resolution 2022-18 (Attachment A).

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. The building prohibition period may be modified if 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. This language is included as one of the conditions in the attached Resolution No. 2022-18 containing the complete findings and conditions of approval for the project (Attachment A).

TOWN ENGINEERS/PLANNING STAFF COMMENTS/CONDITIONS

1. The applicant shall obtain an encroachment permit from the Public Works Department prior to performing any construction related work within the public road easement.

2. A detailed Construction Management and Staging Plan shall be submitted along with the building permit application (for review and approval by the Building Official/Public Works Manager).

3. The exact location of the stormwater energy dissipater shall be shown on the construction engineering plans at the time of submittal for a building permit and shall be subject to approval by the Town Engineer/Building Official prior to issuance of the building permit.

OTHER AGENCY/DEPARTMENT COMMENTS/CONDITIONS

No specific construction conditions were received from Marin Municipal Water District, the Ross Valley Sanitary District, the Ross Valley Fire Department or the Fairfax Police, Building or Public Works Departments. The standard conditions for the Agencies/departments that have them can be reviewed in their entirety and are included along with the project conditions of approval in the attached Resolution No. 2022-18 (attachment A).

RECOMMENDATION

1. Open the public hearing and take public testimony.
2. Move to approve Application # 22-14 by adopting Resolution No. 2022-18 setting forth the findings and the conditions for the project approval (Attachment A).

ATTACHMENTS

A – Resolution No. 2022-18
B - Building Official letter of 3/1/18
C – Project Engineering reports dated 11/8/21 and 5/8/18
D – Town Engineer's memorandum dated 11/30/21
E – Applicant's supplemental information including green building measures
F – Tree Removal Permit dated 5/27/21
G – Map of sewer easement/line location

RESOLUTION NO. 2022-18

A Resolution of The Fairfax Planning Commission Approving Application No. 22-14 for a Hill Area Residential Development (HRD), Design Review, Excavation, Encroachment and Tree Removal Permits and Parking and Combined Side Yard Setback Variances for the Construction of a Single-family Residence and Three Car Parking Deck at 75 Pine Drive

WHEREAS, the Town of Fairfax received an application from Lauri Puchall and Turk Kauffman to construct a 1,417 square-foot, two story (split level), two-bedroom, two-bathroom, single-family residence with an attached three car parking deck at street level on April 8, 2021; and

WHEREAS, the application was deemed complete on June 27, 2022; and

WHEREAS, the Commission held a duly noticed public hearing on the proposed project on July 28, 2022, on the project plans; and

WHEREAS, after holding the public hearing the Planning Commission determined that the project complies with the Hill Area Residential Development Overlay Ordinance and the Design Review Ordinance and that findings can be made to grant the requested HRD, Design Review, Excavation, Encroachment and Tree Removal permits and Parking and Combined Side Yard setback variances at 75 Pine Drive; and

WHEREAS, the Commission has made the following findings:

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

Policy LU-1.2.3: New and renewed development shall be designed and located to minimize the visual mass. The Town will require exterior materials and colors that blend the exterior appearance of structures with the surrounding natural landscape, allowing for architectural diversity.

Policy LU-4.1.4: New and renewed development shall be designed to minimize run-off in a manner that does not cause undue hardship on neighboring properties.

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

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.

ATTACHMENT A

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 while also bringing the property more into conformance with the Town parking regulations, providing three on-site parking spaces.

3. Based on the soils report findings, the site can be developed without geologic, hydrologic, or seismic hazards;

4. Vehicular access and parking are adequate.

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.

Excavation Permit (Town Code § 12.20.080)

Based on the Town Engineer's review and recommendation that the project can be constructed safely, the Planning Commission finds that:

1. The health safety and welfare of the public will not be adversely affected;

2. Adjacent properties are adequately protected by project investigation and design from geologic hazards as a result of the work;

3. Adjacent properties are adequately protected by project design from drainage and erosion problems as a result of the work;

4. The amount of the excavation or fill proposed is not more than that required to allow the property owners substantial use of their property.

5. The visual and scenic enjoyment of the area by others will not be adversely affected by the project more than is necessary.

6. Natural landscaping will not be removed by the project more than is necessary; and

7. The time of year during which construction will take place is such that work will not result in excessive siltation from storm runoff nor prolonged exposure of unstable excavated slopes (Town code § 17.072.090(c)(4) prohibits grading of hillside properties from October 1st through April 1st of each year).

Encroachment Permit (Town Code §12.32.010)

The portion of the parking deck that projects into the Pine Drive right-of-way will not use or obstruct any developed section of the road and the area is not currently being used by the public.

Design Review (Town Code § 17.020.040)

1. The project depicted in the plans submitted to the Town on June 27, 2022, complies with the Design Review Criteria set forth in Town Code § 17.020.040.

Combined Side-Yard Setback Variance (Town Code § 17.028.070)

1. The steep, 58% slope of the site, the narrow fifty foot width and close proximity to the side property lines of the existing residences at 69 and 81 Pine Drive are the site features that warrant granting the requested Combined Side Yard Setback Variance to construct the project. The proposed development will provide much needed parking on the site while evenly distributing the mass of portions of the structure located five feet from the east and west side property lines. The strict enforcement of the combined twenty-foot side yard setback regulations would impact one of the neighboring homes more than the other.

2. There are other properties in the vicinity that maintain only the minimum five-foot side yard setbacks, the setbacks that were in existence when this area of Pine Drive was originally developed. Therefore, the granting of this variance will not be a grant of special privilege.

3. The strict application of the setback regulations would result in unreasonable hardship for the applicants because they would be unable to bring the property more into compliance with the Town parking regulations while also allowing the construction of the house in a manner that allows a portion of the front of the house to not be obstructed by an overhanging parking deck.

4. The proposed structure will maintain the same or greater side yard setbacks than the existing structure to be demolished. Therefore, the granting of the variance will not be detrimental to the public welfare or injurious to other property in the vicinity in which the property is situated.

Tree Removal

The two Bays approved for removal were required to be removed by the Ross Valley Fire Department as part of the vegetative management plan and the project arborist has indicated their removal will improve the health of the nearby oak trees. Therefore, the project is in compliance with all the considerations listed in Town Code 8.36.060(B) (1 through 7) of the Tree Ordinance, Town Code Chapter 8.36.

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:

Architectural Plan set received by the Town on 7/27/22 by architects/owners Lauri Puchall and Turk Kauffman, Site survey by David O. Knell, Professional Land Surveyor, recorded on 7/16/20, Topographic survey by Eric A. Humann, dated 7.9.20, Vegetative Management Plan approved by the Ross Valley Fire Department on 2/1/21, Engineering plan set, revision date 5/25/22 by Orion W. Agnew, Registered Professional Engineer, Geotechnical Report by Herzog Geotechnical Consulting Engineers dated 5/8/18. Herzog Geotechnical Report Update/Response to Town Engineer comments dated 11/8/21.

The project is subject to the following conditions of approval:

1. Prior to issuance of any of the building permit for the project the applicant or his assigns shall:

a) Submit a detailed Construction Management and Staging Plan to the Public Works Department for their approval. The amended 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 and retaining elements shall be designed by a structural engineer certified as such in the state of California. Plans and calculations of the foundation and retaining elements shall be stamped and signed by the structural engineer and submitted to the satisfaction of the Town Structural Engineer.

5. The grading, foundation, retaining, and drainage elements shall also be stamped and signed by the project geotechnical engineer as conforming to the recommendations made by the project Geotechnical Engineer. The location of the energy dissipater shall be determined, shown on the construction plans, and approved by the Town Engineer prior to issuance of the project building permit.

6. Prior to submittal of the building permit plans, the applicant shall secure written approval from the Ross Valley Fire Authority, Marin Municipal Water District and the Ross Valley Sanitary District noting the development conformance with their recommendations.

7. Submit 3 copies of the recorded record of survey with the building permit plans.

8. All retaining walls that are visible from the street and are constructed of concrete shall be heavily textured or colorized in a manner approved by the planning staff prior to issuance of the building permit. This condition is intended to mitigate the visual impact of the proposed walls.

9. Prior to the removal of any trees not approved by the Planning Commission through this action, the applicant shall secure a tree cutting permit, if required, from the Fairfax Tree Committee prior to removal of any on-site trees subject to a permit under Town Code Chapter 8.36. To further minimize impacts on trees and significant vegetation, the applicant shall submit plans for any utility installation (including sewer, water, and drainage) which incorporates the services of an ISA certified arborist to prune and treat trees having roots 2 inches or more in diameter that are disturbed during the construction, excavation or trenching operations. Tree root protection measures may include meandering the line, check dams, rip rap, hand trenching, soil evaluation and diversion dams.

10. The approved tree permit must be kept on the job site and the applicant must verify that the tree company performing the approved tree work has a current Fairfax Business License.

11. Prior to the start of construction, the surveyor shall mark the side property lines and submit a signed and stamped letter to the Building Department indicating that side property line locations are marked per the boundary survey.

12. During the construction process the following shall be required:

a) The geotechnical engineer and the project arborist shall be on-site during the grading process and both shall submit written certification to the Town Staff that the grading and tree protection measures have been completed as recommended prior to installation of foundation and/or retaining forms and

drainage improvements, piers, and supply lines.

b) Prior to the concrete form inspection by the building official, the geotechnical and structural engineers shall field check the forms of the foundations and retaining elements and provide written certification to the 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 foundation 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.

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

a) The geotechnical engineer shall field check the completed project and submit written certification to the Town Staff that the foundation, retaining, grading and drainage elements have been installed in conformance with the approved building plans and the recommendations of the soils report. Additionally, the project engineer shall review the construction schedule and plans at each phase of the project construction to determine the best order for each phase to occur including the hillside retention/drainage phases.

b) The Planning Department and Town Engineer shall field check the completed project to verify that all staff, agency, and planning commission conditions and required engineering improvements have been complied with prior to issuance of the certificate of occupancy.

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

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

16. 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. This language is included as one of the conditions in the attached Resolution No. 2022-18 containing the complete findings and conditions of approval for the project (Attachment A).

17. Any changes, modifications, additions, or alterations made to the approved set of plans will require a modification of Application # 22-14. 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 22-14 will result in the job being immediately stopped and red tagged.

18. Any damages to the public portions Pine Drive, Laurel Drive, Cascade Drive, or other public roadway used to access the site resulting from construction activities shall be the responsibility of the property owner.

19. 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.

20. 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.

21. Conditions placed upon the project by outside agencies, Town departments or by the Town Engineer may be eliminated or amended with that agency, department, or the Town Engineer's written notification to the Planning Department prior to issuance of the building permit.

22. 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.

Town Engineer's Conditions

23. 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.

24. The applicant shall obtain an encroachment permit from the Public Works Department prior to performing any construction related work within the public road easement.

25. A detailed Construction Management and Staging Plan shall be submitted along with the building permit application (for review and approval by the Building Official/Public Works Manager).

26. The exact location of the stormwater energy dissipater shall be shown on the construction engineering plans at the time of submittal for a building permit and shall be subject to approval by the Town Engineer/Building Official prior to issuance of the building permit

Ross Valley Fire Department

27. All vegetation and construction materials are to be maintained away from the residence during construction.

28. Hydrant flow and location are to be identified before construction begins.

29. The project requires installation of a fire sprinkler system in the garage structure 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.

30. 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.

31. 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.

32. 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.

33. 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 be a breaker so it will remain illuminated all night.

34. Alternative materials or methods may be proposed for any of the above conditions in accordance with Section 104.9 of the Fire Code.

35. 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)

36. A copy of the building permit must be provided to the district along with the required applications and fees.

37. The foundation must be completed within 120 days of the date of application.

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

39. Any landscaping plans must be reviewed and approved by the district.

40. Backflow prevention requirements must be met.

41. Ordinance 420., requiring installation of 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.

42. All the District's rules and regulations if effect at the time service is requested must be complied with.

Ross Valley Sanitary District (RVSD)

43. A sewer connection permit and a side sewer connection permit are required for all work outside the new building footprint.

44. Fees will include sewer capacity charges as well as permit fees.

45. Test the sewer lateral(s) from the outer face of the building to the connection at the existing sewer main, in accordance with RVSD Ordinance 100 and Standards.

46. Include a sewer cleanout and backwater protection device within 2-feet of the building foundation, the Ross Valley Sanitary Standard Notes shall be shown and are found in Subsection L of Section 3 of the Design and Construction Standards and demonstrate that all materials used in the construction of the sewer improvements are from the approved materials list.

47. A hold will be placed on the property when the building permit is issued and will not be released for occupancy until the district permit and sewer requirements have been fulfilled.

48. A Certificate of Compliance for the lateral must be obtained from the RVSD prior to the project final inspection by the Fairfax Building Department.

Fairfax Public Works Department

49. All large trucks with more than 2 axles accessing the site for construction will be limited daily to the hours between 9 AM to 3 PM.

50. Complete road closures will be limited to concrete pours and steel placement and will be coordinated with the Fairfax Police Department and Ross Valley Fire Department.

Miscellaneous

51. A drainage system maintenance agreement including a system location plan and required maintenance schedule hall be approved by the Town Engineer and then be recorded at the Marin County Recorder's Office setting forth the required maintenance schedule to ensure the drainage system continues to

function as designed. A copy shall be provided to the Town prior to issuance of the building permit.

52. All the exterior lighting 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 upplight 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.

53. A driveway width variance shall be approved by the Fairfax Town Council prior to issuance 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, Design Review, Excavation and Tree Removal permits and Parking and Combined Side-yard Setback Variances to allow construction of the proposed house and parking deck 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, Interim Planning Director

TOWN OF FAIRFAX
142 Bolinas Road, Fairfax, California 94930
(415) 453-1584 / Fax (415) 453-1618

March 1, 2018

Pacific Gas and Electric
Anderson Dr
San Rafael CA

Re; 75 Pine Dr.
Fairfax, CA 94930

Dear Sirs:

During a resale inspection we observed unsafe conditions at 75 Pine Dr. including but not limited to: no working sanitary facilities, exposed unsafe electrical wiring, lack of interior sheetrock, missing flooring, appliances in disrepair, and a leaking roof.

At your earliest convenience please disconnect the service conductors at the main power lines, remove the electrical meter, and remove the gas meter.

The property is not occupied, and is posted uninhabitable.

Please feel free to contact me at 415-458-2370 regarding this matter if you have questions.

If you would like me to send you a hard copy of this letter please provide a mailing address.

Sincerely;

Mark Lockaby
Building Official

ATTACHMENT B

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

November 8, 2021
Project Number 3647-01-18

Mr. Turk Kauffman
131 Eldridge Avenue
Mill Valley, California 94941

RE: Geotechnical Report Update
75 Pine Drive
Fairfax, California

Dear Mr. Kauffman:

This presents our geotechnical report update in connection with the proposed residence at 75 Pine Drive in Fairfax, California. We previously performed a geotechnical investigation at the site and summarized results in our report dated May 8, 2018. Our work is being provided in accordance with the terms and conditions outlined in our proposal dated April 10, 2018.

GEOTECHNICAL REPORT UPDATE

Based on our review and recent site reconnaissance, we conclude that the geotechnical design criteria presented in our May 8, 2018 report are applicable to the proposed project with the following modifications:

Seismic Design Criteria

The following updated seismic design criteria were developed in accordance with the *2019 California Building Code* and *ASCE 7-16*:

Site Class	C
Site Coefficient F_a	1.2
Site Coefficient F_v	1.4
0.2 sec Spectral Acceleration S_S	1.50
1.0 sec Spectral Acceleration S_1	0.60
0.2 sec Max Spectral Response S_{MS}	1.80
1.0 sec Max Spectral Response S_{M1}	0.84
0.2 sec Design Spectral Response S_{DS}	1.20
1.0 sec Design Spectral Response S_{D1}	0.56
Design Category	D

ATTACHMENT C

Site Stability/Surface Drainage

As discussed in our report, we judge that the slopes at the site may be subject to sloughing and possible instability, particularly as a result of earthquake shaking, heavy rainfall, and/or time-dependent material strength loss. The risk to proposed improvements will be mitigated by extending foundation support into bedrock and designing foundations to resist lateral pressures imposed by the soils above the bedrock. It will also be necessary to extend drains to a suitable outlets away from potentially unstable areas. We understand that it will not be feasible to extend outlet piping across downslope properties and to a suitable outlet at the base of the hillside. It will therefore be necessary for flow from outlets to be dissipated on the slope and spread as much as possible. As noted by the Town's peer reviewer, a topographic depression is present downslope of the east corner of the residence, and existing foundations above this area are undermined. We concur with the reviewer that drainage should not be conducted into this area, and have recommended outlet dissipaters be located further downslope and shifted to the southwestern portion of the hillside. We have reviewed the dissipater location depicted on the civil plans by Agnew Civil Engineering revised November 3, 2021, and judge that the proposed outlet location is acceptable from a geotechnical standpoint.

SUPPLEMENTAL SERVICES

Our conclusions and recommendations are contingent upon Herzog Geotechnical being retained to review the project plans and specifications to evaluate if they are consistent with our recommendations, and being retained to provide observation and appropriate field and laboratory testing during site clearing and grading, pier drilling, retaining wall backdrain installation, wall backfilling, slab underdrain installation, and subdrainage installation to evaluate if subsurface conditions are as anticipated and to check for conformance with our recommendations. We should also be notified to observe the completed project. Steel, concrete, slab moisture barriers, temporary slopes, shoring, surface drainage, and/or waterproofing should be inspected by the appropriate party, and are not part of our scope of work. We should be notified at least 48 hours before the beginning of each phase of work requiring our observation, and upon resumption after interruptions. These services are performed on an as-requested basis. We cannot provide comment on conditions, situations or stages of construction that we are not notified to observe.

LIMITATIONS

This report has been prepared for the exclusive use of Mr. Turk Kauffman and his consultants. Services performed by Herzog Geotechnical have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing in the same locality under similar conditions at the time the services were provided. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this letter or in any opinion, documented or otherwise. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

Our work did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, groundwater or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands. Our work also did not address the evaluation or mitigation of mold hazard at the site.

We appreciate the opportunity to be of service to you. If you have any questions, please call us at (415) 388-8355.

Sincerely,
HERZOG GEOTECHNICAL

Digitally signed by
Craig Herzog
Adobe Acrobat version:
2021.001.20135

Craig Herzog, G.E.
Principal Engineer

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

May 8, 2018
Project Number 3647-01-18

Mr. Turk Kauffman
131 Eldridge Avenue
Mill Valley, California 94941

RE: Report
Geotechnical Investigation
75 Pine Drive
Fairfax, California

This presents the results of our geotechnical investigation for the proposed residence at 75 Pine Drive in Fairfax, California. The scope of our investigation was to review selected geologic references, observe exposed site conditions, drill three test borings in the project area, perform laboratory testing, conduct engineering analyses, and develop geotechnical recommendations for the design and construction of the project. Our work was performed in accordance with our proposal dated April 10, 2018.

PROJECT DESCRIPTION

We understand that the project will consist of demolishing an existing house at the site, and constructing a new single-family residence. Project plans have not yet been developed.

WORK PERFORMED

As part of our investigation, we reviewed selected geologic references. On April 26, 2018, we explored the subsurface conditions in the project area to the extent of three test borings ranging between approximately 4-1/2 and 10 feet deep, and extending into bedrock. Due to limited access, the test borings were drilled with portable drilling equipment. The approximate locations of the test borings are shown on the attached *Site Plan*, Plate 1.

Our personnel observed the drilling, logged the subsurface conditions encountered, and collected soil samples for visual examination and laboratory testing. Samples were retrieved using Sprague and Henwood and Standard Penetration Test samplers driven with a 70-pound hammer. Penetration resistance blow counts were obtained by dropping the hammer through a 30-inch free fall. The number of blows was recorded for each 6 inches of sampler penetration. These blow counts were then correlated to equivalent standard penetration resistance blow counts. The blows per foot recorded on the boring logs represent the accumulated number of correlated

standard penetration blows that were required to drive the sampler the last 12 inches or fraction thereof.

Logs of the test borings are presented on Plates 2 through 4. The soils encountered are described in accordance with the criteria presented on Plate 5. Bedrock is described in accordance with the *Engineering Geology Rock Terms* presented on Plate 6. The logs depict our interpretation of subsurface conditions on the date and at the depths indicated. The stratification lines on the logs represent the approximate boundaries between soil types; the actual transitions may be gradational.

Selected samples were laboratory tested to determine their moisture content and dry density. Laboratory test results are posted on the boring logs in the manner described on the *Key to Test Data*, Plate 5.

FINDINGS

Site Conditions

The site is located on the southeastern (downslope) side of Pine Drive in Fairfax, California. The site is situated on a subtle spur ridge which extends down towards the southeast at an average inclination of approximately 1-1/2:1 (horizontal:vertical). The portion of the roadway above the site was created by excavating along the upslope side, and by placing fill beneath the downslope portion. The resultant cut bank for the roadway generally ranges to about 8 feet high and generally exposes varying thicknesses of colluvium (slopewash) overlying highly weathered sandstone. The fill bank downslope of the roadway ranges to about 12 feet high and is inclined at about 1:1. A brick turnout at the edge of the roadway is supported by a low timber bulkhead. The roadway fills have yielded, resulting on longitudinal cracking of the outboard pavement edge. The house is accessed by a car deck which spans over the fill bank onto a roof deck. The toe of the portion of fill bank below the car deck is supported by a few foot high timber bulkhead. The toe of the remainder of the fill bank upslope of a site is supported by an approximately 4 foot high concrete wall. The residence is situated on an approximately 1-1/2:1 slope, and appears to be supported on continuous and isolated concrete footings. Slopes within the crawl space beneath the residence are supported by timber and concrete walls ranging to several feet high. A deck downslope of the house is supported on isolated footings and sono-tube piers of unknown depth. Downslope of the house, a tree covered hillside extends down at about 1-1/2:1 towards the southeast.

Subsurface Conditions

The site is within the Coast Range Geomorphic Province which includes San Francisco Bay and the northwest-trending mountains that parallel the coast of California. These features were

formed by tectonic forces resulting in extensive folding and faulting of the area. Previous geologic mapping by Rice (1976) indicates that the site is underlain by bedrock of the Franciscan Melange. This unit is Jurassic to Cretaceous in age, and typically consists of a heterogeneous mixture of sandstone, sheared shale, metavolcanic rock, serpentinite and chert.

Our test borings encountered fill, topsoil, colluvium and residual soil overlying bedrock. The fill encountered generally consists of soft gravelly silt. The topsoil encountered consists of soft to medium stiff sandy silt with organics. The colluvial soils encountered generally consist of loose clayey sand with gravel. The residual soils encountered consist of medium dense clayey gravel derived from the in-place weathering of the underlying parent bedrock. The soils encountered are generally weak and compressible, are of low expansion potential, and are subject to downslope creep as is typical of hillsides in the area. Bedrock encountered in the borings generally consists of firm shale and of moderately hard sandstone.

The approximate test boring locations are shown on the *Site Plan* (Plate 1). The test borings encountered the following profiles:

	Depth (feet)			
Boring	**Fill**	**Topsoil/Colluvium**	**Residual Soil**	**Bedrock**
B-1	---	0-4.5	---	4.5-5.5+
B-2	0-1.0	1.0-3.5	3.5-5.0	5.0-5.3+
B-3	---	0-4.0	---	4.0-4.3+

Descriptions of the subsurface conditions encountered are presented on the boring logs.

Groundwater

Free groundwater did not develop in the borings prior to backfilling. Groundwater levels at the site are expected to fluctuate over time due to variations in rainfall and other factors. Rainwater percolates through the relatively porous surface soils. On hillsides, the water typically migrates downslope in the form of seepage within the porous soils, at the interface of the soil/bedrock contact, and within the upper portions of the weathered and fractured bedrock.

GEOLOGIC AND SEISMIC HAZARDS

Landsliding

Regional mapping by Rice (1976) indicates the presence of previous landsliding within swale areas flanking the northeastern and southwestern sides of the site, but does not indicate sliding within the area of the proposed residence. In addition, maps of slope failures resulting from the severe 1982 storms (Davenport, 1984) and of slope failures resulting from the heavy 1997/1998 storms (USGS, 1999) do not indicate that sliding was reported at the site at either of those times.

The site lies within Slope Stability Zone 3 as defined in *"Geology for Planning: Central and Southeast Marin County"* (Rice, 1976). Zone 3 includes areas where steepness of slopes approach the stability limits of the underlying geologic materials. The zones range from 1 to 4, with Zone 4 indicating least stable.

We observed areas of previous instability within swale areas northeast and southwest of the site, but did not observe evidence of landsliding within the project area during our investigation. However, the roadway fill bank and the natural slopes within the project area are overly steep, and our test borings indicate that the soils at the site are relatively weak. We judge that the slopes may be subject to sloughing and possible instability, particularly as a result of earthquake shaking, heavy rainfall, and/or time-dependent material strength loss. The risk to proposed improvements will be mitigated by extending foundation support into bedrock and designing foundations to resist lateral pressures imposed by the soils above the bedrock. In order to reduce the risk of debris obstructing drainage facilities and/or impacting the residence, it will be necessary to provide for slough catchment upslope of the residence as outlined in this report. It will also be necessary to redirect drainage away from potentially unstable slopes, to provide catchment between and to retain cuts and fills with engineered retaining walls.

Fault Rupture/Ground Shaking

The property is not within a current Alquist-Priolo Earthquake Fault Zone (EFZ), and we did not observe geomorphic features that would suggest the presence of active faulting at the site. As such, we judge that the risk of ground rupture along a fault trace is low at this site.

The San Francisco Bay Region has experienced several historic earthquakes from the San Andreas and associated active faults. Mapped active faults (those experiencing surface rupture within the past 11,000 years) nearest the site are summarized in the following table.

Fault	Distance		Moment Magnitude[1]	Acceleration (g)[2]	
	Miles	Kilometers		M[3]	M+1[3]
San Andreas (Northern)	6.0	9.7	7.9	0.42	0.75
Seal Cove/San Gregorio	6.8	10.9	7.5	0.36	0.64
Hayward	12.1	19.5	7.1	0.21	0.38
Healdsburg/Rodgers Creek	15.8	25.4	7.0	0.15	0.27

(1) Estimated maximum magnitudes from CDMG (1996) Open File Report 96-08, and Cao et al. (2002).
(2) Peak ground acceleration averaged from New Generation Attenuation (NGA-West 2) relationships by Abrahamson, Silva & Kamai (2104), Boore, Stewart, Seyhan and Atkinson (2014), Campbell and Bozorgnia (2014), Chiou and Youngs (2014), and Idriss (2014). Estimated shear wave velocity (V_{S30}) = 525 m/s.
(3) M = mean value; M+1 = mean+1 standard deviation value.

Deterministic information generated for the site considering the proximity of active faults and estimated ground accelerations are presented in the table above. The estimated ground accelerations were derived from the above-referenced mean attenuation relationships, and are based on the published estimated maximum earthquake moment magnitudes for each fault, the shortest distance between the site and the respective fault, the type of faulting, and the estimated shear wave velocities of the on-site geologic materials. The deterministic evaluation of the potential for ground shaking assumes that the anticipated maximum magnitude earthquake produces fault rupture at the closest proximity to the site, and does not take recurrence intervals or other probabilistic effects into consideration. This evaluation also does not consider directivity effects, topographic amplification, or other phenomena which may act to amplify ground motions.

Data presented by the U.S. Geological Survey (2016) estimates the chance of one or more large earthquakes (Magnitude 6.7 or greater) in the San Francisco Bay region before the year 2043 to be 72 percent. Consequently, we judge that the site will likely be subject to strong earthquake shaking during the life of the improvements.

Liquefaction

During ground shaking from earthquakes, liquefaction can occur in saturated, loose, cohesionless sands. The occurrence of this phenomenon is dependent on many factors, including the intensity and duration of ground shaking, soil density, particle size distribution, and position of the ground water table (Idriss and Boulanger, 2008). The soils encountered in our test borings contain a high percentage of fine grained materials (silt and clay). Thus, we judge that the likelihood of liquefaction during ground shaking is low.

Densification

Densification can occur in low density, uniformly-graded sandy soils above the groundwater table. We judge that significant densification is unlikely to occur in the areas explored because of the high silt and clay content of the soils encountered in the test borings.

CONCLUSIONS

Our investigation indicate that the project area is blanketed by varying thicknesses of weak and compressible soils which are subject to differential settlement and to downslope creep and possible instability. We therefore conclude that foundation support for the residence and associated improvements should be derived from drilled, cast-in-place, reinforced concrete piers which extend into bedrock and which are designed to resist lateral forces imposed by the creeping soils above the bedrock. To avoid differential settlement, interior and other settlement

sensitive slabs should be structural slabs designed to span between pier foundations. We estimate that differential settlements of foundations and structural slabs designed in accordance with the recommendations contained in this report will be on the order of half an inch.

Due to site steepness and the presence of relatively weak soils, it will be necessary to provide slough catchment below the roadway fill bank and to fully retain cuts and fills with engineered retaining walls. Retaining walls should be supported on pier foundations which extend into undisturbed bedrock, and which are designed to resist creep forces imposed by the soils above the rock. Walls should be provided with adequate backdrainage to prevent hydrostatic buildup.

It is important that water be conducted away from foundations and flatwork in order to reduce moisture changes in the weak on-site soils. Perimeter subdrains, crawl space subdrainage and slab underdrains should be provided to reduce water infiltration beneath the structure, and all roofs should be provided with gutters and downspouts. All drains and downspouts should be collected in new closed conduits and discharged at an approved erosion resistant outlet well away from slopes or improvements.

RECOMMENDATIONS

Seismic Design

Based on the results of our investigation, the following seismic design criteria were developed in accordance with the *California Building Code* (2016) and *ASCE 7-10* (July 2013 errata):

Site Class	C
Site Coefficient F_a	1.0
Site Coefficient F_v	1.3
0.2 sec Spectral Acceleration S_S	1.50
1.0 sec Spectral Acceleration S_1	0.67
0.2 sec Max Spectral Response S_{MS}	1.50
1.0 sec Max Spectral Response S_{M1}	0.87
0.2 sec Design Spectral Response S_{DS}	1.00
1.0 sec Design Spectral Response S_{D1}	0.58
Design Category	D

Site Preparation

Following demolition, remaining foundations, walls and slabs should be removed and areas to be developed should be cleared of trees, tree roots, brush and deleterious material. The area to be developed should be stripped of the upper soils containing root growth and organic matter. The cleared materials and strippings should be removed from the site. Pipes, septic tanks, leach fields

and other buried objects should be removed, and the resultant voids cleaned and backfilled with approved fill which is compacted as recommended by our representative in the field. Cuts should be retained as described below.

Temporary Slopes and Shoring

Temporary slopes should be laid back or shored in conformance with OSHA standards. The Contractor should slope temporary excavations no steeper than 1-1/2:1, or should install shoring as excavations proceed in order to maintain lateral support. All temporary slopes, shoring, and protection of adjacent improvements should be contractually established as solely the responsibility of the Contractor. The design and inspection of temporary slopes and shoring are specifically excluded from our scope of work. Shoring should be designed to resist the lateral earth pressures outlined in the *Retaining Walls* section of this report.

Foundations

Drilled piers for the support of the residence, walls, decks and other improvements should be at least 18 inches in diameter and should extend at least 8 feet into bedrock. Design pier depths and diameters should be calculated by the Project Structural Engineer using the criteria presented below. The materials encountered during pier drilling should be evaluated by our representative in the field. Drill spoils should be removed from the site or placed as retained engineered fill.

The sidewalls of pier holes allowed to remain open may be subject to desiccation and deterioration which adversely impacts skin friction capacity. If concrete is not placed in pier holes within 72 hours of drilling, we should be notified to reevaluate the holes to determine if they need to be reamed out or re-drilled.

Piers should be interconnected with grade beams to support structural loads and to redistribute stresses imposed by the creeping soils. Piers and grade beams should be designed and reinforced to resist creep forces acting from the finished ground surface to the top of the rock, and exerting an active equivalent fluid pressure of 60 pounds per cubic foot (pcf). For piers, this pressure should be assumed to act on 2 pier diameters.

Piers should be interconnected with grade beams to support structural loads. The portion of piers extending into bedrock can impose a passive equivalent fluid pressure of 400 pounds per cubic foot (pcf) acting over 2 pier diameters, and vertical dead plus real live loads of 1000 pounds per square foot (psf) in skin friction. These values may be increased by 1/3 for seismic and wind loads, but should be decreased by 1/3 for determining uplift resistance. The portion of piers designed to impose passive pressures should have at least 7 feet of horizontal confinement from the face of the nearest slope or wall. Confining overburden for passive pressure calculations should be assumed to begin at the bedrock surface. End bearing should be neglected due to the uncertainty of mobilizing end bearing and skin friction simultaneously.

If groundwater is encountered, it may be necessary to dewater the holes and/or to place concrete by the tremie method. If caving soils are encountered it will be necessary to case the holes. Hard drilling or coring will likely be required to achieve the required bedrock penetrations.

Slabs

All slabs should be designed to span between drilled pier foundations.

Interior slab subgrade should be sloped to drain into 12 inch deep trenches excavated beneath the middle of each slab. The trenches should be lined completely with a filter fabric such as Mirafi 140N, or equivalent. A 4-inch diameter rigid-perforated PVC or ABS (Schedule 40, SDR 35 or equivalent) pipe should be placed with perforations down on a 1-inch layer of drain rock at the bottom of the trench. The trench should be backfilled with drain rock up to slab subgrade elevation. The filter fabric should be wrapped over the top of the drain rock. The pipe should be sloped to drain by gravity to a non-perforated pipe which discharges at an approved outlet. The trench for the non-perforated pipe should be backfilled with properly compacted soil.

Interior slabs should be underlain by a capillary moisture break consisting of at least 4 inches of free-draining, crushed rock or gravel (slab base rock) at least 1/4 inch, and no larger than 3/4 inch, in size. Moisture vapor detrimental to floor coverings or stored items will condense on the undersides of slabs. A moisture vapor barrier should therefore be installed over the capillary break. The barrier should be specified by the slab designer. It should be noted that conventional concrete slab-on-grade construction is not waterproof. The local standard under-slab construction of crushed rock and vapor barrier will not prevent moisture transmission through slab-on-grade. Where moisture sensitive floor coverings are to be installed, a waterproofing expert and/or the flooring manufacturer should be consulted for recommended moisture and vapor protection measures, including moisture barriers, concrete admixtures and/or sealants.

Retaining Walls

All retaining walls should be supported in rock on drilled pier foundations designed in accordance with the recommendations presented in this report. Free-standing retaining walls should be designed to resist active lateral earth pressures equivalent to those exerted by a fluid weighing 45 pounds per cubic foot (pcf) where the backslope is level, and 60 pcf for backfill at a 2:1 slope. Retaining walls restrained from movement should be designed to resist an "at-rest" equivalent fluid pressure of 60 pcf for level backfill and 75 pcf for backfill at a 2:1 slope. For intermediate slopes, interpolate between these values. Where wall backfill will be subject to vehicular loading, a traffic surcharge equivalent to 2 feet of additional backfill should be added to walls. A minimum factor of safety against instability of 1.5 should be used to evaluate static stability of retaining walls.

Seismic wall stability should be evaluated based on a uniform lateral earth pressure of 12xH psf (where H is the height of the wall in feet). This pressure is in addition to the active equivalent fluid pressures presented in the report. For restrained walls, seismic pressures may be assumed to act in combination with active rather than at-rest earth pressures. The factor of safety against instability under seismic loading should be at least 1.1.

In addition to lateral earth pressures, retaining walls must be designed to resist horizontal pressures that may be generated by uphill retaining walls. Where an imaginary 1-1/2:1 (horizontal:vertical) plane projected downward from the base of an upslope retaining wall intersects the downslope wall, that portion of the downslope wall below the intersection should be designed for an additional horizontal uniform pressure equivalent to the maximum calculated lateral earth pressure at the base of the upslope wall.

The steep roadway fill bank is subject to sloughing and possible instability. In order to reduce the risk to the house, the upslope wall of the building or walls upslope of the structure should be provided with at least 3 vertical feet of slough catchment. These walls should be designed for an equivalent fluid pressure of 75 pcf acting on the catchment area.

Retaining walls should be fully backdrained. The backdrains should consist of 4-inch diameter, rigid perforated pipe surrounded by a drainage blanket. The top of the drain pipe should be at least 8 inches below lowest adjacent downslope grade. The pipe should be PVC Schedule 40 or ABS with an SDR of 35 or better, and the pipe should be sloped to drain at least 1 percent by gravity to an approved outlet. Accessible subdrain cleanouts should be provided, and should be maintained on a routine basis. The drainage blanket should consist of clean, free-draining crushed rock or gravel wrapped in a filter fabric such as Mirafi 140N. Alternatively, the drainage blanket could consist of Caltrans Class 2 "Permeable Material", in which case the filter fabric may be omitted. A prefabricated drainage structure such as Mirafi Miradrain may also be used provided that the backdrain pipe is embedded in permeable material or fabric-wrapped crushed rock. The drainage blanket should be continuous, at least 1 horizontal foot thick, and should extend to within 1 foot of the surface. The uppermost 1 foot should be backfilled with compacted soil to exclude surface water.

Where migration of moisture through retaining walls would be detrimental or undesirable, retaining walls should be waterproofed as specified by the Project Architect or Structural Engineer.

Wall backfill should be spread in level lifts not exceeding 8 inches in thickness, brought to near the optimum moisture content, and compacted to at least 90 percent relative compaction. Relative compaction refers to the in-place dry density of a soil expressed as a percentage of the maximum dry density of the same material, as determined by the ASTM D1557 test procedure. Optimum moisture content is the water content of the soil (percentage by dry weight) corresponding to the maximum dry density. Retaining walls will yield slightly during

backfilling. Therefore, walls should be backfilled prior to building onto or adjacent to the walls, and should be properly braced during the backfilling operations. Backfilling adjacent to walls should be performed only with hand-operated equipment to avoid over-stressing the walls.

Even well compacted backfill will settle about 1 percent of its thickness. Therefore, non-structural slabs and other improvements crossing the backfill should be designed to span or to accommodate this settlement.

Geotechnical Drainage

Positive drainage should be provided away from foundations and flatwork. Provisions should be made to divert anticipated runoff away from the structure, and provisions should be made for fail-safe drainage around the building to prevent flooding in the event that the drains upslope of the structure become clogged. Drop inlets should be provided at low points as necessary to prevent ponding of surface water. All roofs should be provided with gutters and downspouts. All downspouts and surface drains should be connected to non-perforated conduits which discharge at an approved outlet well away from improvements or potentially unstable slopes. It would be desirable to obtain permission to conduct outlet piping across downslope properties and to a suitable outlet at the base of the hillside. Otherwise, flow from the outlets should be dissipated and spread as much as possible. Conduit should consist of rigid PVC or ABS pipe which is Schedule 40, SDR 35 or equivalent. Downspouts, surface drains and subsurface drains should be checked for blockage and cleared and maintained on a regular basis. Surface drains and downspouts should be maintained entirely separate from slab underdrains and foundation drains.

Foundation drains should be installed adjacent to all perimeter foundations. Perimeter retaining wall backdrains may be substituted for foundation drains. The drains should consist of trenches which extend 18 inches deep, or 12 inches below lowest adjacent interior or crawl space grade, whichever is deeper, and which are sloped to drain at least 1 percent by gravity. The trenches should be lined completely with a filter fabric such as Mirafi 140N, or equivalent. A 4-inch diameter rigid perforated PVC or ABS pipe (Schedule 40, SDR 35 or equivalent) should be placed on a 1-inch thick layer of drain rock at the bottom of the trenches with perforations down. The pipes should be sloped to drain at least 1 percent by gravity to a non-perforated pipe (Schedule 40, SDR 35 or equivalent) which discharges at an approved outlet. The trench for the perforated pipe should be backfilled to within 6 inches of the ground surface with drain rock. The filter fabric should be wrapped over the top of the drain rock. The upper 6 inches of the trenches should be backfilled with compacted clayey soil to exclude surface water. The trench for the non-perforated outlet pipe should be completely backfilled with compacted soil.

Water will accumulate in depressed or sloping crawl spaces. Crawl spaces should be graded to create a smooth sloping surface, and covered with an approved pre-fabricated drainage material such as Mirafi Miradrain 6000. A 4-inch diameter, perforated Schedule 40 or SDR 35 pipe should be provided in a trench at the base of the crawl space. The trench should extend 18 inches

deep or 12 inches below lowest adjacent interior grade, whichever is deeper, and should be sloped to drain at least 1 percent by gravity. The trench should be completely lined with Mirafi 140N filter fabric, or equivalent. The perforated pipe should slope to drain at least 1 percent to a non-perforated Schedule 40 or SDR 35 pipe which discharges at an approved outlet. The slope and trench should then be covered with reinforced gunite.

Supplemental Services

Our conclusions and recommendations are contingent upon Herzog Geotechnical being retained to review the project plans and specifications to evaluate if they are consistent with our recommendations, and being retained to provide observation and appropriate field and laboratory testing during site clearing and grading, pier drilling, retaining wall backdrain installation, wall backfilling, slab underdrain installation, and subdrainage installation to evaluate if subsurface conditions are as anticipated and to check for conformance with our geotechnical recommendations. We should also be notified to observe the completed project. Steel, concrete, slab moisture barriers, temporary slopes, shoring, surface drainage, and/or waterproofing should be inspected by the appropriate party, and are not part of our scope of work.

If during construction subsurface conditions different from those described in this report are observed, or appear to be present beneath excavations, we should be advised at once so that these conditions may be reviewed and our recommendations reconsidered. The recommendations made in this report are contingent upon our being notified to review changed conditions.

If more than 18 months have elapsed between the submission of this report and the start of work at the site, or if conditions have changed because of natural causes or construction operations at or adjacent to the site, the recommendations of this report may no longer be valid or appropriate. In such case, we recommend that we review this report to determine the applicability of the conclusions and recommendations considering the time elapsed or changed conditions. The recommendations made in this report are contingent upon such a review.

We should be notified at least 48 hours before the beginning of each phase of work requiring our observation, and upon resumption after interruptions. These services are performed on an as-requested basis and are in addition to this geotechnical reconnaissance. We cannot provide comment on conditions, situations or stages of construction that we are not notified to observe.

LIMITATIONS

This report has been prepared for the exclusive use of Mr. Turk Kauffman and his consultants for the proposed project described in this report. Our services consist of professional opinions and conclusions developed in accordance with generally-accepted geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. Our conclusions and

recommendations are based on the information provided us regarding the proposed construction, the results of our field exploration and laboratory testing programs, and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

The test boring logs represents subsurface conditions at the locations and on the date indicated. It is not warranted that they are representative of such conditions elsewhere or at other times. Site conditions and cultural features described in the text of this report are those existing at the time of our field exploration, and may not necessarily be the same or comparable at other times. The locations of the test borings were established in the field by reference to existing features, and should be considered approximate only.

There is an inherent risk of instability associated with all hillside construction. We therefore recommend that the owner obtains appropriate landslide and earthquake insurance.

Our scope of services did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, ground water or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands. Our work also did not include an evaluation of any potential mold hazard at the site.

We appreciate the opportunity to be of service to you. If you have any questions, please call us at (415) 388-8355.

Sincerely,
HERZOG GEOTECHNICAL

Craig Herzog, G.E.
Principal Engineer

Attachments: References
Plate 1 - 6

REFERENCES

Boore, D.M., Stewart, J.P., Seyhan, E. and Atkinson, G.M., 2014, *NGA-West2 Equations for Predicting PGA, PGV, and 5% Damped PSA for Shallow Crustal Earthquakes*, Earthquake Spectra 30:3, 1057-1085.

Chiou, B. and Youngs, R.R., 2014, *Update of the Chiou and Youngs NGA Model for the Average Horizontal Component of Peak Ground Motion and Response Spectra*, Earthquake Spectra 30:3, 1117-1153.

Campbell, K.W., and Bozorgnia, Y., 2014, *NGA-West2 Ground Motion Model for the Average Horizontal Components of PGA, PGV, and 5% Damped Linear Acceleration Response Spectra*, Earthquake Spectra 30:3, 1087-1115.

Davenport, C.W., 1984, *An Analysis of Slope Failures in Eastern Marin County, California, Resulting From the January 3 & 4, 1982 Storm,* California Department of Conservation, Division of Mines and Geology DMG Open-File Report 84-22.

Gregor, N., Abrahamson, N.A., Atkinson, G.M., Boore, D.M., Bozorgnia, Y., Campbell, K,W, Chiou, B., Idriss, I.M., Kamai, R., Seyhan, E., Silva, W., Stewart, J.P., and Youngs, R., 2014 *Comparison of NGA-West2 GMPEs*, Earthquake Spectra 30:3, 1179-1197.

Idriss, I.M., and Boulanger, R.W., 2008, *Soil Liquefaction During Earthquakes,* Earthquake Engineering Research Institute, Monograph No. MNO-12.

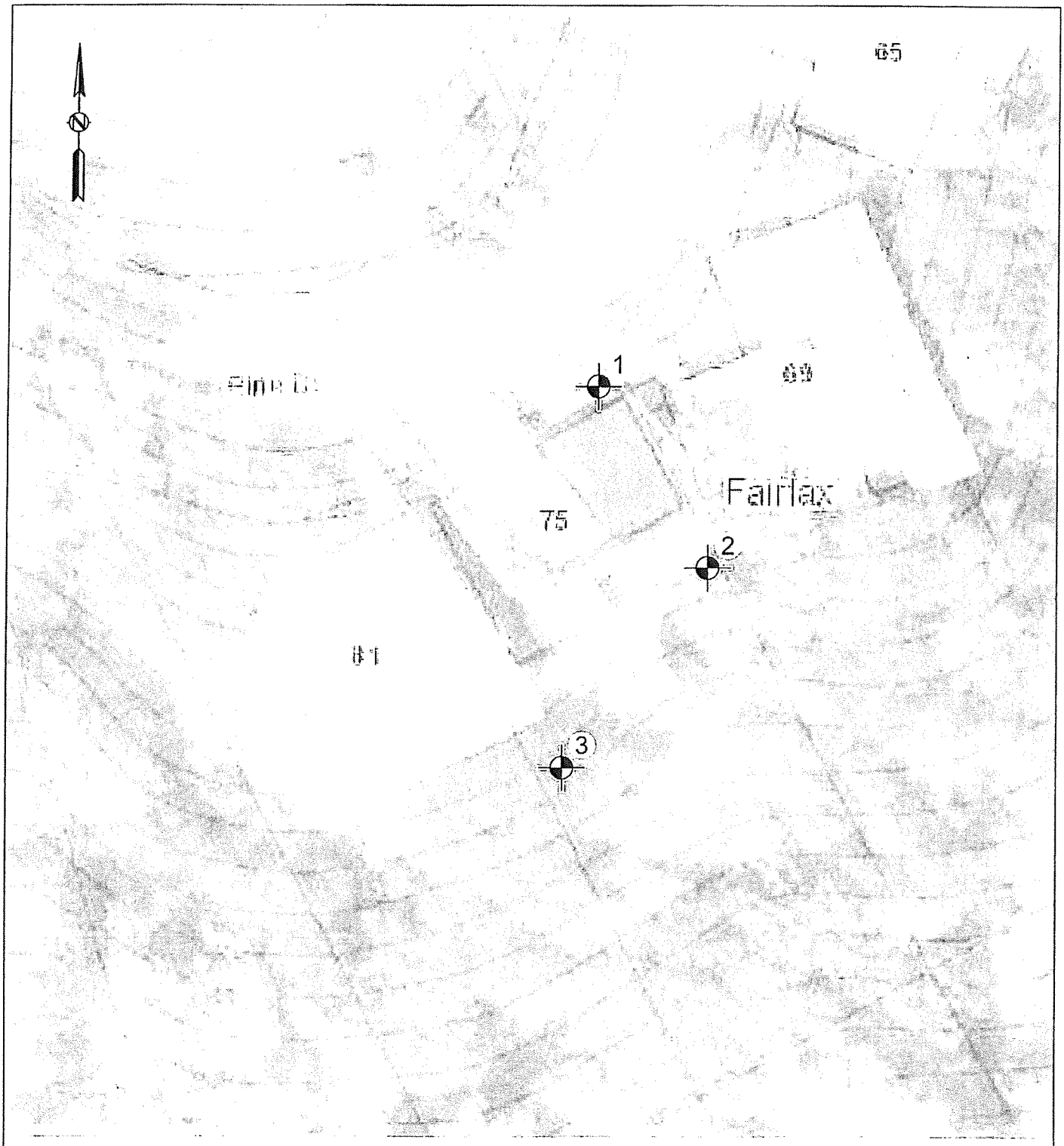
Petersen, et. al., 1996, *Probabilistic Seismic Hazard Assessment for the State of California,* California Department of Conservation, Division of Mines and Geology, Open File Report 96-08.

Rice, S.J., Smith, T.C., and Strand, R.G., 1976, *Geology for Planning: Central and Southeastern Marin County, California,* California Division of Mines and Geology, OFR 76-2.

Sanaz Rezaeian, Mark D. Petersen, Morgan P. Moschetti, Peter Powers, Stephen C. Harmsen and Arthur D. Frankel, 2014, *Implementation of NGA-West2 Ground Motion Models in the 2014 U.S. National Seismic Hazard Maps*, Earthquake Spectra 30:3, 1319-1333.

U.S. Geologic Survey, 1999, *Map Showing Locations of Damaging Landslides in Marin County, California, Resulting From 1997-1998 El Nino Rainstorms.*

U.S. Geologic Survey, August 2016, *Earthquake Outlook for the San Francisco Bay Region 2014-2043,* USGS Fact Sheet 2016-3020, ver. 1.1.



LEGEND

1 Test Boring

30 15 0 30

scale feet

Reference: MarinMap.org

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

Job. No: 3647-01-18
Appr:
Drwn: LPDD
Date: APR 2018

SITE PLAN

75 Pine Drive

Fairfax, California

PLATE 1

Other Laboratory Tests	Pocket Penetrometer (ksf)	Moisture Content (%)	Dry Density (pcf)	% Passing #200 sieve	Blows/Foot *	Sample	DEPTH (FEET)
							0
					8		1
					6		2
							3
					35		4
							5

EQUIPMENT: **4" Flight Auger** ELEVATION: **

LOGGED BY: **G.M.** START DATE: **4-26-18**

FINISH DATE: **4-26-18**

BROWN SANDY SILT (ML), medium stiff, moist, with roots

ORANGE-BROWN CLAYEY SAND WITH GRAVEL (SC), loose, moist

OLIVE-GRAY-BROWN SHALE, firm, friable, highly weathered

BOTTOM OF BORING 1 @ 5.5 FEET
No Free Water Encountered

* Converted to equivalent standard penetration blow counts.

** Existing ground surface at time of investigation.

HERZOG GEOTECHNICAL CONSULTING ENGINEERS

Job No: 3647-01-18
Appr:
Drwn: LPDD
Date: MAY 2018

LOG OF BORING 1

75 Pine Drive

Fairfax, California

PLATE 2

Other Laboratory Tests	Pocket Penetrometer (ksf)	Moisture Content (%)	Dry Density (pcf)	% Passing #200 sieve	Blows/Foot *	Sample	DEPTH (FEET)
							0
							1
					5		
							2
							3
					15		
							4
							5
					33/3"		

EQUIPMENT: **4" Flight Auger**
LOGGED BY: **G.M.**
ELEVATION: **
START DATE: **4-26-18**
FINISH DATE: **4-26-18**

BROWN GRAVELLY SILT (ML), soft, with roots (Fill)

BROWN CLAYEY SAND WITH GRAVEL (SC), loose, moist

ORANGE-BROWN CLAYEY GRAVEL (GC), medium dense, moist (Residual Soil)

ORANGE-BROWN SANDSTONE, moderately hard, moderately strong, highly weathered

BOTTOM OF BORING 2 @ 5.3 FEET
No Free Water Encountered

* Converted to equivalent standard penetration blow counts.

** Existing ground surface at time of investigation.

HERZOG GEOTECHNICAL CONSULTING ENGINEERS

Job No: 3647-01-18
Appr:
Drwn: LPDD
Date: MAY 2018

LOG OF BORING 2

75 Pine Drive

Fairfax, California

PLATE 3

EQUIPMENT: **4" Flight Auger** ELEVATION: **

LOGGED BY: **G.M.** START DATE: **4-26-18**

FINISH DATE: **4-26-18**

Other Laboratory Tests	Pocket Penetrometer (ksf)	Moisture Content (%)	Dry Density (pcf)	% Passing #200 sieve	Blows/Foot *	Sample	DEPTH (FEET)	
							0	BROWN SANDY SILT (ML), soft, moist, with roots
		13.0	108		4		1	MOTTLED YELLOW-OLIVE-BROWN CLAYEY SAND WITH GRAVEL (SC), loose, moist
					14		2	
							3	
					38/9"		4	LIGHT BROWN SANDSTONE, moderately hard, weak, highly weathered

BOTTOM OF BORING 3 @ 4.3 FEET
No Free Water Encountered

* Converted to equivalent standard penetration blow counts.

** Existing ground surface at time of investigation.

HERZOG GEOTECHNICAL CONSULTING ENGINEERS

Job No: 3647-01-18

Appr:

Drwn: LPDD

Date: MAY 2018

LOG OF BORING 3

75 Pine Drive

Fairfax, California

PLATE 4

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS More than Half > #200 sieve	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POOORLY GRADED SAND-SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half < #200 sieve	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM

			Shear Strength, psf / Confining Pressure, psf	
Consol	Consolidation	Tx	2630 (240)	Unconsolidated Undrained Triaxial
LL	Liquid Limit (in %)	Tx sat	2100 (575)	Unconsolidated Undrained Triaxial, saturated prior to test
PL	Plastic Limit (in %)	DS	3740 (960)	Unconsolidated Undrained Direct Shear
PI	Plasticity Index	TV	1320	Torvane Shear
Gs	Specific Gravity	UC	4200	Unconfined Compression
SA	Sieve Analysis	LVS	500	Laboratory Vane Shear
■	Undisturbed Sample (2.5-inch ID)	FS	Free Swell	
◪	2-inch-ID Sample	EI	Expansion Index	
◪	Standard Penetration Test	Perm	Permeability	
⊠	Bulk Sample	SE	Sand Equivalent	

KEY TO TEST DATA

HERZOG GEOTECHNICAL CONSULTING ENGINEERS

Job No: 3647-01-18
Appr:
Drwn: LPDD
Date: MAY 2018

SOIL CLASSIFICATION CHART AND KEY TO TEST DATA

75 Pine Drive

Fairfax, California

PLATE 5

ROCK SYMBOLS

 SHALE OR CLAYSTONE

 CHERT

 SERPENTINITE

 SILTSTONE

 PYROCLASTIC

 METAMORPHIC ROCKS

 SANDSTONE

 VOLCANIC

 DIATOMITE

 CONGLOMERATE

 PLUTONIC

 SHEARED ROCKS

LAYERING

MASSIVE	Greater than 6 feet
THICKLY BEDDED	2 to 6 feet
MEDIUM BEDDED	8 to 24 inches
THINNLY BEDDED	2-1/2 to 8 inches
VERY THINNLY BEDDED	3/4 to 2-1/2 inches
CLOSELY LAMINATED	1/4 to 3/4 inches
VERY CLOSELY LAMINATED	Less than 1/4 inch

JOINT, FRACTURE, OR SHEAR SPACING

VERY WIDELY SPACED	Greater than 6 feet
WIDELY SPACED	2 to 6 feet
MODERATELY SPACED	8 to 24 inches
CLOSELY SPACED	2-1/2 to 8 inches
VERY CLOSELY SPACED	3/4 to 2-1/2 inches
EXTREMELY CLOSELY SPACED	Less than 3/4 inch

HARDNESS

SOFT - Pliable; can be dug by hand

FIRM - Can be gouged deeply or carved with a pocket knife

MODERATELY HARD - Can be readily scrached by a knife blade; scratch leaves heavy trace of dust and is readily visable after the powder has been blown away

HARD - Can be scratched with difficulty; scratch produces little powder and is often faintly visable

VERY HARD - Cannot be scratched with pocket knife; leaves a metallic streak

STRENGTH

PLASTIC - Capable of being molded by hand

FRIABLE - Crumbles by rubbing with fingers

WEAK - An unfractured specimen of such material will crumble under light hammer blows

MODERATELY STRONG - Specimen will withstand a few heavy hammer blows before breaking

STRONG - Specimem will withstand a few heavy ringing hammer blows and usually yields large fragments

VERY STRONG - Rock will resist heavy ringing hammer blows and will yield with difficulty only dust and small flying fragments

DEGREE OF WEATHERING

HIGHLY WEATHERED - Abundant fractures coated with oxides, carbonates, sulphates, mud, etc., thourough discoloration, rock disintegration, mineral decomposition

MODERATELY WEATHERED - Some fracture coating, moderate or localized discoloration, little to no effect on cementation, slight mineral decomposition

SLIGHTLY WEATHERED - A few stained fractures, slight discoloration, little or no effect on cementation, no mineral decomposition

FRESH - Unaffected by weathering agents, no appreciable change with depth

MILLER PACIFIC ENGINEERING GROUP

November 30, 2021
File: 201.198bltr.doc

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

Attn: Ms. Linda Neal, Principal Planner

Re: Second Planning-Level Geologic, Geotechnical, and Civil Engineering Review
New Single-Family Residence
75 Pine Drive (APN 003-101-06)
Fairfax, California

Introduction

In response to your request and in accordance with our agreement dated March 20, 2018, this letter summarizes our second planning-level review of project plans and supporting documentation for the proposed construction of a new single-family residence and associated improvements at 75 Pine Drive (APN 003-101-06) in Fairfax, California. Our first review comments were summarized in our letter dated April 22, 2021. 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 and Building staff regarding project approval.

The scope of our services includes:

- A site reconnaissance to observe existing conditions and review proposed development features;
- Review of provided project documents for conformance to the Town of Fairfax Hill Area Residential Development Ordinance, specifically Town Code Sections 17.072.080(B), (C), (E), and (F), and Section 17.072.110 (C).
- Development of opinions regarding project compliance with applicable Town Code 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.

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 constructing a new, approximately 1,255 square-foot, 2-story residence with a 297 square-foot first-floor Junior Accessory Dwelling Unit (JADU) on an approximately 0.16-acre parcel sited on the steep slope below Pine Drive. The site is currently developed with an older 2-story home which will be demolished to accommodate the new

construction. Ancillary improvements will include new underground utilities, site retaining walls, exterior patio/hardscape areas, landscaping, drainage improvements, and other "typical" residential items.

Project Review

We performed a brief site reconnaissance on April 19, 2021 to observe existing conditions at the site. Additionally, we have reviewed the following documents provided by the Town:

- Old Republic Title Company (2018), "Preliminary Report, Order No. 0434025328-CL" (Preliminary Title Report), dated February 14, 2018.
- County of Marin Assessor-Recorder (2018), "Grant Deed", No. 2018-0012549, dated April 10, 2018.
- Herzog Geotechnical (2018), "Report, Geotechnical Investigation, 75 Pine Drive, Fairfax, California", Project No. 3647-01-18, dated May 8, 2018.
- Humann Company Inc. (2020), "Record of Survey, Lands of Kaufmann @ Puchall DN 2018-0012549, Lor 49, Block 6, Amended Map No. 2, The Cascades 5 RM 14, City of Fairfax, Marin County, California", recorded July 9, 2020.
- Humann Company Inc. (2020), "Topographic Survey, Lot 49 (5 M 14), Turk Kaufmann – 75 Pine Drive, Fairfax, California", dated July 14, 2021
- Agnew Civil Engineering (2021), "Kaufmann-Puchall Residence, 75 Pine Drive, Fairfax, CA 94930, 003-101-06" (Preliminary Civil Plans), Sheets C-1 through C-4, Job No. 133-1, Second Revision Set dated February 24, 2021.
- Lauri Puchall and Turk Kauffman (2021), "New Residence w/ JADU, 75 Pine Drive, Fairfax, CA 94930" (Preliminary Architectural Plans), Sheets A-0 through A-2.4, Design Review set dated April 2021.

More recently, we reviewed the following documents submitted in response to our First Review comments:

- Agnew Civil Engineering (2021), "Kaufmann-Puchall Residence, 75 Pine Drive, Fairfax, CA 94930, 003-101-06" (Preliminary Civil Plans), Sheets C-1 through C-4, Job No. 133-1, Fourth Revision Set dated November 3, 2021.
- Herzog Geotechnical (2021), "Geotechnical Report Update, 75 Pine Drive, Fairfax, California", Project No. 3647-01-18, dated November 8, 2018.

- Lauri Puchall and Turk Kauffman (2021), "New Residence w/ JADU, 75 Pine Drive, Fairfax, CA 94930" (Preliminary Architectural Plans), Sheets A-0 through A-2.5, Design Review set dated November 2021.

- Marin Water (2021), "Vacation of a Portion of Pine Drive, Fairfax, CA", dated July 14, 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(C) – Site Plan

1) The Site Plan indicates that new driveway and access improvements will be constructed in the Pine Drive right-of-way. Additionally, a portion of this right-of-way is covered by an MMWD easement. A Town encroachment permit should be required for all improvements proposed in the right-of-way.

- Section 17.072.080(F) – Grading and Drainage Plan

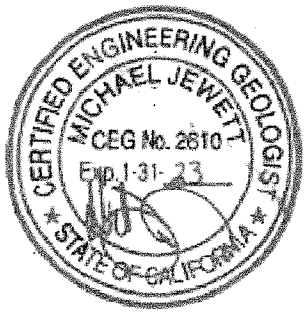
1) The grading and drainage plan indicates a total of 104 cubic yards of excavation spoils will be offhauled from the site. A detailed Construction Management and Staging Plan should be required at the building submittal level given the extremely limited access and general lack of offsite staging/parking areas.

Recommendations

Based on our review, we judge that all of our Planning-Level comments have been suitably addressed, and that remaining items, including review of design-level Grading, Drainage, Structural, and Construction Management Plans, can be handled at the Building Permit submittal level with minimal anticipated impact.

We trust that this letter contains the information you require 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.

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)

New Residence at 75 Pine Drive

Project Summary:

The proposed new house will total 1,417 SF in living area. It will replace the existing non-conforming and dilapidated 2,549 SF structure. It will be for our family of 3.

The new design is a split-level, two-story structure that steps down the site to comply with the maximum 35' height limit and to connect the interior with the lower back yard.
The massing and setbacks have been carefully considered to improve the access to light in the front (north) yard and side (east and west) yards between adjacent houses. The massing and siting will improve access to light of the side yards.

Massing and fenestration have been carefully considered to provide views, natural light and ventilation for the interior living areas of the project while maintaining privacy and existing views of neighbors.

Materials are simple and low maintenance. Colors are to be compatible with the surrounding natural environment.

The road is being partially widened to 20' per the requirement of Ross Valley Fire.

3 new off street parking spaces are being provided on an elevated parking deck.

Existing grade will remain except for excavation within the new footprint required for minimizing the under floor crawl space height per planning requirements.

A Vegetation Management Planning has been approved by Ross Valley Fire and the existing natural landscape will remain.

ATTACHMENT E

75 Pine Drive

Green Building Measures:

1. The proposed design is compact and efficient in use of materials.
2. The approved landscape protection plan preserves the existing valley and coast live oaks.
3. Passive cooling and natural ventilation principles are incorporated. Mitigating requirement for A/C. No A/C is currently planned.
4. Insulation of walls, floors and roofs to meet or exceed minimum standards to mitigate need for A/C or heating.
5. Natural light into living areas lowers need for electrical lighting during daylight hours.
6. Deep overhangs on south walls of living room to mitigate solar gain in summer and afternoons.
7. All electrical appliances and equipment to be incorporated. No use of gas is proposed.
8. Low flow plumbing fixtures to lower water usage.
9. High efficacy light fixtures to lower electrical usage.
10. Hydronic heating to be used with zoned controls.
11. Tankless water heaters or insulated tank water heaters/boilers with recirculating hot water system to be used.
12. Proposed materials and design exceed code requirements of for non-toxic materials:

a. material specification calls for minimizing the use of caulks, sealants, and materials made with plastics or petroleum products.

b. all lumber to be fsc certified

c. all insulation to be untreated rock wool

d. all flooring to be solid wood; nailed (not glued) or natural cork.

e. all glues to be architect-approved non-toxic carpenter's glue.

f. interior finishes to be low or non V.O.C.

TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CALIFORNIA 94930
(415) 453-1584/FAX (415) 453-1618

Date: May 27, 2021

Permit #21-T-22

NOTICE OF TREE COMMITTEE ACTION

This action may be appealed to the Fairfax Town Council within 10 days of the Tree Committee decision. This permit is not in effect until the 10 day appeal period is over.

Request for a tree permit to remove: (4) CA Bay

Address of Tree(s) to be removed: 75 Pine Dr

Applicant's Phone: Turk Kauffman & Lauri Puchall (510) 847-0897

On May 24, 2021 the Fairfax Tree Committee took the following action on the above referenced tree permit application:

_____X_____ APPROVED - Motion to approve by Childers, seconded by Pugh.

Vote: unanimously approved.

REMINDER: PLEASE KEEP PERMIT NOTICE UP DURING THE 10 DAY WAITING PERIOD

_____ CONTINUED

_____ DENIED

CONDITIONS OF APPROVAL:

THIS APPROVED APPLICATION IS YOUR PERMIT-KEEP IT ON THE JOB SITE. FAILURE TO HAVE THE PERMIT ON THE SITE WHILE THE TREE WORK IS IN PROGRESS MAY RESULT IN THE WORK BEING HALTED UNTIL YOU SHOW PROOF OF APPROVAL.
Please verify that the tree company performing the work has a current Fairfax Business license and worker's compensation coverage.
THIS TREE PERMIT EXPIRES IN SIX MONTHS. If necessary, you may apply for an extension in writing prior to the expiration date.

ATTACHMENT F

TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CALIFORNIA 94930
(415) 453-1584/FAX (415) 453-1618

Date: April 28, 2021

Permit #21-T-22

NOTICE OF TREE COMMITTEE ACTION

This action may be appealed to the Fairfax Town Council within 10 days of the Tree Committee decision. This permit is not in effect until the 10 day appeal period is over.

Request for a tree permit to remove: (4) CA Bay

Address of Tree(s) to be removed: 75 Pine Dr

Applicant's Phone: Turk Kauffman & Lauri Puchall (510) 847-0897

On April 26, 2021 the Fairfax Tree Committee took the following action on the above referenced tree permit application:

_____ APPROVED

REMINDER: PLEASE KEEP PERMIT NOTICE UP DURING THE 10 DAY WAITING PERIOD

_____X_____ CONTINUED - Romaidis made a motion that in order for the Committee to make a determination per the arborist report, documentation be provided from the Ross Valley Fire Department (RVFD) stating the trees are required to be removed; the motion was seconded by Richardson-Mack and voted on.

Vote:

Benson- Aye
Childers- No
Richardson-Mack- Aye
Romaidis- Aye

Item #3 Vote: Ayes- 3, Noes- 1

_____ DENIED

CONDITIONS OF APPROVAL:

THIS APPROVED APPLICATION IS YOUR PERMIT-KEEP IT ON THE JOB SITE. FAILURE TO HAVE THE PERMIT ON THE SITE WHILE THE TREE WORK IS IN PROGRESS MAY RESULT IN THE WORK BEING HALTED UNTIL YOU SHOW PROOF OF APPROVAL.
Please verify that the tree company performing the work has a current Fairfax Business license and worker's compensation coverage.
THIS TREE PERMIT EXPIRES IN SIX MONTHS. If necessary, you may apply for an extension in writing prior to the expiration date.

- CONTINUED -
AGENDA ITEM # B

TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CA 94930
(415) 453-1584 / FAX (415) 453-1618

APPLICATION FOR TREE REMOVAL OR ALTERATION

A permit is required to remove or alter one or more trees on any parcel in the Town of Fairfax. All trees for which a permit is requested shall be tagged with an orange ribbon, a minimum of 10 days prior to the Tree Advisory Committee meeting date. Applicants must also post a notice of intent to alter or remove the marked Tree(s) in a prominent location visible along the frontage of the affected property.

APPLICANT INFORMATION

OWNER (APPLICATIONS MUST BE FILED BY PROPERTY OWNER): Turk Kauffman & Lauri Puchall	DATE OF APPLICATION: 3-16-21
JOB ADDRESS/ASSESSOR'S PARCEL NO. IF SITE IS VACANT 75 Pine Dr.	PHONE NUMBER: 510-847-0897
EMAIL ADDRESS: lpuchall@gmail.com turkkau@protonmail.com	FAX NUMBER:
PROPERTY OWNER'S ADDRESS IF DIFFERENT FROM ABOVE 131 Eldridge Ave, Mill Valley 94941	ALTERNATE PHONE NUMBER: 415-326-5066 (Lauri)

Mail

TREE INFORMATION

SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: California bay 1	CIRCUMFERENCE BREAST HEIGHT: 24.49 inches
	REASON FOR REMOVAL/ALTERATION See Urban Forestry report
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: California bay 2	CIRCUMFERENCE BREAST HEIGHT: 17.27 inches
	REASON FOR REMOVAL/ALTERATION See Urban Forestry report
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: California bay 3	CIRCUMFERENCE BREAST HEIGHT: 33.91 inches
	REASON FOR REMOVAL/ALTERATION See Urban Forestry report
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: California bay 4	CIRCUMFERENCE BREAST HEIGHT: 44.59 / 29.83 inches
	REASON FOR REMOVAL/ALTERATION See Urban Forestry report

Please attached a site plan to this application showing the location and species of all trees with a diameter of 4 inches (circumference of 12 inches or more), measured 4.5feet above grade at tree base, property boundaries and easements, location of structures, foundation lines of neighboring structures and paved areas including driveways, .

CONTINUED

AGENDA ITEM # B

Any tree company used for the removal or alteration must have a current and valid Fairfax Business license. Please include the name, address, and phone number of the person or company doing the above listed work:

NAME: Vaccaro's Tree Service	PHONE NUMBER: 415-457-7134
ADDRESS: 57 Manor Rd., Fairfax	CONTRACTOR BUSINESS LICENSE NUMBER 787460

Please note the Tree Advisory Committee may require applicants to submit their application to a Qualified Arborist for a report or recommendation at the expense of the applicant. A Qualified Arborist is defined as a Certified Arborist, A Certified Urban Forester, a Registered Consulting Arborist, or a Registered Professional Forester.

OWNER'S STATEMENT

I understand that in order to properly process and evaluate this application, it may be necessary for Town personnel to inspect the property, which is the subject of the application. I also understand that due to time constraints it may not always be possible for Town personnel to provide advanced notice of such inspections. Therefore, this application will be deemed to constitute my authorization to enter upon the property for the purpose of inspecting the same, provided that Town personnel shall not enter any building on the property except in my presence or the presence of any other rightful occupant of such building. I understand that my refusal to permit reasonable inspection of any portion of the property by town personnel may result in a denial of this application due to the lack of adequate information regarding the property.

Tami Puchell

Signature of Property Owner

3-11-21

Date

[AREA BELOW FOR STAFF USE ONLY]

Permit Number: 21-T-22	
Date Received: 3-16-21	Received by: S. Odber
Conditions of Approval:	
Tree Committee Action:	Date:

Tree Committee Actions can be appealed to the Town Council within 10 days of the Tree Committee Action. Contact Town Hall for more information.

Client: Lauri Puchall
Project Location: 75 Pine Drive, Fairfax, Ca
Inspection Date: February 19, 2021
Arborist: Ben Anderson

URBAN FORESTRY ASSOCIATES, INC.

Assignment

Lauri Puchall asked me to prepare a report for the bay trees proposed for removal in the approved Vegetation Management Plan for the subject property. The report is for use in applying for a tree removal permit.

Observations

Lauri met me on site for my inspection and provided a copy of the approved Vegetation Management Plan. The trees shown on the plan appear to be accurately located and I was able to easily find the trees proposed for removal. All four trees were California bay (*Umbellularia californica*) trees and are described in Table 1. Condition ratings are explained in Table 2 at the end of the report. The age estimates are strictly visual and are approximate based on experience. Tree locations are shown in Figure 1. I installed pink flagging on all four subject trees during my inspection.

There are no large coast live oak (*Quercus agrifolia*) trees on the subject property, but there are several small ones. There are several large coast live oaks on neighboring properties The trunks of the larger trees on the neighboring property are bleached, indicating they are or have been treated to mitigate the risk of a sudden oak death infection (*Phytophthora ramorum*). There are several young valley oak (*Quercus lobata*) trees on the subject property. Photos of the subject trees can be found in Figures 2-4.

Table 1. Condition ratings for subject trees. Locations shown in Figure 1.

Tree #	Species	Latin Name	Trunk Diameter (inches)	Health	Structure	Form	Age
1	California bay	*Umbellularia californica*	7.8	Good	Fair to good. Bow in trunk.	Poor to fair. Bow and asymitry are significant	30
2	California bay	*Umbellularia californica*	5.5	Good	Good	Fair. Leaning downhill.	15
3	California bay	*Umbellularia californica*	10.8	Fair to good.	Good	Good	40
4	California bay	*Umbellularia californica*	14.2 9.5	Good	Fair to good. Two stems share a common base that appears to contain decay. Strong lean in smaller trunk.	Fair to good.	40

Conclusions

I did not perform risk assessments on the subject trees as fall risk is not the reason for removal and fire risk is not addressed in the Tree Risk Assessment Qualification (TRAQ) worksheet. The removal of the subject trees will mitigate the risk of sudden oak death to adjacent oaks and create more favorable growing conditions for the young oaks on site. It is my understanding the removal of these trees was required by Robert Bastianon with the Ross Valley Fire department as bay trees are considered to promote the spread of fire and the home is located in the Wildland Urban Interface.

SCOPE OF WORK AND LIMITATIONS

Urban Forestry Associates has no personal or monetary interest in the outcome of this investigation. All observations regarding trees in this report were made by UFA, independently, based on our education and experience. All determinations of health condition, structural condition, or hazard potential of a tree or trees at issue are based on our best professional judgment. The health and hazard assessments in this report are limited by the visual nature of the assessment. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Since trees are living organisms, conditions are often hidden within the tree and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specific period of time. Likewise, remedial treatments cannot be guaranteed. Trees can be managed but they cannot be controlled. To live near trees is to accept some degree of risk and the only way to eliminate all risk associated with trees is to eliminate all trees.

Benjamin Anderson, Urban Forester
ISA Board Certified Master Arborist & TRAQ
RCA #686, WE #10160B
(415) 454-4212

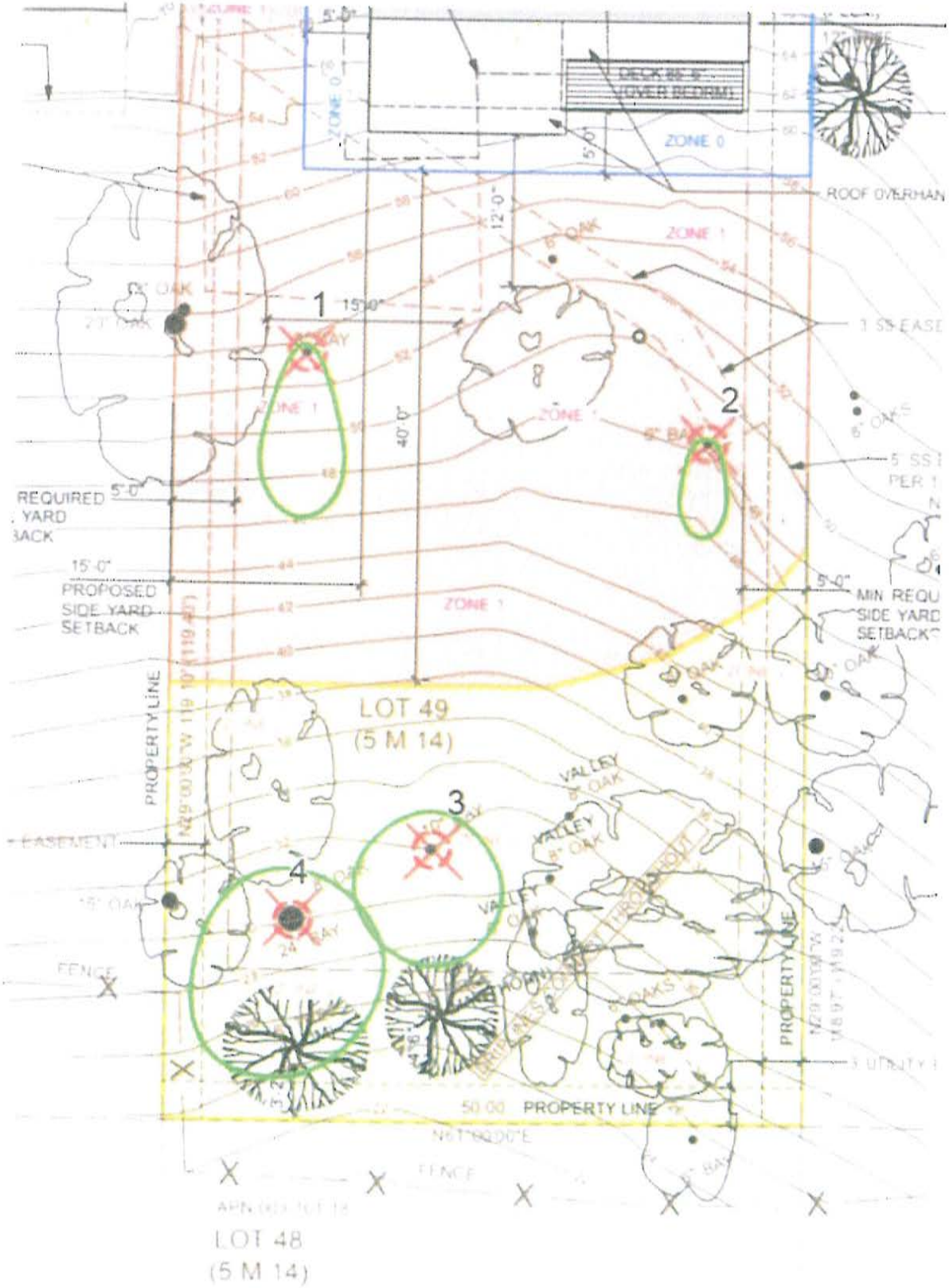


Figure 1. Map of tree locations. Numbers are relative to Table 1. Approximate canopies are shown with green outline.

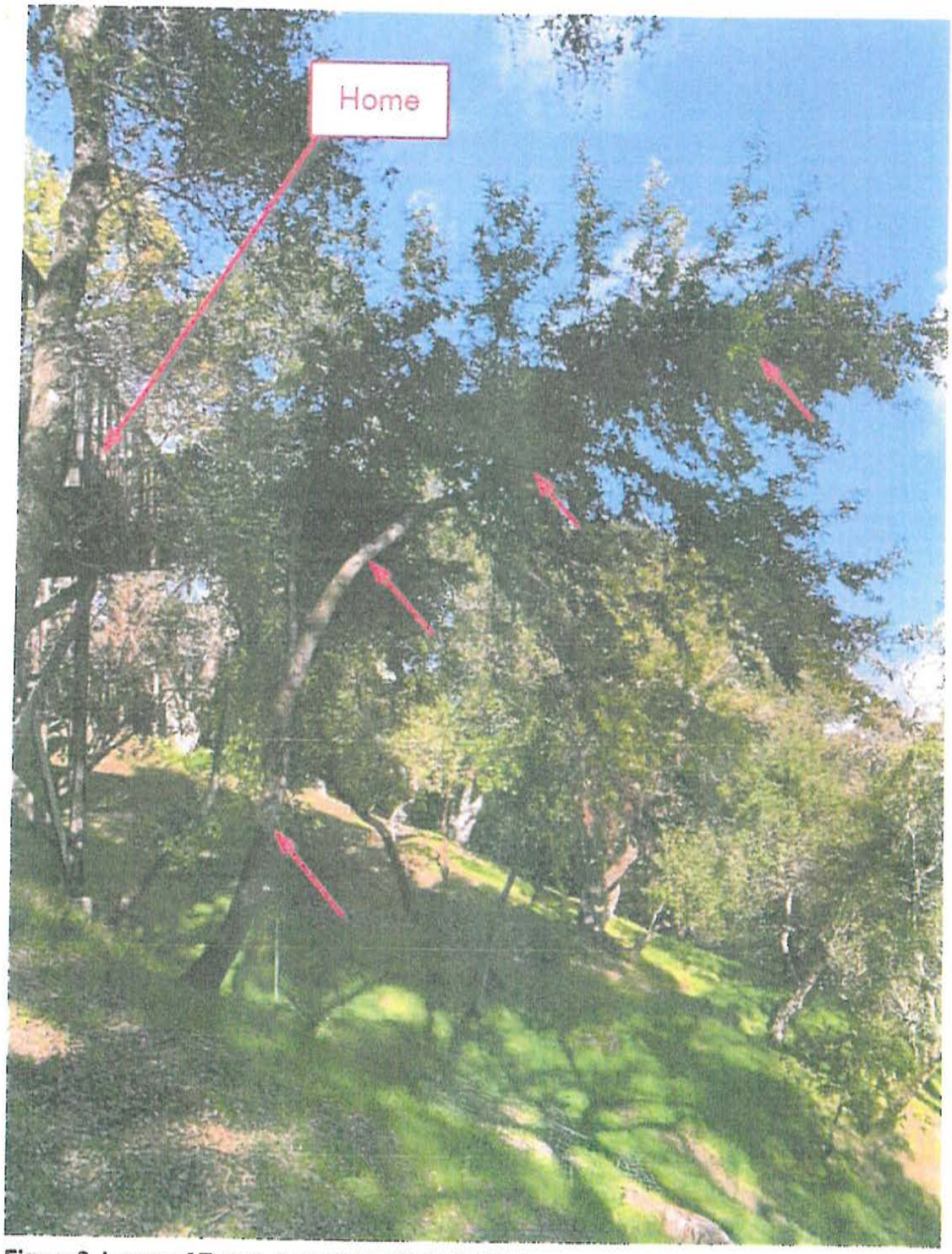


Figure 2. Image of Tree 1. Indicated with red arrows.

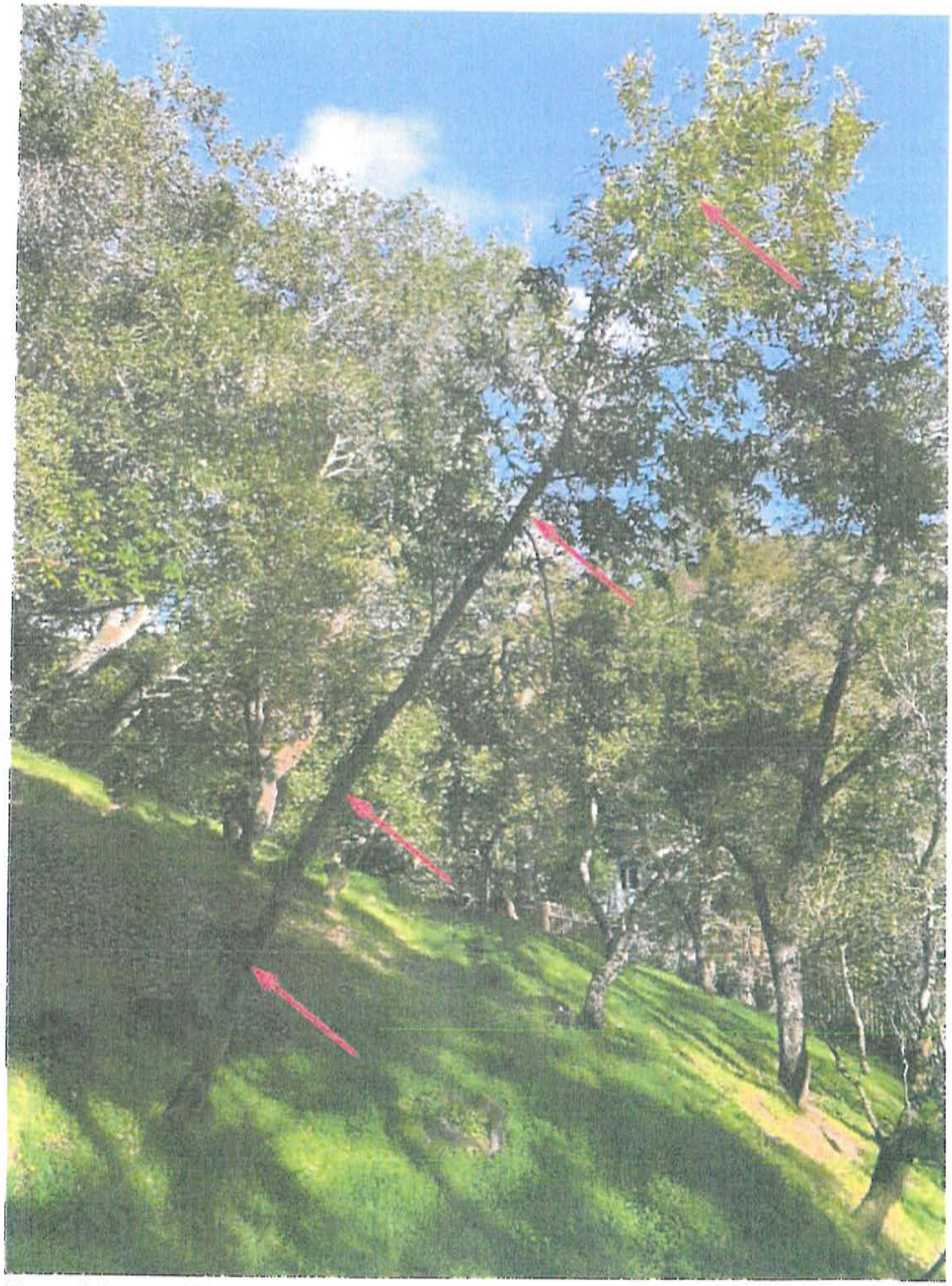
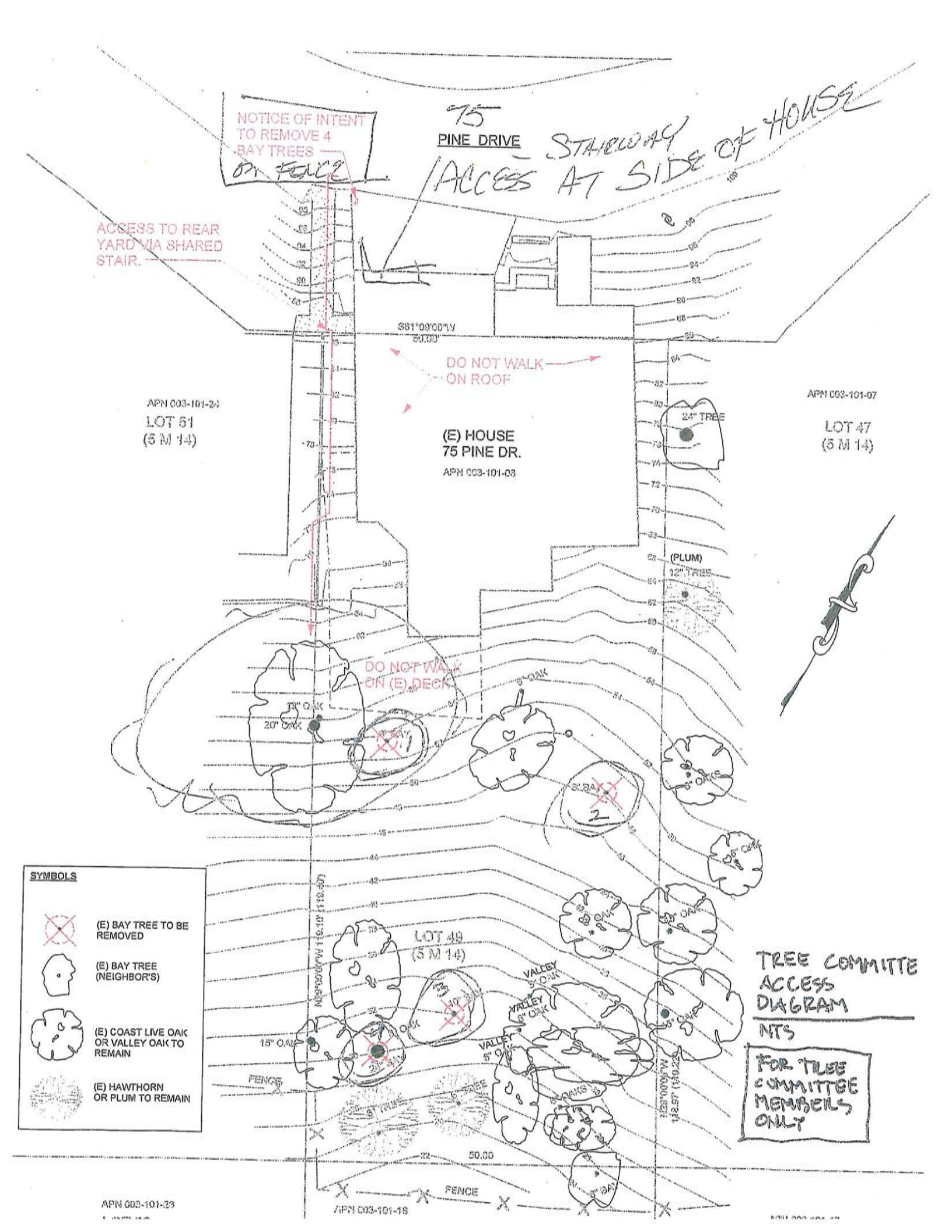


Figure 3. Image of Tree 2. Indicated with red arrows.

Figure 4. Image of Trees 3 & 4, indicated in red and green, respectively.

Table 2. Condition ratings table. Taken from *Guide for Plant Appraisal, 10th edition*

Rating category	Condition components		
	Health	Structure	Form
Excellent	High vigor and nearly perfect health with little or no twig dieback, discoloration, or defoliation	Nearly ideal and free of defects.	Nearly ideal for the species. Generally symmetric. Consistent with the intended use.
Good	Vigor is normal for the species. No significant damage due to diseases or pests. Any twig dieback, defoliation, or discoloration is minor.	Well-developed structure. Defects are minor and can be corrected.	Minor asymmetries/deviations from species norm. Mostly consistent with the intended use. Function and aesthetics are not compromised.
Fair	Reduced vigor. Damage due to insects or diseases may be significant and associated with defoliation but is not likely to be fatal. Twig dieback, defoliation, discoloration, and/or dead branches may comprise up to 50% of the crown.	A single defect of a significant nature or multiple moderate defects. Defects are not practical to correct or would require multiple treatments over several years.	Major asymmetries/deviations from species norm and/or intended use. Function and/or aesthetics are compromised.
Poor	Unhealthy and declining in appearance. Poor vigor. Low foliage density and poor foliage color are present. Potentially fatal pest infestation. Extensive twig and/or branch dieback.	A single serious defect or multiple significant defects. Recent change in tree orientation. Observed structural problems cannot be corrected. Failure may occur at any time.	Largely asymmetric/abnormal. Detracts from intended use and/or aesthetics to a significant degree.
Very poor	Poor vigor. Appears to be dying and in the last stages of life. Little live foliage.	Single or multiple severe defects. Failure is probable or imminent.	Visually unappealing. Provides little or no function in the landscape.
Dead			


NOTICE OF INTENT TO REMOVE 4 BAY TREES ON FENCE
75 PINE DRIVE
STAIRWAY ACCESS AT SIDE OF HOUSE
ACCESS TO REAR YARD VIA SHARED STAIR.
S81°09'00"W 50.00'
DO NOT WALK ON ROOF
APN 003-101-24
LOT 51 (5 M 14)
(E) HOUSE 75 PINE DR.
APN 003-101-03
APN 003-101-07
LOT 47 (5 M 14)
24" TREE
(PLUM) 12" TREE
DO NOT WALK ON (E) DECK
20" OAK
3" OAKS
LOT 49 (5 M 14)
VALLEY 5" OAK
15" OAK
FENCE
3" TREE
50.00
APN 003-101-23
APN 003-101-18
SYMBOLS
(E) BAY TREE TO BE REMOVED
(E) BAY TREE (NEIGHBOR'S)
(E) COAST LIVE OAK OR VALLEY OAK TO REMAIN
(E) HAWTHORN OR PLUM TO REMAIN
TREE COMMITTE ACCESS DIAGRAM
NTS
FOR TREE COMMITTEE MEMBERS ONLY

THIS INFO WAS PROVIDED BY THE FAIRFAX PLANNING DEPT. ON 5/6/21

Linda Neal

From:	Robert Bastianon <rbastianon@rossvalleyfire.org>
Sent:	Wednesday, May 5, 2021 3:02 PM
To:	Linda Neal
Cc:	Ben Berto
Subject:	75 Pine Drive

I have a resident who contacted RVFD a few times stating we needed to write a letter to the Tree Committee stating that certain trees are being removed for fire purposes.

A VMP was submitted and approved which shows the removal of the 4 bay trees. Our understanding is that the removal of the bay trees is needed to meet 10 foot minimum crown separation as required by standards. Proper crown separation within the 100 foot defensible space zone will reduce the rapid spread of fire from both a wildfire event or from a structure fire spreading to the wildlands.

I do not know what else the committee needs other than our approval of the VMP. I may suggest that the Town's arborist be a member of the tree committee as he would be able to help explain the importance of healthy fire safe forests.

Please reach out if further assistance is needed

--

Ross Valley Fire Department

Robert Bastianon
Fire Inspector

rbastianon@rossvalleyfire.org
Phone (415) 258-4673

www.rossvalleyfire.org

Ross Valley Fire Department
777 San Anselmo Avenue, San Anselmo, CA 94960

Mark Mills
FIRE CHIEF

February 1, 2021

Address: 75 Pine Drive, Fairfax
Applicant: Lauri Puchall
Application #: 21-0039

The Vegetation Management Plan submitted for review by the Ross Valley Fire Department has been approved at this time. Please resubmit plans with the changes noted below.

Please do not remove any tree that requires a permit from the town without first securing such permit.

Please note that all vegetation within the 30 foot zone shall be irrigated. Seasonal grasses within the 30 foot zone are not permitted unless regularly irrigated. If not kept as green grass the area shall be covered in a weed barrier which should be covered in a layer of mulch.

Every effort shall be taken to ensure erosion control efforts are in compliance with standards established by Town regulations.

The approved plan is to last the life of the property. Any changes to the plan now or in the future will require Fire Department review. It is recommended that if the applicant has plans to landscape in the future that those plans be intermingled into this plan.

Vegetation shall be maintained to ensure address numbers are visible from both angles of approach.

Minimum standards shall be in place prior to final fire clearance.

If you have any questions about any of the items listed above please call me. I am available to meet with you on site to help you develop a plan. Please contact me to schedule (415) 258-4674 if you desire my assistance.

Sincerely,
Derrick Shaw
Fire Inspector
Ross Valley Fore Department
dshaw@rossvalleyfire.org
415-258-4674

Ross Valley Fire Dept

Agency Permit ID

ER Permit Number **401276**

Permit Type **VEGETATION MANAGEMENT PLAN**

Created By **Shaw, Derrick**

Authorized Date **2/1/2021 9:54:57 AM**

Permit Date **2/1/2021 12:00:00 AM**

Effective Date **2/1/2021 9:09:00 AM**

Expiration Date **2/1/2022 9:09:00 AM**

Authorized By **Shaw, Derrick**

Site Information

Residence
75 Pine DR
Fairfax, CA 94930

Point of Contact

Lauri Puchall 415-326-5066

Billing Information

Lauri Puchall
131 Eldridge AVE
Mill Valley, CA94941

Permit Notes:

Permit Form:

Form: **ALTERNATE METHODS AND MATERIALS**

Description:

Permit Topics:

DESCRIPTION

APPLICATION

APPLICATION COMPLETE

Status: Yes

Notes:

PLANS

ALTERNATE MATERIALS AND METHODS ARE CONSISTENT WITH THE PLANS SUBMITTED FOR REVIEW.

Status: Yes

Notes:

ACCEPTANCE

THE ALTERNATE MATERIALS AND METHODS HAVE BEEN ACCEPTED.

Status: Yes

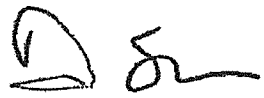
Notes:

Closing Notes:

Issued By:

Name: Shaw, Derrick
Rank: INSP
Home Phone(s): None on file
Email(s): prevention@rossvalleyfire.org

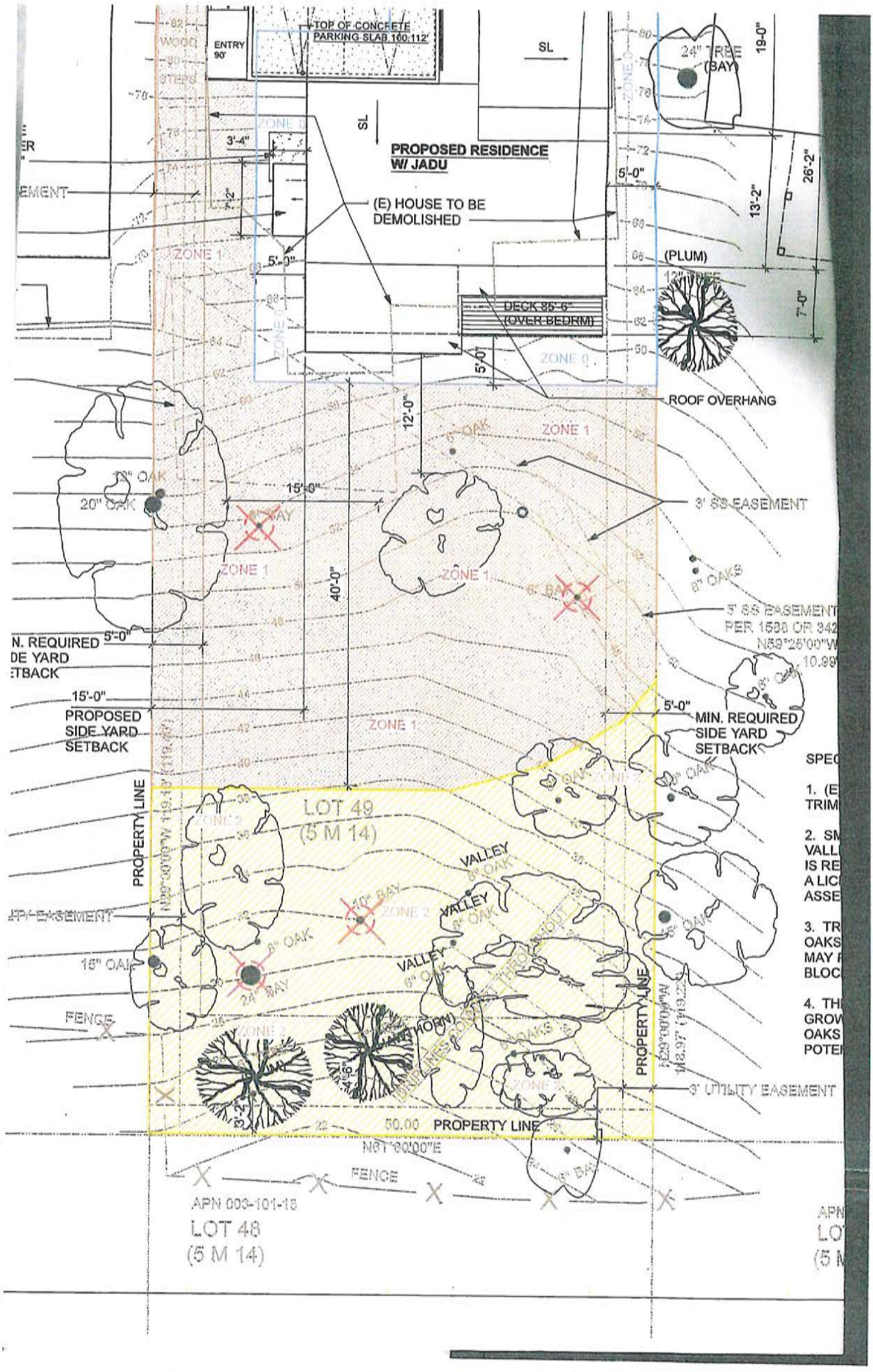
Signature of: Shaw, Derrick on 02/01/2021 09:54

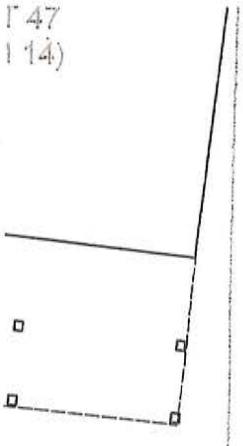


Signature *Date*

Contact Signature:

Signature *Date*


TOP OF CONCRETE PARKING SLAB 100.112'
ENTRY 90'
WOOD STEPS
SL
24" TREE (BAY)
19'-0"
PROPOSED RESIDENCE W/ JADU
(E) HOUSE TO BE DEMOLISHED
3'-4"
5'-0"
13'-2"
26'-2"
(PLUM)
DECK 85'-6" (OVER BEDRM)
7'-0"
ROOF OVERHANG
ZONE 1
ZONE 2
12'-0"
15'-0"
40'-0"
3' SS EASEMENT
20" OAK
8" OAK
6" OAKS
6" BAY
5'-0"
N. REQUIRED
DE YARD
ETBACK
PROPOSED SIDE YARD SETBACK
MIN. REQUIRED SIDE YARD SETBACK
PROPERTY LINE
LOT 49
(5 M 14)
VALLEY
8" OAK
10" BAY
24" BAY
15" OAK
FENCE
(HAWTHORN)
DRIPLINES ROOT PROTECTION
3' UTILITY EASEMENT
50.00 PROPERTY LINE
N61°00'00"E
APN 003-101-18
LOT 48
(5 M 14)



ONES

-5') FROM HOUSE

TO 30' OR >)

OR > TO 100')

FROM RD / DRIVEWY)

S – VALLEY OAKS

LY THINNED AND

E (3) RARE
E 2. ONCE 10" BAY
) AND THINNED,
Y' ARBORIST WILL
T STEPS.

AND SOME COAST LIVE
OPIES ABOVE. CANOPIES
AL OF BAYS THAT

ECT AND FOSTER
AND VALLEY
HAZARD AND OTHER

H. NO NATIVE GRASSES SHALL BE PLANTED WITHIN HOME IGNITION ZONES 1 AND 2.

I. ALL PLANTED AREAS INSIDE HOME IGNITION ZONES 1 AND 2 SHALL BE IRRIGATED.

J. ALL PLANTINGS SHALL BE SELECTED IN COORDINATION WITH THE FIRESAFE MARIN PLANTING LIST LOCATED AT WWW.FIRESAFEMARIN.ORG/PLANTS. OTHER FIRE RESISTANT PLANTS CAN BE UTILIZED WITH PRIOR APPROVAL OF THE FIRE CODE OFFICIAL.

K. REGARDLESS OF PLANT SELECTION, SHRUBS SHALL BE SPACED SO THAT NO CONTINUITY EXISTS BETWEEN GROUND FUELS AND TREE CROWNS, SUCH THAT GROUND FIRE WILL NOT EXTEND INTO THE TREE CANOPY.

GENERAL NOTES:

APN:	003-101-06
PARCEL AREA:	7,140 SF
ZONING:	RS-6 , HILLSIDE RESIDENTIAL DEVELOPMENT OVERLAY
MAXIMUM ALLOWABLE FLOOR AREA BASED ON MAX. FLOOR AREA RATIO:	7,140 x .4 = 2,856 SF
PROPOSED AREAS:	
UPPER FLOOR	771 SF
LOWER FLOOR (INCLUDING 274 SF JADU	941 SF
TOTAL LIVING AREA:	1,712 SF
ELEVATED ENTRY DECK:	111 SF
DECK AT UPPER FLOOR:	101 SF
ELEVATED PARKING	696 SF
SETBACKS:	SEE SITE PLAN
MAXIMUM ALLOWABLE HEIGHT	35 FEET
MAXIMUM PROPOSED HEIGHT:	34'-4"
NUMBER OF PROPOSED OFF STREET PARKING SPACES:	3

ROSS VALLEY FIRE DEPT
Approved
Approved with Conditions
Not Approved - need revision
Incomplete
Date: 2/1/21

SITE NOTES:

TOPOGRAPHIC, EASEMENTS AND TREE INFORMATION SHOWN ON SITE PLAN PER SURVEY PERFOMED BY HUMANN COMPANY

EXISTING GRADE IS TO REMAIN WITH EXCEPTION OF MINOR MODIFICATIONS SHOWN ON CIVIL ENGINEERING DRAWINGS

EXISTING EASEMENTS ARE TO REMAIN

EXISTING FENCE IS TO REMAIN

PROJECT NORTH

VEGETATION MANAGEMENT PLAN

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

REVISIONS

STRUCTURAL ENGINEER

ARCHITECT
TURK KAUFFMAN
LAURI PUCHALL
131 ELDRIDGE AVENUE
MILL VALLEY, CA 94941
415-683-3582

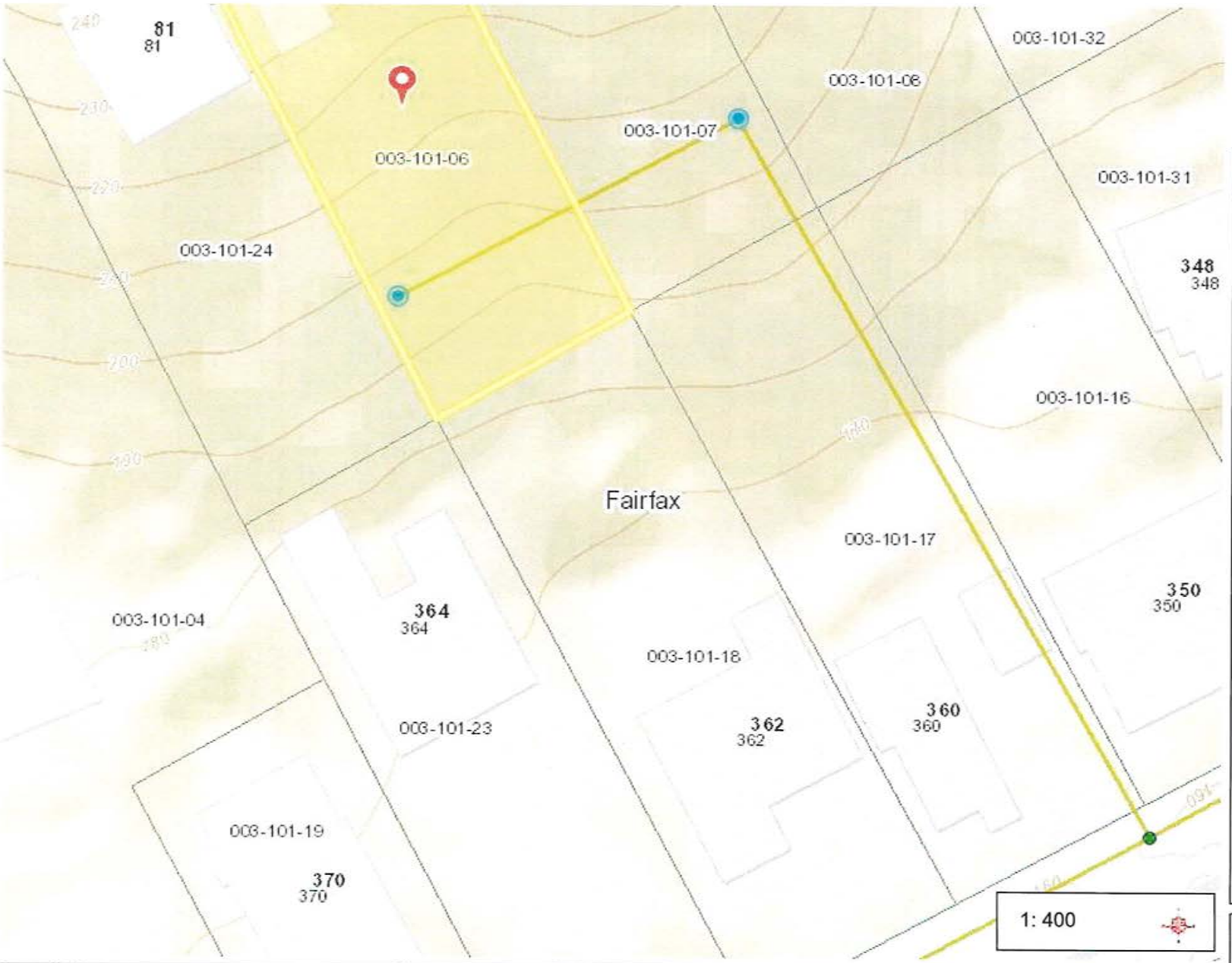
PROJECT
NEW SINGLE-FAMILY RESIDENCE
KAUFFMAN-PUCHALL
75 PINE DRIVE
FAIRFAX, CA 94930

TITLE
VEGETATION MANAGEMENT PLAN
DATE: JANUARY 2021
PHASE: ROSS VALLEY FIRE REVIEW

SHEET
VMP

ATTACHMENT G

MarinMap GIS Map Report



Legend

- Condominium Co
- City
- Community
- Marin County Legal Boundary
- Other Bay Area County
- Ross Valley Sanitary Junction
  - No data
  - Lamp Hole
  - Manhole
  - Pump Station
  - Rodding Eye
  - Unspecified
- Ross Valley Sanitary Pipe
  - No data
  - Force main
  - Gravity main
  - Siphon
- MMWD Easement
- Address
- Parcel Secured
- Stream - Perennial (NHD)
- Area (NHD)
  - CanalDitch
  - DamWeir
  - Foreshore
  - SeaOcean
  - Spillway
  - StreamRiver

1: 400

66.7 0 33.33 66.7 Feet

NAD_1983_HARN_StatePlane_California_III_FIPS_0403_Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes