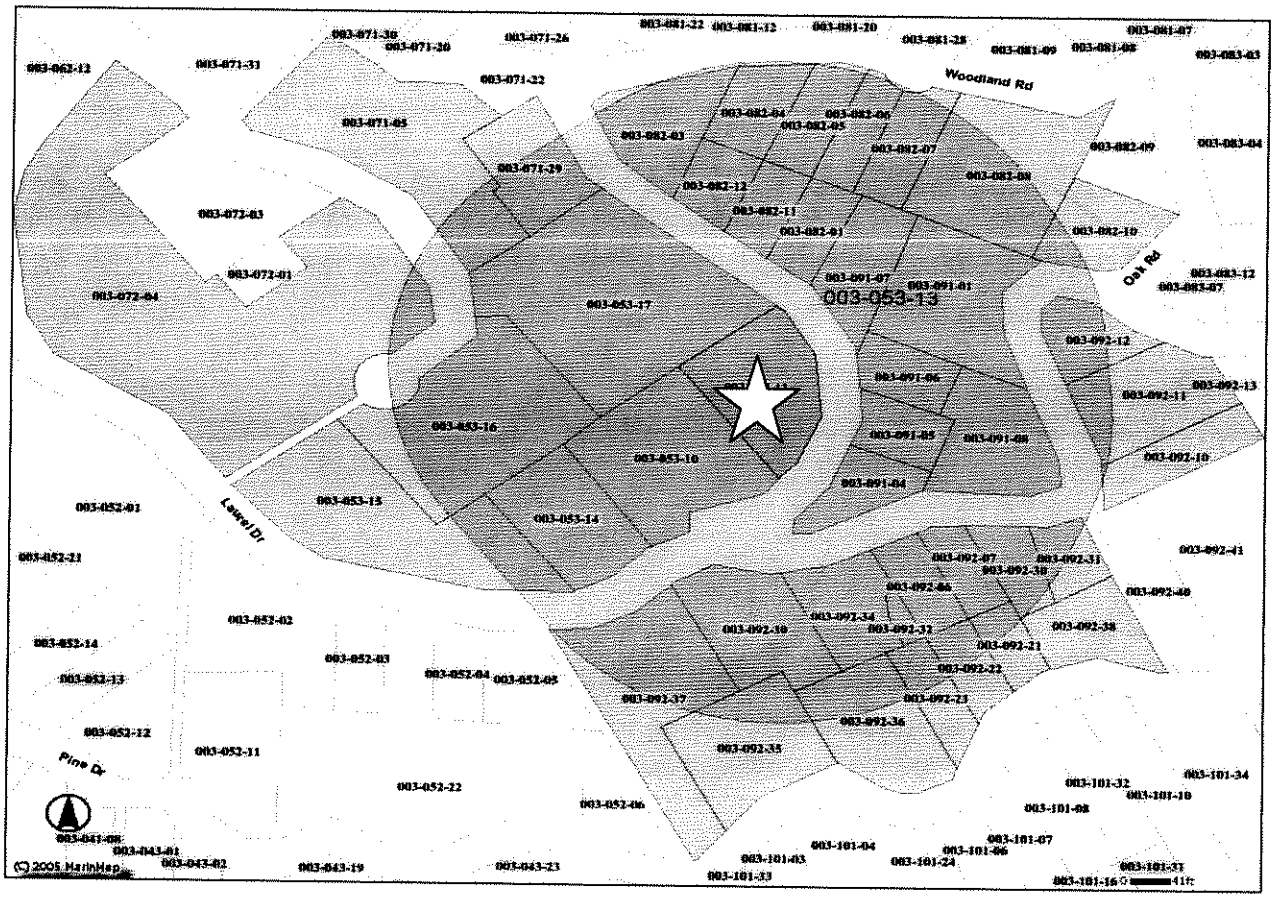
TOWN OF FAIRFAX
STAFF REPORT
Department of Planning and Building Services

TO:	Fairfax Planning Commission
DATE:	April 18, 2013
FROM:	Jim Moore, Director of Planning and Building Services Linda Neal, Senior Planner
LOCATION:	17 Woodland Road; Assessor's Parcel No. 003-053-13
PROJECT:	50% remodel/addition to a single-family residence
ACTION:	Hill Area Residential Development Permit, Design Review, Excavation Permit and Parking Variance: application # 13-01
APPLICANT:	Rich Rushton, Rushton Chartock Architects
OWNER:	Daniel May and Kim Teevan
CEQA STATUS:	Categorically exempt section(s), 15301(e)(1)



17 WOODLAND ROAD

2013STAFFREP/17 woodland.pcstaffrep.4_18_13.doc/ln

AGENDA ITEM # 2

BACKGROUND

The 17,163 square foot sites slopes up from Woodland Road at an average rate of 33 % and is developed with a 945 square foot single-family residence that was constructed in 1942. There is also a small shed to the north of the residence.

The site has a dirt driveway that provides tandem parking for two vehicles.

DISCUSSION

The applicants are proposing to remodel and expand the single-family residence including excavation/improvement/conversion of a basement area into an art studio and ½ bathroom. The project will increase the existing upper level from 791 square feet to 1,037 square feet and the basement area from 154 square feet to 609 square feet for a total living space of 1,646 square feet (with two living levels that will not be internally connected).

The project will include expansion of the driveway area through the construction of a new retaining wall to provide for 3 conforming parking spaces. The lower portion of the driveway that is located within the public right-of-way will be concrete while the upper portion on private property will be gravel. The uphill driveway wall will be steel post with wood lagging within the right-of-way and on the private property the dry stacked rock wall will be retained. The wall below the driveway will all be a steel post and wood lagging wall to safely support vehicle weight.

Property Zoning: The site is located within the Residential RS 6 Zone District and complies with the RS 6 regulations 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, 2 stories**
Existing	**49 ft**	**78 ft**	**127 ft**	**5 ft & 68 ft**	**73 ft**	**.06**	**.12**	**25 ft, 2 stories**
Proposed	**28 ft**	**78 ft**	**106 ft**	**same**	**same**	**.10**	**same**	**Same**

The project requires the following discretionary permits:

A Hill Area Residential Development Permit: Town Code § 17.080.050 indicates that properties that do not comply with the minimum size and width requirements must obtain a Hill Area Residential Development permit or a Use Permit prior to making any improvements or constructing any additions. Section 17.080.050(C) indicates that a project site with a 33% slope

would have to be 25,000 square feet in size and 119 feet wide. The project site is only 17, 163 square feet in size and is therefore substandard in size. Town Code § 17.072.050 only exempts projects from the HRD permitting process if they are less than 50% remodel/additions. The project site is substandard in size and the project is a 50% remodel so it is subject to the HRD process.

The Town Engineer has reviewed the following reports, development plans and engineering plans and has determined that the project can be built; a) without creating geologic, hydrologic or seismic hazards; b) negatively impacting the health, safety and welfare of the public; c) that adjacent properties are adequately protected by project investigation and design from geologic hazards as a result of the work; d) adjacent properties are adequately protected by project design from drainage and erosion problems as a result of the work; and, e) the amount of the excavation or fill proposed is not more than is required to allow the property owner substantial use of his or her property (see Exhibit B – Town Engineer's memorandum dated 3/29/13):

1. The 12/10/12, 12/12/12 and 1/20/13 geotechnical reports by Geoengineering, Inc. (Exhibit C)
2. The property topographic survey by J.L. Engineering dated July 2012
3. The engineered site improvement, grading and drainage plan by J.L. Engineering dated January 2013 (plan sheet C1)
4. The engineered site improvement, grading and drainage plan by J.L. Engineering dated February 2013 (plan sheet C2)
5. The engineered erosion control and stormwater pollution prevention plans by J.L. Engineering dated January 2013 (plan sheet C3)
6. The engineered topography and demolition plan by the J.L. Engineering dated January 2013 (plan sheet C4)
7. The architectural drawings by Rich Rushton , Rushton Chartock Architects, pages A1.1, A2.1, A4.1 and A4.2, A6.1 and A7.1.

An Excavation Permit: Town Code 12.20 080 requires that project applications that will require moving 100 cubic yards of material or more require the approval of an Excavation Permit by the Planning Commission. The project will require moving 135 cubic yards of material with 135 cubic yards being removed during construction, 35 of the cubic yards being used for fill and 100 cubic yards being hauled off site. The excavation is necessary to conform to the required drainage improvements on the site, re-grade the driveway for safety purposes and to expand the parking and excavation for the new foundation. There is no way to decrease the amount of excavation while still complying with the Town requirements for parking, or the project engineer's drainage improvement recommendations and recommendation for foundation construction.

A Parking Variance: Town Code § 17.052.030(A)(1)(c) and (A)(2) requires that single-family residences have a total of 3 parking spaces and § 17.052.010(D) requires that at least one of the spaces be covered. The proposed project will increase the number of parking spaces to the

required three, but the owners are requesting a variance to not provide the required covered parking space.

As indicated above the parking on the site is legal but nonconforming with current parking regulations because there is not the third required guest space on the property and the two main spaces are in tandem. Town Code §17.052.040(E) prohibits the two parking spaces required for a main dwelling unit from being in tandem, only allowing the third guest parking space to tandem. The project will include stabilizing the downslope edge of the driveway and expanding the parking area to provide three conforming spaces. Historically staff has only been able to recommend approval of variances to eliminate the covered parking requirement when the only place to build the structure would be in a required setback or would result in a structure that exceeds the height limit.

Legal findings must be made to eliminate the covered parking requirements and they must be based on something inherent in the land itself, such as the slope or size. This property is over 17,000 square feet in size and the structure site and parking area are set well away from the property line. Therefore, in this case, a covered carport can be built in the driveway that complies with setbacks and the height limit of 15 feet for accessory structures and staff is unable to make the required findings. Therefore, we have included a condition for the project that the covered parking requirement be complied with.

Design Review: Town Code § 17.020.030(A) requires that new residences and projects constituting 50% remodels be approved by the Commission as complying with the Design Review Criteria.

The addition and new deck have been designed at the front of the building where the existing two story deck/porch exists now. The project will include removing plumbing currently existing outside the building and locating it within the walls. The addition will update and complement the existing portions of the structure that will remain with cement plaster siding painted dark grey to compliment the horizontal siding that is light grey. The portions of the existing residence where the siding will need to be replaced will utilize horizontal Hardie plank in light grey. The windows will be updated utilizing Marvin or Anderson double pained windows with white framing. The trim and soffet will also be white to be in keeping with the architectural design of the existing building.

The roof will be shingled with fiberglass shingles in a grey/green color called "Antique Slate".

The exterior lighting will be wall mounted and provide only down-lighting (see cut sheet attached to the project plans indicating Shaper or LBL Polo 3 silver finish or similar lights will be used).

The proposed 1,646 square foot residence is similar in size with other homes in the immediate neighborhood on similar sized lots which range in size from 900 square feet to 1,800 square feet.

Site Disturbance

Disturbance of the site will be limited to the areas where the driveway will be widened and where foundation will be constructed. The addition will be located in basically the same location as the existing first floor porch and second floor deck above an existing level bench area. Therefore, site disturbance will be minimized.

Tree Removal

No trees will need to be removed to construct the residence or widen the driveway. The slope of the site, canyon orientation and canyon winds, narrow width of the access roadway to the site and response time dictate a 50 x 50 x 50 x 100 foot defensible space around the structure to ensure fire safety.

Please note that 6 oaks have Sudden Oak Death (SOD) and must be removed.

The following 42 trees are recommended for removal in the 2/16/13 Vegetative Management Plan by Ray Moritz of Urban Forestry Associates Inc. to ensure fire safety for the residence and expanded structure (Exhibit D):

- 10 California bay laurels
- 5 Incense cedars
- 1 Coast redwood
- 27 Blackwood Acacias
- 1 Black oak
- 1 Eucalyptus
- 1 Juniper
- 2 Knob cone pines

The site is heavily wooded and 97 trees will remain on the site after completion of compliance with the Vegetative Management Plan (VMP) so the impact of compliance with fire safety requirements has been minimized as much as possible.

OTHER AGENCY AND DEPARTMENT COMMENTS (Exhibit E)

Ross Valley Fire Department

1. A fire protection system shall be installed throughout the entire building which complies with the requirements of the National Fire Protection Association (NFPA) 13-D and local standards. A separate deferred permit shall be required for this system. Plans and specifications for the system shall be submitted by an individual or firm licensed to design and/or design-build sprinkler systems.

2. All smoke detectors in the residence shall be provided with AC power and be interconnected for simultaneous alarm. Detector shall be located in each sleeping room, outside of sleeping rooms centrally located in the corridor and over the center of all stairways with a minimum of one detector per story of the occupied portion of the residence.

3. A Vegetative Management Plan designed in accordance with Ross Valley Fire Standard 220 is required for this project. A separate deferred permit shall be required for this plan. Please submit directly to the Fire Department for review.

4. Carbon monoxide alarms shall be provided.

5. Address numbers must be 4 inches tall and if not clearly visible from the street, additional numbers are required. The project is a substantial remodel so the numbers must be internally illuminated or illuminated by an adjacent light controlled by a photocell and switch off only by a breaker so it will remain illuminated all night. The numbers must be internally illuminated, placed next to a light or be reflective numbers.

Marin Municipal Water District

1. The applicant must comply with the District Code Title 13, Water Conservation, as a condition of water service.

2. Should backflow protection be requirement it shall be installed prior to the project final inspection.

Sanitary District

1. A new sewer connection will be required for the residence since it involves extensive demotion and rebuild. The size of the sewer lateral will depend on the fixture count calculated during the permitting process. If the existing lateral meets the size requirements of the fixture count, the applicant has the option of installing a new lateral or, the old sewer lateral needs to be tested in the presence of a District Inspector and found to meet all current District requirements. The cost will be based on the number of fixtures. Occupancy will not be approved until District's permit and sewer requirements are fulfilled (Exhibit F)

Fairfax Police, Public Works and Building Departments

The Fairfax Police Department and the Building Department had no comments on the project.

RECOMMENDATION

1. Open the public hearing and take testimony.

2. Close the public hearing.

3. Move to approve application # 13-01 subject to the following findings and conditions of approval:

HRD Findings

1. The proposed development is consistent with the General Plan, other adopted codes and policies of the Town of Fairfax, and is consistent with the purpose and intent of this ordinance.

2. The site planning preserves identified natural features as much as possible while complying with the overlapping regulations of the Zoning Ordinance, the Wildland Urban Interface Zone regulations and Building Codes.

3. The Town Engineer has reviewed the following reports, development plans and engineering plans and has determined that the project can be built; a) without creating geologic, hydrologic or seismic hazards; b) negatively impacting the health, safety and welfare of the public; c) that adjacent properties are adequately protected by project investigation and design from geologic hazards as a result of the work; d) adjacent properties are adequately protected by project design from drainage and erosion problems as a result of the work; and, e) the amount of the excavation or fill proposed is not more than is required to allow the property owner substantial use of his or her property (see Exhibit B – Town Engineer's memorandum dated 3/29/13):

1. The 12/10/12, 12/12/12 and 1/20/13 geotechnical reports by Geoengineering, Inc. (Exhibit C)
2. The property topographic survey by J.L. Engineering dated July 2012
3. The engineered site improvement, grading and drainage plan by J.L. Engineering dated January 2013 (plan sheet C1)
4. The engineered site improvement, grading and drainage plan by J.L. Engineering dated February 2013 (plan sheet C2)
5. The engineered erosion control and stormwater pollution prevention plans by J.L. Engineering dated January 2013 (plan sheet C3)
6. The engineered topography and demolition plan by the J.L. Engineering dated January 2013 (plan sheet C4)
7. The architectural drawings by Rich Rushton , Rushton Chartock Architects, pages A1.1, A2.1, A4.1 and A4.2, A6.1 and A7.1.

4. The project will include bringing the property into compliance with the parking ordinance and therefore, vehicular access and parking are adequate.

5. The proposed residence is similar in size and architecture to other homes in the neighborhood. The site is not located within a Ridgeline Scenic Corridor or in any other area identified previously by the Planning Commission as a significant view corridor. Therefore, 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 Findings

1. The health safety and welfare of the public will not be adversely affected – See HRD finding # 3 above.

2. Adjacent properties are adequately protected by project investigation and design from geologic hazards as a result of the work - see HRD findings # 3 above.

3. Adjacent properties are adequately protected by project design from drainage and erosion problems as a result of the work – see HRD finding # 3 above.

4. The only excavation occurring on the site is to install the required drainage improvements, bring the property into compliance with the Town parking regulations and to construct the new foundation. Therefore, the amount of the excavation or fill proposed is not more than is required to allow the property owner substantial use of his or her property.

5. The visual and scenic enjoyment of the area by others will not be adversely affected by the project more than is necessary because the VPM strives to maintain as many of the existing trees as possible while serving to protect the site for wildfires. 97 trees will remain on the site after the VPM is complied with.

6. Natural landscaping will not be removed by the project more than is necessary. See the finding above.

7. Town Code § 17.072.090(C)(4) prohibits excavation between October 1st and April 1st. Therefore, 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.

Design Review Findings

1. The proposed project 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 project is of a quality and character appropriate to, and serving to protect the value of, private and public investments in the immediate area.

3. The proposed development, as conditioned to provide the required covered parking space, conform to the design of parking and off-street loading areas set forth in this title.

4. Sufficient variety exists in the design of the structure to avoid monotony in external appearance.

5. The proposed 1,646 square foot residence is not out of proportion to the 17, 163 square foot project site.

6. The architecture of the structure is similar to the architecture of other structure found throughout the neighborhood and therefore conforms to the general character of other structures in the vicinity.

7. Excavation of the site has been minimized and the submitted Vegetative Management Plan (VMP) retains as many of the on site trees as is possible while still comply with the Wildland Urban Interface Zone regulations. Therefore, the natural features of the site have been retained as much as possible.

8. The parking on the site is accessible and the portion of the driveway located in the public roadway easement will be paved to avoid future damage to the edge of the paved public roadway from vehicles driving into and out of the driveway.

Recommended Conditions of Approval

Planning Conditions:

1. A covered parking space must be incorporated into the project plans.

2. The covered space must be completed during the first phase of construction. Failure to complete the carport during the first phase of construction will result in the project being stopped by the Building Official until the construction on the carport is complete.

3. The two living levels of the residence will not be internally connected. Therefore, a deed restriction must be signed by the owners, their signatures must be notarized and the document must be recorded prior to issuance of the building permit indicating that the residence may only be used as a single-family home and may only have one kitchen.

4. An addendum to the Vegetative Management Plan must be provided addressing the new carport location prior to issuance of the building permit even if it is just to indicate no changes are necessary.

5. This approval is limited to the development illustrated on the plans prepared by Rich Rushton dated 10/5/12, pages A1.1, A2.1, A4.1 and A4.2, A6.1 and A7.1, the Vegetative Management plan dated 2/16/13 by Ray Moritz, based on the Record of survey by J.L.

Engineering dated July 2012, and the engineering drawings by J.L. Engineering C-1 through C-4 and discussed in the project engineering reports and letters by Geoengineering Inc. dated 12/10/12, 12/12/12 and 1/20/13.

6. Prior to issuance of a building permit the applicant or his assigns shall:

    a. Submit a construction plan to the Public Works Department which may include but is not limited to the following:

7. Construction delivery routes approved by the Department of Public Works.
8. Construction schedule (deliveries, worker hours, etc.)
9. Notification to area residents
10. Emergency access routes

    a. b. The applicant shall prepare, and file with the Public Works Director, a video tape of the roadway conditions on the construction delivery routes (routes must be approved by Public Works Director).

    b. Submit a bond or letter of credit to the Town in an amount that will cover the cost of grading, weatherization and repair of possible roadway damage. The applicant shall submit contractor's estimates for any grading, site weatherization and improvement plans for approval by the Town Engineer. Upon approval of the contract costs, the applicant shall submit a bond or letter of credit equaling 100% of the estimated construction costs.

    c. 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 Engineer.

    d. The grading, foundation, retaining, and drainage elements shall also be stamped and signed by the site geotechnical engineer as conforming to the recommendations made by the project engineer.

    e. Prior to submittal of the building permit plans the applicant shall secure written approval from the Ross Valley Fire Authority noting the developments conformance with their recommendations.

    f. The applicant shall secure a tree cutting permit from the Town prior to removal of any on-site trees over 24 inches in circumference measured 24 inches from the ground. To further minimize impacts on trees and significant vegetation, the applicant shall submit plans for any utility installation (including sewer, water, drainage) which incorporates the services of a licensed arborist to prune and treat trees having roots 2 inches or more in diameter that are disturbed during the

construction, excavation, or trenching operations. In particular, any cross country utility extensions shall minimize impacts on existing trees. Tree root protection measures may include meandering the line, check dams, rip rap, hand trenching, soil evaluation, and diversion dams. Any trimming of trees shall be supervised by a licensed arborist.

g. Submit three copies of the recorded record of survey with the building permit submittal.

h. Pruning should be conducted during the winter which trees are dormant for deciduous species and July-August for evergreen species.

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

a. The geotechnical engineer shall be on-site during the grading process (if there is any grading to be done) and shall submit written certification to the Town staff that the grading has been completed as recommended prior to installation of foundation and retaining forms and piers.

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 pour.

d. All construction related vehicles including equipment delivery, cement trucks and construction materials shall be situated off the travel lane of the adjacent public right(s)-of-way at all times. This condition may be waived by the building official on a case by case basis with prior notification from the project sponsor.

e. Additionally, any proposed temporary closure of a public right-of-way shall require prior approval by the Fairfax Police Department and any necessary traffic control, signage or public notification shall be the responsibility of the applicant or his/her assigns. Any violation of this provision will result in a stop work order being placed on the property and issuance of a citation.

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

a. The 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.

b. The Town Engineer shall field check the completed project to verify that the work has been installed as per approved plan.

c. The Planning Department shall field check the completed project to verify that all design review and planning commission conditions have been complied with including , if applicable, installation of landscaping and irrigation.

13. Excavation shall not occur between October 1st and April 15st. The Town Engineer has the authority to waive this condition depending upon the weather.

14. The roadways shall be kept clean and the site free of dust by watering down the site if necessary. The roadways shall be kept free of dust, gravel and other construction materials by sweeping the roadway, daily, if necessary.

15. During construction developer and all employees, contractor's and subcontractor's must comply with all requirements set forth in Ordinance # 637 (Chapter 8.26 of the Town Code), "Storm Water Management and Discharge Control Program."

16. Notwithstanding section # 17.38.050(A) of the Fairfax Zoning Ordinance, ***any*** changes, modifications, additions or alterations made to the approved set of plans will require a modification of Hill Area Residential Development Permit 13-01. ***Any*** construction based on job plans that have been altered without the benefit of an approved modification of Hill Area Residential Development Permit 13-01 will result in the job being immediately stopped and red tagged.

17. Any damages to Woodland Road resulting from construction activities shall be the responsibility of the property owner. The owner or contractor shall videotape or otherwise document as approved by the Public Works Director the existing condition of the roads in the vicinity of the site prior to starting construction of the residence. Road closures, if necessary, shall be coordinated with the Fairfax Police Department and the Ross Valley Fire Department.

18. The applicant or owner shall defend, indemnity, and hold harmless the Town of Fairfax or its agents, officers, and employees from any claim, action, or proceeding against the Town of Fairfax or its agents, officers, or employees to attach, set aside, void, or annul an approval of the Planning Commission, Town Council, Planning Director, Design Review Board or any other department or agency of the Town concerning a development, variance, permit or land use approval which action is brought within the time period provided for in any applicable statute; provided, however, that the applicant's or owner's duty to so defend, indemnity, and hold harmless shall be subject to the Town's promptly notifying the applicant or owner of any said claim, action, or proceeding and the Town's full cooperation in the applicant's or owner's defense of said claims, actions, or proceedings.

Town Engineer Conditions

1. Prior to the building permit final inspection a letter must be obtained from the geotechnical engineering stating that the finished grading for the project site satisfies that engineer's requirements for stability and erosion control.

2. All pages of the plans submitted for the building permit must consistently indicate whether the wall below the driveway will be concrete or steel lagging and wood.

Ross Valley Fire Department Conditions:

1. A fire protection system shall be installed throughout the entire building which complies with the requirements of the National Fire Protection Association (NFPA) 13-D and local standards. A separate deferred permit shall be required for this system. Plans and specifications for the system shall be submitted by an individual or firm licensed to design and/or design-build sprinkler systems.

2. All smoke detectors in the residence shall be provided with AC power and be interconnected for simultaneous alarm. Detector shall be located in each sleeping room, outside of sleeping rooms centrally located in the corridor and over the center of all stairways with a minimum of one detector per story of the occupied portion of the residence.

3. A Vegetative Management Plan designed in accordance with Ross Valley Fire Standard 220 is required for this project. A separate deferred permit shall be required for this plan. Please submit directly to the Fire Department for review.

4. Carbon monoxide alarms shall be provided.

5. Address numbers must be 4 inches tall and if not clearly visible from the street, additional numbers are required. The project is a substantial remodel so the numbers must be internally illuminated or illuminated by an adjacent light controlled by a photocell and switch off only by a breaker so it will remain illuminated all night. The numbers must be internally illuminated, placed next to a light or be reflective numbers.

Marin Municipal Water District

1. The applicant must comply with the District Code Title 13, Water Conservation, as a condition of water service.

2. Should backflow protection be requirement it shall be installed prior to the project final inspection.

Sanitary District

1. A new sewer connection will be required for the residence since it involves extensive demolition and rebuild. The size of the sewer lateral will depend on the fixture count calculated during the permitting process. If the existing lateral meets the size requirements of the fixture count, the applicant has the option of installing a new lateral or, the old sewer lateral needs to be tested in the presence of a District Inspector and found to meet all current District requirements. The cost will be based on the number of fixtures.

2. Occupancy will not be approved until District's permit and sewer requirements are fulfilled .

Miscellaneous Conditions

1. The applicant must comply with any all conditions listed above unless a specific agency waives their conditions in a written letter to the Department of Planning and Building Services.

2. Planning Conditions acted upon by the Planning Commission may only be waived by the Commission at a future public hearing.

ATTACHMENTS

Exhibit A – applicant's supplemental information
Exhibit B – Town Engineer's memorandum dated 3/29/13
Exhibit C – geotechnical reports/letters by Geoengineering Inc. dated 12/10/12, 12/12/10 and 1/ 20-13
Exhibit D – 2/16/13 VMP by Urban Forrestry Associates Inc.
Exhibit E - Other agency/department comments/conditions

PROJECT DESCRIPTION: Upper and Lower Floors remodeling & addition. Deck remodeling & addition.

GENERAL INFORMATION (if applicable):

Item	Existing	Proposed
Lot size	17,163 sF	17,163.
Size of structure(s) or commercial space (square feet)	945	1,646.
Height and No. of stories	25', 2 stories	25', 2 stories.
Lot coverage	2,037.	2,122.
No. of dwellings units	1	1
Parking[1] No. of spaces	2	3
Size of spaces	9X17	9X19.

Amount of proposed excavation and fill	Excavation = 8.1 cuft.	Fill = 8.1 cuft.

Estimated cost of construction $ 190,000.

Lot Coverage is defined as the land area covered by all buildings and improvements with a finished height above grade and all impervious surfaces except driveways.

[1]Minimum parking dimensions are 9' wide by 19' long by 7' high. Do not count parking spaces that do not meet the minimum standards.

Restrictions: Are there any deed restrictions, easements, etc. that affect the property, and, if so, what are they? NA

Daniel May
Signature of Property Owner

10/4/12
Date

Richard Thornton
Signature of Applicant

10/4/12.
Date

Planning Department staff is available by appointment between 8:30 a.m. and 12:00 noon and 1:00 p.m. and 5:00 p.m. Monday through Thursday at 142 Bolinas Road, Fairfax, CA. (415) 453-1584

EXHIBIT # A

FLOOR AREA RATIO (FAR) AND LOT COVERAGE STATISTICS

The following information will be used to verify application FAR and lot coverage amounts. **Applications will not be considered complete until the following table is complete.**

	Existing	Proposed
Footprint square footage for all structures	1,042.	1,127.
Living space square footage		
First floor	154	609 455 sf 701 total
Second floor	791	1,037 246
Third floor		
Total	945	1,646.
Accessory structure square footages	90	90.
Sheds		
Pool houses		
Studios/offices		
Second units		
Miscellaneous (specify use)		
Total	90	90.
Square footage of impervious surfaces		
Walkways	248	248
Patios	747	747
Impervious decks		
Miscellaneous (specify use)		
Total	995	995
Garage/carport square footages (specify type)	-0-	-0-

* All square footage measurements must be the sum of all interior floor area measured from the exterior faces of the exterior walls for structures (Town Code § 17.008.020).

FLOOR AREA: Fairfax Town Code § 17.008.020, Definitions, defines "floor area" as the sum of all interior floor area measured from the exterior faces of the exterior walls. The "floor area" of any accessory structures on the same lot shall be included. The "floor area" of any garage in excess of 500sf in size for single-family residences and 800sf in size for duplexes shall also be included.

LOT COVERAGE: Fairfax Town Code § 17.008.020, Definitions, defines "lot coverage" as the percentage of the lot area that is occupied by the ground area of a building, any accessory building(s), as well as any impervious surface areas such as patios (other than driveways) adjacent to the building or accessory structure.

SUPPLEMENTAL QUESTIONNAIRE & DRB APPLICABILITY

DESIGN REVIEW

For Commercial, Planned Developments, Hillside Residential and Multiple Family Design Review: (Include brand and number for all finish and/or paint colors.)

1. Exterior finish: Painted horizontal wood & Hardieplank siding + cement plaster
2. Proposed exterior wall color(s): Light grey & dark grey.
3. Proposed exterior trim color: White.
4. Proposed exterior window color: White frames.
5. Proposed roof material and color: Fiberglas shingle, "Antique Slate".
6. Special features:
7. Lot Coverage: proposed 2,122 SF = 12.36%.
8. Number of existing parking spaces and their sizes: (2) 9x19
9. Number of proposed parking spaces and their sizes: (3) 9x19.

DESIGN REVIEW APPLICABILITY

1. **Hillside Design Review (in a ridge line)**

   All new dwellings located on hillside properties and all additions on properties located in a ridgeline scenic corridor (which include deck and stairway structures) shall require design review.

   Additions and accessory structures may be exempt from design review where the applicant demonstrates, through the use of story poles, plans and photo montages, that an accessory structure or addition will have no impact on significant view corridors due to the proposed location of the structure in relation to existing improvements. Project exemption shall be determined by the Fairfax Planning Director.

2. **Multiple family Design Review**

   Multiple family residential units of three (3) or more and additions to structures located in the Multiple Family RM Zone.

3. **50% remodels of additions to residential properties**

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

MEMORANDUM

To: Linda Neal – Senior Planner

Date: March 29, 2013

From: Ray Wrysinski
Town Engineer

Subject: Proposed Addition and Remodel
17 Woodland Road
Fairfax, CA

A.P. 003-053-13

I have reviewed the documents that were with your 3/4/13 transmittal. The items reviewed included a set of plans from Rushton-Chartock Architects. In those plans were six sheets of Architect's drawings, dated 10/5/12 also attached to those sheets were four pages of text titled Program, dated 10/8/12. Also in that plan set were four sheets of Civil Engineer's drawings by J. L. Engineering, dated January 2013. The items included a deed for the property and a title report, dated 4/23/13. Also included was a 2/16/13 Vegetation Fuels Management Plan by Urban Forestry Associates. There was a 2/10/12 Geotechnical Feasibility Report, a 2/12/12 Report Supplement letter and a 1/20/13 Geotechnical Evaluation, all by Geogengineering Inc.

The above documents were reviewed to determine if they satisfied the requirements in the January 9, 2013, Town Engineer, review memorandum on this project.

The previously noted numbering problem indicating there is a four sheet set and also a five sheet set of the "C" drawings was not corrected. Sheets C1, C3 and C4 are shown to be part of a four sheet set and sheet C2 is shown to part of a five sheet set. That problem was not corrected and gives the appearance of an effort to delay the project. I suggest that we not delay the project, waiting for that correction, and just try to keep watch for these unknown sheets to appear. If those unknown drawings appear farther on in the project, the work should be stopped until the information on those new sheets can be adequately reviewed.

A topographic survey map sheet was required to be submitted. The survey map previously submitted needed the additions of showing the existing trees and needed to show the signature and seal of the Civil Engineer responsible for the survey. Those items are on this latest submittal. There was additional information needed for review of the survey and those items were the fee title deed and a title report. Those two items have now been submitted

There was an error identified in the Architect's site plan topography, near road elevation 320. That topography problem has been corrected in this submittal.

The Geotechnical Engineering documents submitted, as noted above, provided the needed information. The unsupported cut banks and rock rip-rap covered banks on the site are not a very significant issue to me but I would have preferred a little more specific information on all of them in the Geotechnical

EXHIBIT # B

Engineering report's comments. I think the best treatment at this point will be to get a letter from the Geotechnical Engineer, before the permit is finaled, which states that the finished grading for the project adequately satisfies that engineer's requirements for stability and erosion control.

The Civil Engineer's C2 plan sheet previously showed concrete retaining walls below the driveway and also along a portion of the uphill side of the driveway. That sheet now shows steel post and wood plank retaining walls where the concrete walls were shown. The current Architect's plan shows a new retaining wall below the driveway and shows a new concrete wall on the uphill side of the driveway. That uphill wall conflicts with the Civil Engineer's plan so that conflict must be resolved before the permit is issued

The topographic survey now appears to show all of the existing trees. The previous Architect's site plan showed a lot of the trees. The current Architect's site plan does not show the existing trees so you should depend on the topography survey to show what trees are affected by the work. The previous Architect's site plan showed a tree to be removed at the upper end of the driveway. There is nothing that shows that tree to be removed now. The Vegetation Fuels Management Plan shows quite a few trees to be removed on this site, on the Town Street right of way and on the two adjoining properties. The one tree previously shown on the Architect's site plan, to be removed, is not shown on the Fuels Management Plan as an existing tree so I don't know if it is to stay or be removed or if it has already been removed. Since the Vegetation Fuels Management is driven by Fire Control needs, the tree removals shown on that plan will have to be coordinated with the Town's Tree Committee permit requirements. The tree removal shown to be done outside this site's property boundary will have to involve the appropriate property owner's approvals.

I recommend that the processing of this project proceed.

Ray Wrysinski

Ray Wrysinski, P. E.
Town Engineer

GEOENGINEERING, INC.

Geotechnical Engineering Consultants
124 Paul Drive, Suite #105
San Rafael, CA 94903

Phone & Fax (415) 492-1747
Robert H. Settgast

December 10, 2012
File No. 4-12D-kmdt

Kim May & Daniel Teevan
1557 - 15th Avenue
San Francisco, CA 94122

GEOTECHNICAL FEASIBILITY
RESIDENTIAL IMPROVEMENT PLAN
17 WOODLAND ROAD
FAIRFAX, CALIFORNIA

BACKGROUND & SITE DESCRIPTION

Our firm has been retained to perform the entitled services, on behalf of the addressees, by Ruston Chartock Architects of San Anselmo. Photos keyed to a Site Plan are attached.

We have also reviewed an 11/8/12 memorandum submitted to Linda Neal (Senior Planner) by Mr. Ray Wrysinski (Town Engineer). On 12/3/12, we evaluated the project with the architect.

This circa 1950 wood frame dwelling has been formed into slopes that fall easterly at grades averaging ~ 40%. The slopes A relatively level bench extends easterly from the rear yard of the house. (photo 5 & 6).

The slopes have been partially terraced with several 2 to 4 ft high, 6 to 16 inch rock stacked walls at ~ 60 degree slopes. The existing parking pad south of the dwelling which was formed by cutting and placing ~ 2 ft of fill on its downslope (upper photo) is flanked on its downslope by a stacked wall.
Woodland Road has been cut 2 to 4 into the rising slope at ~60 degrees. .

The lower house floor is unfinished and used for storage and its rear segment is crawlspace. The structure bears mainly on a perimeter foundation with isolated and continuous interior supports. Segments of its downslope exterior member shows no embedment, with random voids below its outer edges. Measurements of floor elevations revealed typical differentials up to 1 inch over ~20 ft with no patterns that reflect significant settlements.

Weathered bedrock is exposed within 2 or 3 ft of the grade at most within the subfloor areas and is exposed in segments of the subfloor area, It identified within a foot of grade along the downslope edge of the dwelling.

The geologic maps show complex geologic patterns here that reflect Melange with sandstone/shale exposures and numerous surficial slides. Aside form some surficial soil creep, we found no indications of deep slide activity here.

EXHIBIT # C

DISCUSSION

The upgraded structure, which will be expanded several feet downslope, can be supported on interconnected foundations penetrating into the weathered bedrock, although drilled foundations below the new downslope exterior foundation may simplify the design.

The existing rock stacked walls are subject to localized dislocation as is the case for nearly all such walls-- but can be repaired with relative ease.

The existing parking area (upper photos) can be used without upgrading the stacked rock wall at its downslope, if the vehicles are kept at least 4 ft from the slope break.

The roadway cuts appear to be relatively stable, although some slippage and possible collection of debris on the roadway is also possible--as is the case for many road cuts in this area.

Indications are that the most viable means of dispersing the rear roof and rear yard drainage would be to carry it to a conventional dispersion flume sited on the level bench to the east (photo 5). Such a flume is shown on Sheet A2.1.

As indicated in the 10/23/12 letter from the Town Engineer, the contours on the Site Plan are generalized and imply some cut slopes to be shallower than actual.

CONCLUSIONS

As for all such projects, a geotechnical report should be included in the final design, although, given the shallow bedrock, it need not be extensive. Excavation and grading improvements must be monitored and approved by the geotechnical engineer.

With the above points in mind, all indicators show that this project is feasible from a geotechnical standpoint.

CLOSURE AND LIMITATIONS

By accepting this report the client and other recipients acknowledge their understanding and acceptance of the following terms and conditions. They also acknowledge that no verbal or written guarantees were made by the undersigned.

Even though we see no reason to suspect that the soil or foundation behavior will differ from our predictions, one must recognize that factors contributing to hillside and foundation instability, surface and groundwater seepage, and other geotechnical related problems cannot always be detected.

Our work is limited to geotechnical aspects of design. We may cite minimum criteria, but structural design and inspection are the responsibility of the structural engineer and/or designer. Toxic material identification, and hydrological & flood studies are also excluded from our work scope. Identification of underground lines is the contractor's responsibility.

Earth slippage and subfloor water are sometimes unavoidable especially during rainfall and/or irrigation. Sub-drain performance can never be predicted and blockages in such system are common. Cracks in wallboard and tile as well as some distortions in hardwood floors develop in most structures from normal wood shrinkage and relaxation--*especially for additions.*. Concrete curing and stress cracks will also develop. These occurrences cannot be avoided and we are not responsible for their effects. Since we are not contracted to provide full time observations, we cannot be held liable for construction errors.

It is also understood that certain risks must be assumed for all types of foundation and earth systems. These risks can always be lessened by upgrading these systems even though the margin of additional safety may be small compared to the additional costs involved. Although the engineer may assist in selection of the optimum balance between safety and economy, the client and all recipients understand that the risk is their own.

This report represents our best judgment based on the available information and complies with current standards of practice for projects of comparable scope and budgets. No forms of warranty or insurance coverage are expressed or implied in our reports or other communications.

If a claim is made against GeoEngineering, Inc. for any act relating to our professional services, the initiator(s) of the claim shall pay for all costs and lost time associated with our defense. In any case, our liability cannot exceed our fee for this project. We carry no errors and omission insurance.

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We trust that this report provides the information required. You may contact us for clarification.

Respectfully submitted,
GEOENGINEERING INC.

Robert H Settgast

Robert H. Settgast
Professional Geotechnical Engineer

RHS:lw

Attachments: *Site Plan*
Photos

CC: *Rushton-Chartock Architects*
P. O. Box 173
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Town of Fairfax, Building Division
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File 4-12D-kmdt

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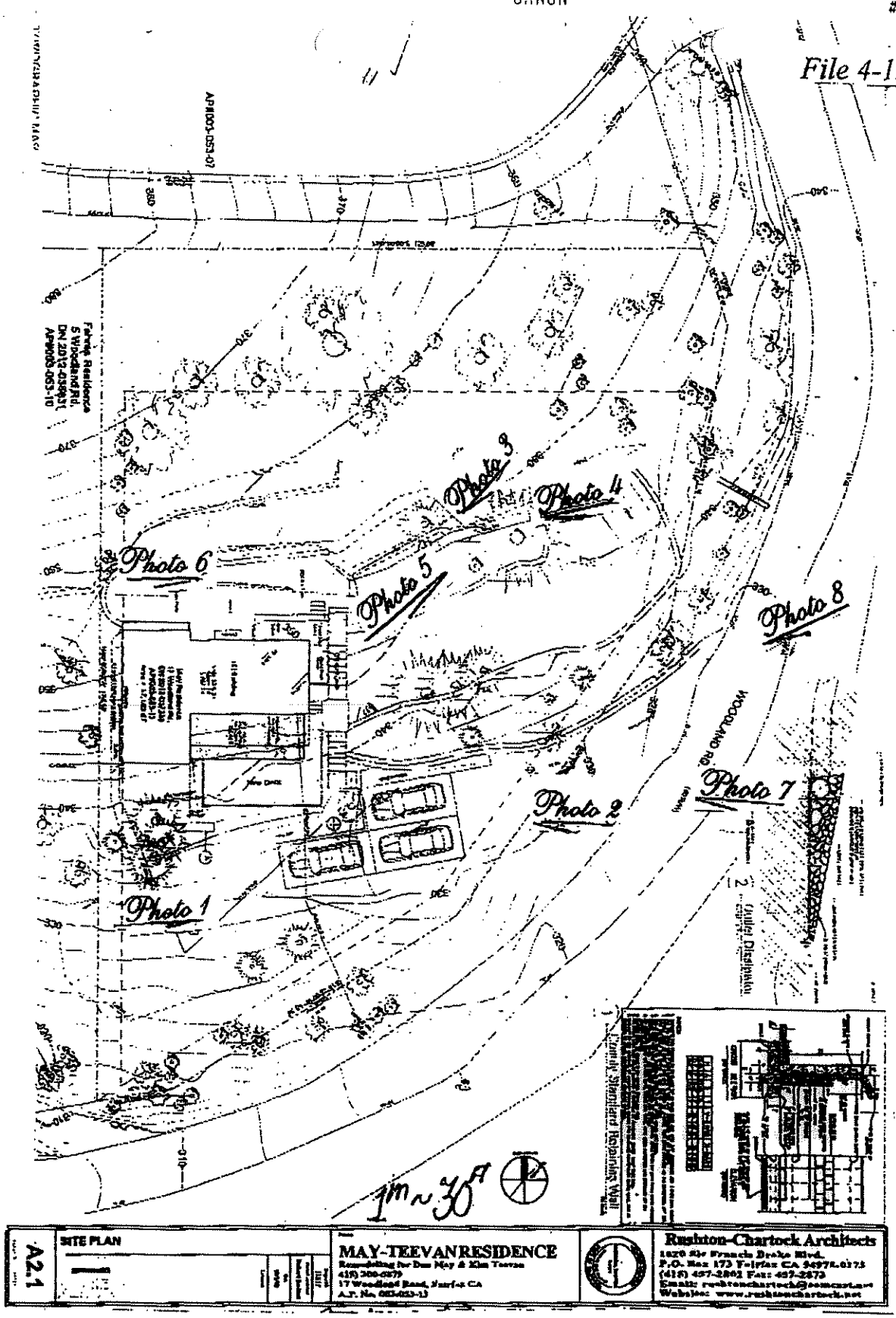
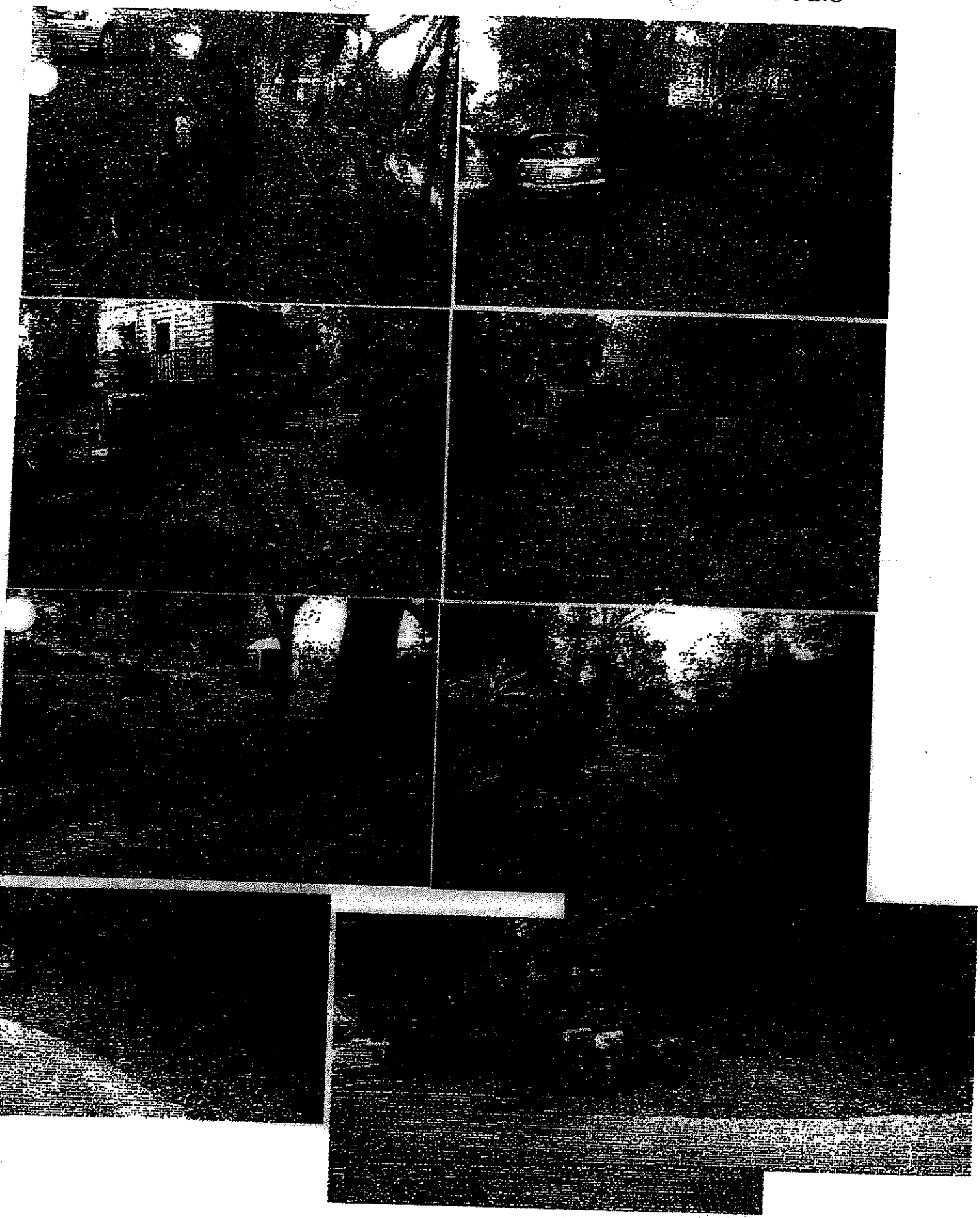


GENERAL SITE PLAN
17 WOODLAND ROAD
FAIRFAX, CA



Dan *May-Kim Teevan 17 Woodland Rd, Fairfax CA*

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December 12, 2012
File No. 4-12D-kmdt

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REPORT SUPPLEMENT
GEOTECHNICAL FEASIBILITY
RESIDENTIAL IMPROVEMENT PLAN
17 WOODLAND ROAD
FAIRFAX, CALIFORNIA

Our firm had submitted a 12/10/12 geotechnical feasibility report for the entitled project.

We later reviewed the civil plans prepared by J L Engineering of San Rafael (Sheets C1, C3 ,& C4 dated Nov 2012; & C2 revised Dec 2012).

Modifications to the surface drainage system may be appropriate, depending on conditions exposed during grading. For example, a second dissipater flume my be positioned on the relatively level bench northeast of the rear yard of the house to divide surface drainage. Also the downslope downspouts that drain less than ~100 sq ft may empty on splash blocks.

With these points in mind, we find these plans to be acceptable pending the geotechnical engineer's acceptance of final grading.

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We trust that this report provides the information required. You may contact us for clarification.

Respectfully submitted,
GEOENGINEERING INC.

Robert H. Settgast
Professional Geotechnical Engineer

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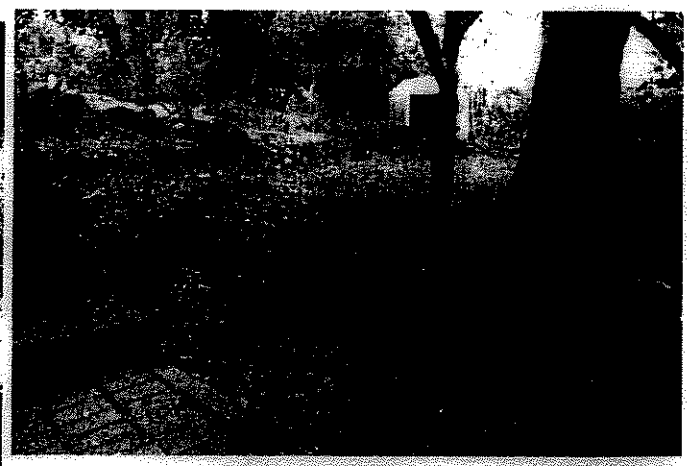
GEOTECHNICAL
STATE OF CALIFORNIA

GEOTECHNICAL EVALUATION
ADDITIONS & RENOVATIONS
17 WOODLAND AVENUE
FAIRFAX, CA



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January 20, 2013
File No. 2-131-lmdt

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GEOTECHNICAL EVALUATION
PROPOSED ADDITIONS & RENOVATIONS
17 WOODLAND AVENUE
FAIRFAX, CALIFORNIA

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January 20, 2013
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GEOTECHNICAL EVALUATION
PROPOSED ADDITIONS & RENOVATIONS
17 WOODLAND AVENUE
FAIRFAX, CALIFORNIA

1. SUMMARY AND KEY POINTS

This circa 1920 dwelling lies on slopes that fall easterly at grades averaging ~ 40%. The project entails a downslope lateral addition with an attached deck, some retaining walls up to 6 ft high, and upgrading some terraced rock faced cuts.Residual soils (fully weathered bedrock) generally lie within 2 ft from grade. They typically transition to weakly cemented claystone/shale within their upper 2 or 3 ft.

The deck and addition may bear on non-drilled foundations penetrating into the residual soils. Drilled foundations would simplify some design aspects and may be cost effective. In order to keep design options open, we include criteria for drilled, non drilled & combined foundation systems. As for all comparable projects, we must approve the foundation plans, and drilling/excavation must be monitored by our firm. Modifications to suit localized conditions may be required during construction.

2. INTRODUCTION

Our firm has been retained to perform the entitled services. The architects are the co-addressee, and the structural engineers are Anderson-Woodrow of Fairfax. The topics and illustrations contained herein are indexed in the preceding Table of Contents. Our limitations of work scope and liability are outlined in the final section of this report.

This investigation was undertaken to provide your designers with the geotechnical information necessary to select and plan the most feasible means of developing the project. The information and recommendations contained herein are based on: (1) A 12/3/12 site reconnaissance with the architect; (2) A review of the Geological Maps; & (3) A subsurface investigations performed on 1/17/13 that included four manually advanced auger borings and several percussion soundings.

3. SETTING & SITE FEATURES

As the Site Plan, on Fig 1 shows, this ~ 0.7 acre quarter circle parcel shaped has ~100 ft of easterly facing circular frontage on frontage on Woodland Road. It lies on a promontory that slopes easterly and southerly toward the road at grades averaging ~ 40%.

Woodland Road was formed by cutting 3 to 4 ft into the rising slopes. The unpaved driveway enters from the north, and was formed by cutting up to ~ 6 ft on its upslopes. The parking pad at the driveway terminus was formed by placing up to ~ 3-1/2 ft of fill with embankments that slope at ~ 60%. Several unbraced terraced cuts, that are either exposed or faced with cobbles and small boulders, lie throughout the parcel; they show localized sloughage and displacement of the facial rocks but reflect no hillside instability.

This circa 1950 wood frame dwelling has been partially staircased into the rising slopes. It bears on a perimeter concrete foundation with some isolated interior supports. The downslope segment of its lower floor is unfinished, and its rear segment is crawlspace. Segments of its downslope exterior member show no embedment with random voids below its outer edges. Floor elevation measurements registered differentials up to 1 inch over ~ 20 ft with no patterns that reflect notable foundation movement.

The downslope grades from the house are nearly level but step down ~ 2-1/2 ft, ~12 ft downslope. The rear of the structure is separated from the cut into the rising slopes by a ~ 12 ft wide near level pad. The base of this cut is sustained by a 1-1/2 ft high concrete retaining wall with a ~ 3 ft high unbraced cut directly above, and a ~ 2 ft high unbraced cut lies ~ 12 ft further upslope.

Several small and medium sized trees lie mainly outside the building area. The understory is shrubbery and natural grasses except for some landscaping near the near house.

4. PLANNED CONSTRUCTION

The new addition will lie within the 10 ft wide inside corner of the existing structure at the first floor level. Its sub-area will be used for storage. A new deck will extend ~ 10 ft downslope and encroach onto the ~ 2-1/2 ft deep unbraced terraced cut. As currently planned, the downslope edge of the existing parking pad, and the upslope cut of the driveway entry will be stabilized with drilled "I" beam and timber bulkheads.

Some upgrades to the terraced exposed and terraced cuts are planned but their extent has not been determined. We understand that the cut for Woodland Road will remain as is.

5. GEOLOGY & SUBSOILS

The site is generally mantled by 2 to 3 ft of colluvial soils comprised of red brown medium stiff to stiff sandy and silty clays.

The mantle soils are underlain red brown slightly cemented very fine very sandy clays. Which we have classed as residual soils (bedrock weathered in place to the consistency of firm soils, but still display some lithology). They render relatively minor resistance to our auger equipment, and moderately hard sounding resistance, but show satisfactory engineering properties.

Highly weathered bedrock lies 3 to 4 ft below original grades. It consists of red brown weakly cemented claystone/shale with random 1/ 2 inch fracturing. It renders near refusal to our sounding device and relatively hard resistance to our auger equipment.
* *The sounding devices of 1/ 2 inch rod driven by impact with a 9 pound sleeve hammer developing an equivalent fall of ~ 7 ft. It can normally penetrate into weathered bedrock.*

The Geological Map shows complex geologic pattern here that reflect melange with sandstone/shale exposures and several surficial slides. Given the variations within the melange formation, this does not necessary conflict with our findings.

Aside from surficial soil creep, we found no indications of deep seated slide activity here--. nor did our floor elevation measurements show any definable foundation movement.

Groundwater was not found in our borings, which were advanced early in the rainy season, one week after a heavy rainfall. Nonetheless, perched ground water may collect over the bedrock surfaces during prolonged irrigation or rainfall.

Our measured depths to bedrock and residual soils are indicated on the Site Plan at the respective test boring locations.

6. DISCUSSION AND RECOMMENDATIONS (Summarized in Sect 1)

6.1 DESIGN REVIEW AND MONITORING SERVICES

Earthwork and foundation drilling must be monitored and approved by the geotechnical engineer. Our acceptance is subject to this, and we should be provided with three days notice. We may implement modifications to suit conditions exposed during excavation/drilling but we expect no major changes. Our monitoring services would be billed at our hourly rate unless other arrangements are made.

6.2 FOUNDATIONS

6.2.1 NON-DRILLED & COMBINED FOUNDATIONS

1. Non-drilled foundation must be interconnected. They must be capable of spanning unsupported for 8 ft, (assuming fixed end conditions) and cantilevering 3 ft at the corners. This measure is intended to develop continuity, and does not require localized increases in soil pressures

The reinforcement will be determined by the structural engineer, but should include at least two # 4 bars (grade 60) both top and bottom, Isolated footings would suffice only for mid-span first floor joists on level grades.

2. Foundations must penetrate into residual soils or weathered bedrock, but at least 1-1/2 ft below adjacent grades and 1 ft deeper than nearest grades within 4 ft. Three ft depths would suffice if residual soils lie deeper.

3. Such foundations may be sized for allowable soil pressures of 2,000 psf *(lb/sq ft)* for dead plus code live loads but should be limited to 1,500 psf for retaining wall foundations and other dead loads. They may be increased to 2,600 psf to included wind and earthquake forces. Concrete weight below grade may be excluded.

4. Sustained lateral forces, such as earth pressures, may be resisted using ultimate friction factors of 1/ 2* between the foundation concrete and subgrades. Additional restraint to lateral loads may be developed by assuming that the subsoils develop ultimate passive equivalent fluid pressures of 600 pcf*, acting against the foundation edges and from the lowest grades within 5 ft. Uniform pressures of 600 psf may be added in weathered bedrock or residual soils.
   * *As for all retaining structures, the 1.5 code safety factor for active earth pressures must be included. It need not be applied to wind or earthquake forces.*

6.2.2 DRILLED FOUNDATION ALTERNATE

Water should be available to facilitate drilling and to aid in extraction of the cuttings. Plywood covers should also be on hand to keep the holes free of debris. The piers and grade beams need not be poured monolithically. If water accumulates in the pier holes, it should be pumped out before concrete placement. The bottom ~ 1 ft of water may be displaced by pumping the concrete mix to the hole bottom if approved by the engineer.

Drilled piers and grade beam foundation for the house may be designed as follows.

1. Piers should be interconnected and laid out on grids as much as feasible, with maximum on-center spacing of about 16 ft.

2. Pier penetrations will be finalized during drilling based on properties of the soils/ bedrock encountered, but 6 ft penetrations into highly weathered residual soils/ bedrock for total depths ~ 10 ft below present grades are anticipated.

3. The pier steel shall extend to the top grade beam steel and be bent upslope-downslope to achieve transfer of moment stresses. *It should not be cut below the top grade beam steel.*
   Grade beams must be capable of transferring moment restraint upslope-downslope between all piers. *They must meet the drainage and embedment requirements outlined in Section 6.2.3.*

4. Piers should be designed to resist downslope creep forces within a soil mantle penetrating 3 ft below grade. New fills must be added to the creep zone thicknesses. In existing or new cuts this zone may be reduced accordingly. Earthquake forces need not be added cumulatively to creep forces since they act separately.

   This mantle should be assumed to develop equivalent fluid pressure of 45 pcf *(pounds per cubic foot)* acting downhill against the embedded grade beams and against projected diameters 2 ft greater than the respective piers.

5. The residual soils/bedrock below the creep zone may resist lateral forces using equivalent fluid pressures of 600 pcf*. These pressures should act with confinement from the creep zone bottom and against projected diameters 2 feet greater than the respective piers.
   * *As for all lateral restraint parameters, they must be applied with the 1.5 code safety factor specified for retaining walls.*

6. The bedrock or residual soils may be assumed to resist vertical pier loads using allowable friction values of 1,200 psf for dead & code live loads, but should be limited to 800 psf for dead and permanent loads--they may be increased to 1,600 psf to include earthquake and wind forces. End bearing cannot be used. The minimum depth criteria outlined in item 2 applies unless we approve.

6.2.3 FOUNDATION DRAINAGE & PROTECTION

The unbraced cuts behind the structure can be expected to undergo sloughage overtime, especially following rainfall. Given the ~ 13 ft distance between the dwelling and base of the cut slope, damage to the structure from such sloughage appears very unlikely–especially in view of the apparent general hillside stability.

If further precautions against such sloughage were desired, this could be achieved by constructing a 4 ft catchment wall at base of the slope. It could be designed to our retaining wall criteria.

Depending on conditions exposed during excavation, it may be prudent to install the foundation drains, although the need for this now appears unlikely.

All subfloor grades must slope downhill for drainage, and should be no lower than the adjacent exterior grades unless there are no other options. The lower inter-section of the foundation members should be provided with 1 inch weepholes, placed just above grade. The subfloor ground surfaces should be covered with a durable moisture barrier or concrete (rat proofing) to mitigate high crawlspace humidity from ground moisture. This is in addition to a complete venting system.

6.3 RETAINING WALLS AND BULKHEADS

6.3.1 LATERAL PRESSURES AND FOUNDATIONS

Retaining walls may be designed for *allowable active earth pressures* equal the following:

1. Equivalent fluid pressures (efp) of 45 pcf for walls that retain cuts with only minimal backfill. They should be increased to 55 pcf for segments of walls that sustain new fill.
   - o Where grades above the wall rises, the efp should be increased in proportion to 2/3 of the upslope rise; for example, an upslope rise of 50%, corresponds to a pressure increase of 33%.
   - o Pressures may be reduced by 15% for detached site walls that support no pavement or structure.
   - o In no case need the efp exceed 75 pcf.
   - o A uniform lateral pressure equal to one third of any anticipated surcharge pressure. A 1 ft surcharge would suffice for the parking pad.

Retaining wall foundations may be designed to the criteria outlined in Section 6.2. Those founded on slopes should bear on drilled piers designed as outlined in Sect 6.2.2. The designated creep zone pressures may be reduced or even eliminated for site retaining structures that can tolerate some deflection--pending our approval--but the passive earth pressures must still act from the bottom of the designated creep zone.

6.3.2 WALL BACKFILL AND BACKDRAINAGE

Retaining/basement walls, that support or are integrated with other structures, must always be *backfilled before framing or subsequent construction* to avoid effects of initial wall deflections from backfill placement. Retaining walls shall be back-drained and provided with separate surface drainage to avoid infiltration and related backdrain overcharging. When acting as building walls, they must also be waterproofed.

Backdrains may consist of conventional bottom-perforated pipe in drainrock blankets at least 6 inches wide. The pipe should lie just above the bottom of the drain-rock and sloped toward the flanks. Subdrains may be discharged at most locations where residual seepage after rainfall stops is acceptable.

If Class 2 Permeable drainrock (or equivalent) is not used, drainrock should be separated from the adjacent soil with geotextile filter cloth. Drainrock should extend from the wall bottom upward to within 1-1/2 to 3 feet from the top depending on the wall height. The upper backfill should be a clayey soil with a low permeability to prevent migration of surface water into the backdrain. The height of the drainrock conduit may be reduced to 1 foot if structured backdrain material (such as Miridrain) is used behind upper section of walls. It should penetrate to the bottom of the drainrock to achieve hydraulic conductivity.

Weepholes may be used in lieu of (or with) perforated pipe, where wall seepage is acceptable. They are more reliable but still require drainrock. They should be about 1 inch wide and spaced at about 3 feet intervals along the base of the wall.

6.4 SITE PREPARATION, GRADING, & DRAINAGE

Site grading must be minimized to only surficial activity, and performed to optimize site drainage. Ground surfaces should be sloped for rapid drainage away from building areas. Upslope drainage should be channeled around the structure or into separate systems.

Roof drainage should be channeled downslope away from the structure. Erosion protection could be achieved by discharging through multiple outlets over 6 inch rip rap rock. Horizontal drainage spreaders or flumes that allow uniform spillage, such as top-perforated pipes, would also suffice if discharge into the stream is not an option--a sketch is available on request. Multiple discharge points are preferable to concentrated discharge (which should be avoided when feasible). In most cases the downslope downspouts can empty onto splash blocks unless they carry large quantities of water.

Discharge into dry wells (gravel filled unlined excavations) must be avoided. Surface water should never be introduced into backdrains or other subterranean drainage system that utilizes perforated pipe or drainrock. Such systems are intended only for groundwater, and would be overcharged and likely to become blocked if used for surface drainage.

Even with the above outlined drainage measures, erosion can be expected. Considering this, all exposed unpaved areas should be provided with a vegetative cover. Courts have ruled that property owners are responsible for slide and erosion damage to downslope or adjacent properties, even when natural and without artificial influences.

6.5 EXCAVATION & ENGINEERED FILL PLACEMENT

Subgrades below engineered fill must be cleared of vegetation and debris, and stripped of topsoil. Stripping depths should be determined during earthwork but we expect they will be ~ 1/ 2 ft. Exposed subgrades should be scarified & moisture conditioned to near optimum, and compacted to 90% of the maximum dry density as determined by the *Modified AASHTO test.*

Fill embankments must be keyed into the slopes and provided with drainage. Actual key depths will be determined during earthwork by the engineer, but we expect that a 1 ft key into residual soils/bedrock, or to a maximum 3-1/2 ft in a conduit of Class 2 Permeable drainrock would suffice.

Engineered fill (that placed for embankments or below buildings and pavements) should be approved by the geotechnical engineer. It should be spread in approximate 8 inch lifts, and moisturized and compacted as outlined above for the subgrades. On-site soils can be used as engineered fill, pending our approval.

Temporary cuts deeper than 5 ft should be braced or sloped appropriately to avoid danger to workmen. In general, the soil mantle may be trimmed to about 1.5h:1v and the bedrock to 0.5h:1v depending on its localized properties. *In no case may workman enter the space between retaining walls and unbraced cuts over 5 ft high.* .

6.6 SLABS AND PAVEMENTS

The subgrades below slabs and pavements should be prepared as recommended above, and approved by the geotechnical engineer.

Prior to placement of baserock or concrete, subgrades for interior slabs should be sloped for drainage, compacted as recommended above, and rolled to smooth surface. At least 4 inches of free draining baserock should be placed and compacted over the subgrade to act as a capillary break, and to provide subslab drainage for potential groundwater at the lower corners of the baserock blanket. Drain outlets through the low foundation intersections should be provided within the baserock.

Impervious barriers should be placed below the slab to impede moisture permeation unless slab dampness is acceptable. Current practices recommend against the use of sand below concrete slabs, due to its tendency to shift, which results in uneven slab thicknesses. Instead a durable membrane, such as "Rufco" or equal, should be used in lieu of Visqueen. The slab may be poured on the membrane. A slow curing additive or surface sealant may be used to reduce the different curing. We recommend that slabs be at least 5 in thick to adequately coverage the reinforcing.

Floor slabs within living areas will require extra precautions with respect to drainage and waterproofing, especially if they abut basement walls. In view of the potential seepage problems inherit with such slabs, we suggest that they be provided with pressure treated plywood covering bearing on pressure treated fir 2 by 4 "sleepers". This is in addition to the other recommended waterproofing and drainage measures. Hardwood floors must always be protected from subfloor humidity even when placed over slabs, unless moisture related distortions are acceptable.

6.7 EARTHQUAKE DESIGN CRITERIA

The structures may be designed to the following seismic criteria outlined in current International Building Code (IBC)--also outlined in ASCE 7-05dated 2006:

For the simplified Seismic Base Shear (Sect 12.14.8.1), an *Fa* value of 1.0 (soft bedrock sites) may be used; and *Ss* need not exceed 1.5.

Less stringent criteria may be possible using Soil Type *C (soft rock or dense soils)* with respective latitudes & longitudes of 37.973 & -122.563 degrees. .

7. CLOSURE AND LIMITATIONS

By accepting this report the client and other recipients acknowledge their understanding and acceptance of the following terms and conditions. They also acknowledge that no verbal or written guarantees were made by the undersigned.

Even though we see no reason to suspect that the soil or foundation behavior will differ from our predictions, one must recognize that factors contributing to hillside and foundation instability, water seepage, and other geotechnical related problems cannot always be detected.

Our work is limited to geotechnical aspects of design. We may cite minimum criteria, but structural design is the responsibility of the structural engineer. Toxic material identification and hydrological studies are also excluded from our work scope. Identification of underground lines is the contractor's responsibility.

Earth slippage and subfloor water are sometimes unavoidable especially during rainfall and/or irrigation. Sub-drain performance can never be predicted and blockages in such system are common. Cracks in wallboard and tile as well as some distortions in hardwood floors develop in most structures from normal wood shrinkage and relaxations. Concrete curing and stress cracks will also develop. These occurrences cannot be avoided and we are not responsible for their effects, since we are not contracted to provide full time observations.

This report represents our best judgment based on the available information and complies with current standards of practice for comparable projects. No forms of warranty or insurance coverage are expressed or implied in our reports or other communications.

It is also understood that certain risks must be assumed for all types of foundation and earth systems. These risks can always be lessened by upgrading these systems even though the margin of additional safety may be small compared to the additional costs involved. Although the engineer may assist in selection of the optimum balance between safety and economy, the client and all recipients understand that the risk is their own.

If a claim is made against GeoEngineering, Inc. for any act relating to our professional services, the initiator(s) of the claim shall pay for all costs and lost time associated with our defense. In any case, our liability cannot exceed our fee for this project. We carry no errors and omission insurance.

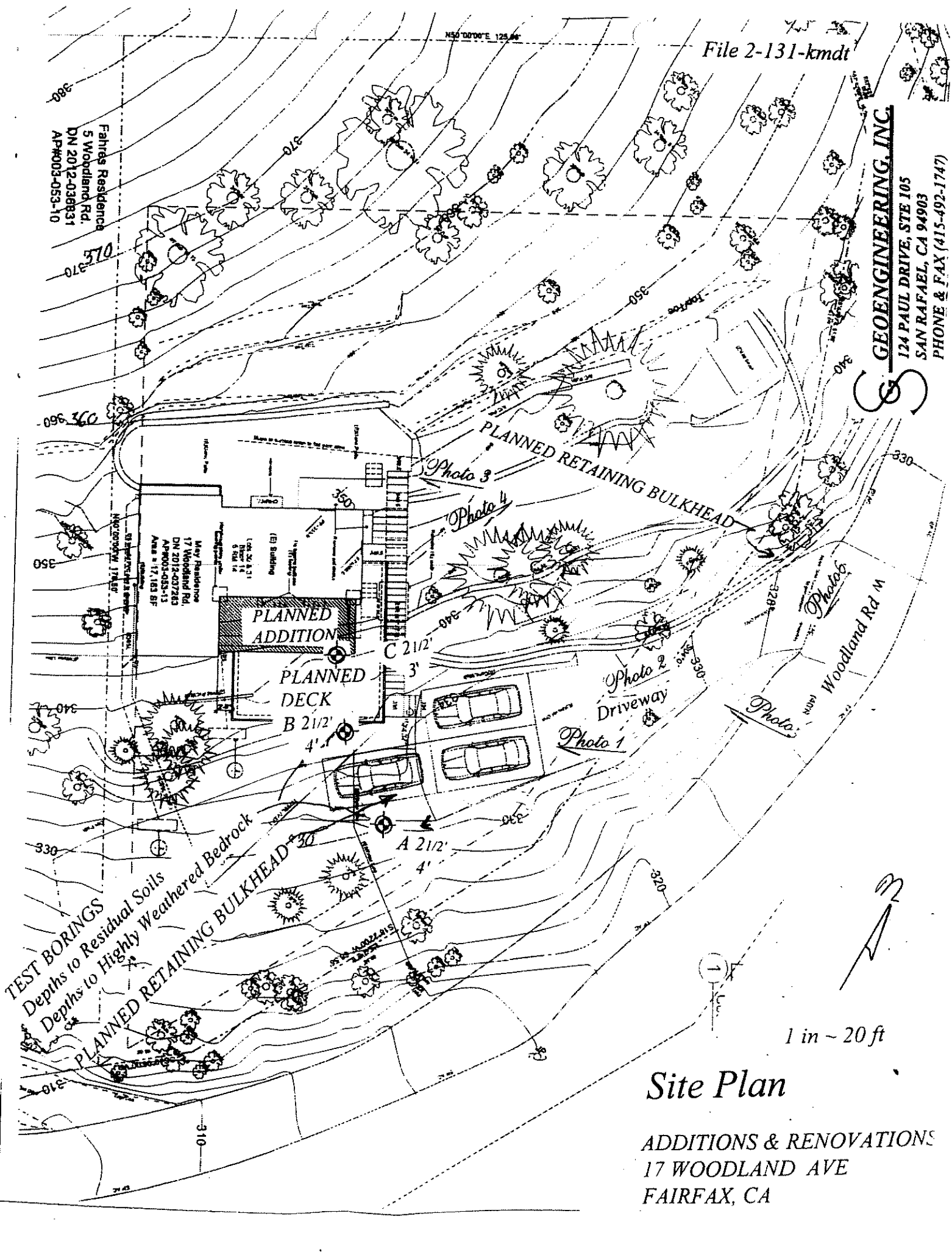
- o 0 o -

We trust that this report provides the information required.. You may contact us for clarification.

Respectfully submitted,
GEOENGINEERING, INC.

Robert H. Settgast
Professional Geotechnical Engineer

RHS:lws


File 2-131-kmdt
GEOENGINEERING, INC.
124 PAUL DRIVE, STE 105
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Fahres Residence
5 Woodland Rd.
DN 2012-036831
AP#003-053-10
PLANNED RETAINING BULKHEAD
Photo 3
Photo 4
Photo 5
Photo 6
Photo 2
Photo 1
Driveway
Woodland Rd
PLANNED ADDITION
PLANNED DECK
C 2 1/2'
3'
B 2 1/2'
4'
A 2 1/2'
4'
TEST BORINGS
Depths to Residual Soils
Depths to Highly Weathered Bedrock
PLANNED RETAINING BULKHEAD
1 in ~ 20 ft
Site Plan
ADDITIONS & RENOVATIONS
17 WOODLAND AVE
FAIRFAX, CA

URBAN FORESTRY ASSOCIATES INC.
MORITZ ARBORICULTURAL CONSULTING

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Daniel May & Kim Teevan
17 Woodland Road
Fairfax, CA 94930

VEGETATION FUELS MANAGEMENT PLAN (VMP)

May-Teevan Property: 17 Woodland Road, Fairfax, CA 94930

INTRODUCTION

This Vegetation Management Plan has been written to comply with Ross Valley Fire Department Standard 220, developed pursuant to the 2010 California Fire Code, the 2010 International Fire Code and Appendix II A of the 2006 Edition of the International Wildland-Urban Interface Code, as adopted by Ross Valley Fire Department, and Section 4290 and 4291 of the Public Resources Code.

Fuel modification distances, type of vegetation and topographic features are factors considered in determining adequate roadside, driveway side, and defensible space (VMP) requirements.

The vegetation fuel modification recommended in this report is based on property slope, slope aspect, vegetation fuel type(s), and fuel architecture (spacing, size, maturity, condition and proximity to emergency access/egress roads, driveways, and structures). Structure vulnerability to ignition and fire incursion was also considered.

Meeting the minimum required defensible space for this property will additionally require working with the Ross Valley Fire Department and adjacent neighbors, especially to the west of the property, to achieve the necessary "defensible space easement" to perform vegetation management on the neighboring property.

GENERAL FIRE MANAGEMENT CONDITIONS

The May-Teevan, 17 Woodland Road property is located in Cascade Canyon of Fairfax, CA. Cascade Canyon is oriented northwest/southeast, with the property on a hillside above a turn in the canyon to northeast/southwest - generally aligned with the prevailing winds. The property is on a steep hillside, on the shoulder of a spur ridge running east to west,

EXHIBIT # D

with a generally southeast aspect immediately west of Woodland Road. Slope aspect is a significant fire behavior issue at this site. Canyon orientation and canyon winds are also an issue of concern.

The vegetation type of the canyon hillside is primarily oak and mixed hardwood forest with associated species: California bay laurel (*Umbellularia californiaca*), Coast live oak (*Quercus agrifolia*), Tanbark oak (*Lithocarpus densiflora*) and Toyon (*Heteromeles arbutifolia*). The property edges to the east and north are planted with a continuous canopy of Blackwood acacia, (*acacia melanoxylon*), a highly pyrophytic invasive species that was likely planted to form a privacy hedge. Also present are small numbers of Monterey pine, Knobcone pine, Coast redwood and Incense cedar.

VEGETATION FUELS MANAGEMENT

DEFENSIBLE SPACE

General Fire Hazard Mitigation Strategies:

Due to the current vegetative fuel conditions, slope of the property, and a VMP Hazard Assessment Matrix score of 19 (see below), a 50x50x50x100 foot defensible space zone around structures is required (Ross Valley Fire Department Standard 220). The location of Woodland Road and an adjacent driveway create a large Fire Apparatus Clear Zone (FACZ), such that the nearly all of the 17,163 square foot property should be maintained for defensible space.

TREATMENT RECOMMENDATIONS

The treatment recommendations for the specific fuel types on the May-Teevan property and along the roadway are as follows:

Fire-prone Oak Woodland (Pyrophytic Hardwood)

Fire-prone Oak Woodland consists of the native oak woodland, associated hardwoods, and an accumulation of dead/downed ground fuel dominated by a canopy of coast live oak (Quercus agrifolia), California bay (Umbellularia californica), California buckeye (Aesculus californica), and Pacific madrone (Arbutus menziesii). The understory of this woodland consists of poison oak (Toxicodendron diversilobum), toyon (Heteromeles arbutifolia), and other shrubs that create fairly contiguous ladder fuels from the forest floor to the tree canopy. The combination of dense understory vegetation, ladder fuels, and disease caused by sudden oak death (Phytophthora ramorum) makes this type extremely flammable and prone to crown fires.

Fire-prone Oak Woodland: Hazards

The fire hazard of this fuel type is among the highest in the area without proper maintenance and fuel management. Under high to extreme fire weather conditions, the fire rate of spread may be rapid, with very-high to extreme fire intensity. Crowning, branding and spotting is common. The Sudden Oak Death may significantly increase fire behavior of this fuel type.

Maintenance

Mitigation actions may be very successful in this forest/fuel type. Fire-prone Oak Woodland can be converted from one of the most hazardous types to one of the least fire-prone. Fire safe maintenance of this type includes the following actions:

- Thin out overly dense stands to provide crown separation. Favor more fire resistant species (such as oak rather than bay).
- Remove or substantially thin undergrowth. Separate shrubs by a distance of at least two times their height, crown to crown. Any fire prone shrubs should be cut to no more than two feet in height. Keep the undergrowth sparse. When thinning out undergrowth always favor fire resistant plants.
- Raise tree crowns to a minimum of 8.0 feet above-grade. All parts of the canopy less than 3 inches in diameter should be no lower than eight feet vertical distance above grade. The canopy line will be horizontal to slope.
- When thinning out undergrowth or planting, favor fire resistant plants.
- Remove dead and diseased trees or branches and foliage prior to the fire season or as they develop.
- Remove bay and conifer reproduction.
- Clean up down and dead debris. Chip materials up to 6 inches and cut larger branches and trunks flat to maximize soil contact.
- Remove heavily SOD infested trees. Consider replacement with SOD resistant native trees (i.e.: Interior Live Oak (Q. Wislizenii), Valley Oak (Q. Lobata), etc.).
- Maintain trees in good health. See California Oak Foundation guidelines.

Strategy: Select fire resistant plants
Actions:

- Remove all Juniper, Rosemary, French broom, Scotch broom, and other pyrophytic shrubs on the property.
- Select species listed as fire resistant.
- When replanting, select species with low surface to volume ratios (i.e., southern magnolia vs. pine, tulip tree, rhododendron, Myoporum or English laurel vs acacia).
- Select broadleaf vs. needle-leaf species.
- Select clean looking species with stout branches and twigs (non-twiggy).
- Select species listed as pest and disease resistant.
- Select deciduous trees and shrubs with supple, moist foliage.

- Select species with out volatile oils in their leaves (use the smell test). Sap is water-like and does not have a strong oil odor.

Strategy: Reduce fuel volumes
Actions:

- Remove all deadwood from trees and shrubs.
- Thin oaks and bays to reduce production of ground litter and debris.
- Create shrub/grass mosaics from continuous shrub masses.
- Remove shrubs beneath and around existing and emerging trees.
- Select low-growing, non pyrophytic shrubs and ground cover as replacement plants.
- Remove/reduce all lofty or loosely compacted litter accumulations, especially large debris such as branches and replace with compact, small particle mulch to prevent invasion of noxious weeds and elevate live fuel moisture.
- Vines, which tend to accumulate dead material, should be removed from trees.

Strategy: Reduce fuel flammability
Actions:

- Cut all grasses when 50% cured or by June 1.
- Replace annual grasses with plants that do not cure (dry out).
- Remove deadwood in trees and shrubs.
- Remove all dead and downed material each year by June 1, leaving leaf litter or mulch to a depth of not more than 3".
- Remove sick, dying, and dead shrubs and trees.

Strategy: Establish/maintain fuel discontinuity
Actions:

- Remove/reduce "ladder" fuels (grass, to brush, to trees).
- Create shrub/grass mosaics from continuous masses by installing hardscape where possible.
- Remove shrubs from beneath and around existing and emerging trees.
- Thin thickets of small trees and tree reproduction from large tree understories.
- Create low fuel zone near structural vulnerabilities such as windows, decks, large overhangs.

Strategy: Reduce the possibility of fire traveling through tree crown
Actions:

- Separate overlapping tree and large shrub canopies.
- Thin fire-prone tree canopies (oak, bay, Monterey pine, Incense cedar) to open canopy structure (no more than 30% foliar reduction per-tree).
- Remove 4 of 8 Incense cedars on property to provide canopy separation. Remove all deadwood, limb to 16', and ensure that no shrubs or immature trees should be allowed to grow beneath cedars where they would create a fuel ladder.
- Remove all Knobcone pine on property.
- A single specimen Monterey pine, 32.2" DBH and 75' tall exists at the far eastern

extent of the 50' Defensible Space zone. This tree must be limbed to 20', and all deadwood shall be removed. No shrubs or immature trees are should be allowed to grow beneath Monterey pine where they would create a fuel ladder.

- Prune out low hanging fire-available branches and twigs up to 3 inches in diameter to a minimum of 10 feet above ground under any portion of the canopy or to an elevation 10 feet above the highest ground elevation.
- Where it is not possible to separate crowns by at least 10 feet, prune low hanging fire-available branches and twigs up to 3 inches in diameter to a minimum of 16 feet above ground under any portion of the canopy or to an elevation 16 feet above the highest ground elevation if the height of the tree allows.
- Perform fuel volume reduction actions mentioned above.

The attached Site Plan shows the locations of trees listed in the Schedule of Existing Trees (appendix A), including Species and DBH (Diameter at Breast Height). Trees indicated on this site plan were located using arboricultural and urban forestry techniques. Locations are generally accurate within 3 meters. All trees greater than 4" DBH on-site were tagged and numbered February 2013 with a 1.25" silver aluminum, numbered disk on the west side of the tree at chest height.

**Note that trees on-site marked with red (orange) dots are obsolete! Blue markings are current as of 2/2013 and indicate removal or pruning required.*

Tree species selection:

Species	Number present (existing)	Number present (proposed)
Coast live oak	51	45
California bay laurel	26	16
Incense cedar	8	4
Coast redwood	2	1
Monterey pine	1	1
Blackwood Acacia	27	0
Black oak	1	0
Eucalyptus cinerea	1	0
Juniper	1	0
Knobcone pine	2	0

Sudden Oak Death

Sudden Oak Death (SOD), caused by the pathogen Phytophora ramorum, is present on the property, with symptoms observed in Coast live oak and California bay laurel. In order to reduce mortality and increase the overall health and fire resistance of the oak forest, it is recommended that all Coast live oaks greater than 6" DBH be treated at least once per year with Agri-fos. Additional measures such as the selective removal of California bay laurel (the foliar host of P. ramorum) should have the effect of reducing canopy-to-canopy contact, impeding the spread of the pathogen and increasing the overall fire resistance of

the property.

Fire Apparatus Clear Zone (FACZ)

The road serving the site is typical of Fairfax hill areas, with a narrow single lane and dense overgrowth of vegetation. Woodland Road is a good example of a hillside road that presents a challenge for safe access/egress during a wildfire event. During a fire event, there would certainly be conflicts between evacuating residents and responding fire apparatus. Woodland Road, in the area of the subject property, is unique in that it provides two routes of ingress/egress. Evacuating residents can potentially reach safety regardless of the direction they turn from the property driveway onto Woodland Road.

FACZ Management Recommendations:

The FACZ is critical to safe access/egress during a wildfire event.

- All Blackwood acacia on the subject property (and within 10' of roadways and driveways) should be removed. This will provide increased roadway clearance, and will remove pyrophytic vegetation from the roadway, decreasing the potential for flame impingement on the roadway.
- The canopy over the roadway should be raised to a minimum of 14.5 feet above the paved road surface. This will be accomplished primarily by removal of Blackwood acacia, and with some limbing and removal of California bay laurel and Oaks as noted in Appendix A.
- Vegetation within 10 feet of roadways should be restricted to fire resistant species (See attached list of fire resistant screen species). Plants should have low surface to volume ratio (Ex: Pine is high, and English laurel is low) and should have low concentration of volatile oils, waxes, and fats (pine, Eucalyptus and bay laurel have high volatile oil contents, Redwood, alder and English laurel have low volatile oils).
- All brush and brambles (blackberries) should be removed within 10 feet of roadways to maintain the FACZ.
- Remaining roadside vegetation should be regularly deadwooded and irrigated where the plants are tolerant of summer water (even intolerant plants will tolerate infrequent deep irrigation).
- All dead and down material should be removed.
- Cured grasses and herbs should be cut to less than 4" from June 1 to October 31.

Driveway Side Fuels Management:

The driveway is off of Woodland Road and is narrow and unpaved. Fire equipment and medical rescue apparatus are unlikely to enter enter the driveway, however access by these apparatus is possible.

- Trees should be removed and maintained to meet the same standards as the FACZ roadway, allowing for 14.5' of vertical clearance from the driveway base, and 10' laterally.
- Vines should be removed from trees.
- All down and dead debris should be removed.

- Brush should be removed at least 10' from the sides of the driveway.

VMP MATRIX

The VMP Hazard Assessment Matrix calculation indicates that 50 X 50 X 100 feet of defensible space will be required, due to a slope that exceeds 30%, and the calculation of 19 total points on the matrix. This will extend the defensible space boundaries beyond the May-Teevan property line onto the roads at the northeast and southwest and onto adjacent developed residential properties to the southeast and northwest. The roads provide more than adequate defensible space. The neighbors' defensible space requirements will also provide adequate defensible space because their defensible space requirements extend onto the May-Teevan property.

LANDSCAPING AND MAINTENANCE

Landscaping:

No landscaping is anticipated, as the owner intends to maintain the native and naturally occurring plants on the property. Should any landscaping be installed in connection with this project, all plants installed shall be fire resistant plants either listed in 'Pyrophytic vs. Fire Resistant Plants' or in compliance with fire resistant plant characteristics listed in that brochure, and approved by the urban forester/fire ecologist. The urban forester/fire ecologist shall consult, review, and approve any future landscape plan and assure its compliance with State and local codes.

- All pyrophytic shrubs, primarily juniper and rosemary, will be removed inside the defensible space zone.
- In the defensible space zone, all shrubs will be maintained to a height of less than two feet. Shrubs shall be spaced so that no continuity exists between the ground fuels and tree crowns, to reduce the likelihood that a ground fire will extend into the tree canopy. Shrubs or shrub islands (no greater than 15 feet in diameter) shall be spaced a distance apart of two times the actual height of the shrub.
- Native grasses will be maintained, cut to a height of less than 4" from June 1 – October 31. Grasses may need to be cut more than once per season depending on ground moisture and annual growing conditions.
- A compact chipped wood mulch to a depth of 3 inches is recommended and may be applied throughout the landscape to provide water conservation, weed control, a healthier and increased moisture content soil environment, increased plant health and higher live vegetation fuel moisture.
- Fire resistant woody plants shall be placed a distance apart at least equal to the mature height of the plants.
- If trees are planted they shall be planted such that when mature, their crowns will be separated by at least 10 feet.
- Only listed, fire resistant, irrigated plants shall be planted within thirty feet of

structures.

None of the following fire-prone species shall be installed:

Latin name	Common name
Abies spp.	Fir trees
Adenostoma fasciculatum	Chamise, Greasewood
Adenostoma sparsifolium	Redshank
Arctostaphylos spp.	Manzanitas
Artemesia californica	Sagebrush
Baccharis spp.	Coyote brush
Bambusa spp.	Bamboo
Cortaderia jubata	Jubata grass
Cortaderia selloana	Pampas grass
Cupressus spp.	Cypress species
Cytisus scoparius	Scotch broom
Eucalyptus spp.	Eucalyptus
Genista monspessulanus	French broom
Juniperus communis	Common juniper
Juniperus flaccida	Weeping juniper
Pennisetum spp.	Fountaingrasses
Picea spp.	Spruces
Pinus attenuata	Knobcone pine
Pinus coulteri	Coulter pine
Pinus muricata	Bishop pine
Pinus radiata	Monterey pine
Pinus sabiniana	Gray pine
Pinus serotina	Pond pine
Pinus sylvestris	Scots pine
Pinus torreyana	Torrey pine
Rosmarinus officinalis	Rosemary
Spartium junceum	Spanish broom
Thuja spp.	Arborivitae
Tsuga spp.	Hemlock
Ulex europea	Gorse

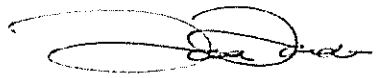
MAINTENANCE

The vegetation fuels in the FACZ, the Driveway Side Fuel Management Zone, and the Defensible Space Zone shall be maintained on an annual basis, prior to June 15th of each year or prior to the beginning of fire season.

DEFENSIBLE SPACE EASEMENT

The property owner has obtained written permission from Dan Fahres, the owner of the adjacent property at 5 Woodland Road, to enter that property for the purpose of vegetation removal related to Defensible Space and tree removal as recommended in this report.

Respectfully submitted,



Todd Lando
Fire and Fuels Management Specialist

Ray Moritz
Urban Forester, SAF Cert. #241 Fire Ecologist

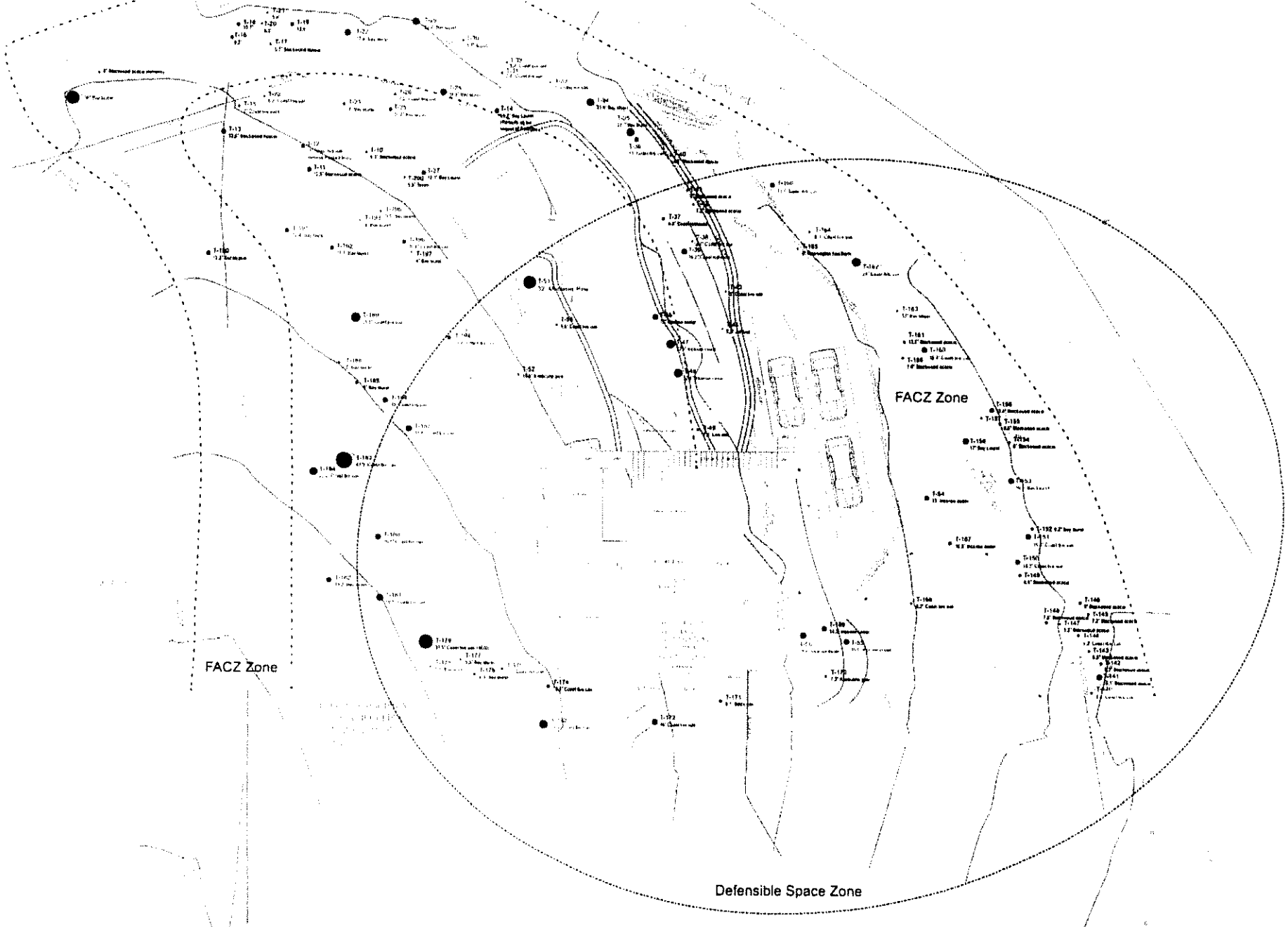
Appendix A: Schedule of Existing Trees

Tree #	DBH	Species	Recommendation	Notes
10	3.3/3	Blackwood acacia	Remove	
11	12.5	Blackwood acacia	Remove	
12	11	Coast live oak	Remove marked limb only	Remove limb to increase canopy height from ground fuels.
13	13.6	Blackwood acacia	Remove	
14	4/8.9/7.5	California bay laurel		On neighbor's property
14	4.7/3.8/3.5/3.2/2.6/2.3/4.8/4.3	California bay laurel	Remove all but largest stem, as marked.	
15	7	Coast live oak		
16	9.2	Blackwood acacia	Remove	
17	5.7	Blackwood acacia	Remove	
18	5.3/4.8	Blackwood acacia	Remove	
19	5.0/5.9	Blackwood acacia	Remove	
20	5.1	Blackwood acacia	Remove	
21	5.8	Blackwood acacia	Remove	
22	5.0/7.1/5.3	California bay laurel		
23	3.7/2.5	Coast live oak	Significant pruning	Limb up as high as possible. Remove all twiggy material to 10' above grade.
24	8	California bay laurel		
25	10.4	California bay laurel		
26	7.2	Coast live oak		
27	1.7/3/3.4/2.5/1.5	California bay laurel	Remove	Remove to provide canopy separation
28	9.5/9.3	California bay laurel		
29	4.7/10.5/4/1.5	California bay laurel		
30	3.8/1.5	Toyon		
31	7.8	Coast live oak		
32	5.4	Coast live oak		
33	5	Coast live oak		
34	14/7.	California bay		

Tree #	DBH	Species	Recommendation	Notes
	6	laurel		
35	11/11	California bay		
	.7	laurel		
36	13	Coast live oak		
37	8.8	Coast redwood	Remove	Remove to reduce ladder fuel.
38	4.7	Coast live oak		
39	16.2	Coast redwood		
40	4.6	Blackwood acacia	Remove	
41	6	Blackwood acacia	Remove	
42	7.2	Blackwood acacia	Remove	
43	2.5/2	Coast live oak	Remove	Will impede driveway FACZ
	5			access at maturity.
44	5.3	Juniper	Remove	Pyrophyte, threatens driveway access.
45	4	Coast live oak	Remove	Remove to provide ground to canopy separation.
46	16	Incense cedar	Remove	Remove due to poor form, and to reduce ladder fuels.
47	23.9	Incense cedar		Raise crown, limb to 16', remove al deadwood.
48	23.6	Incense cedar		Cut back limbs within 10' of structure, raise crown, limb to 16', remove al deadwood.
49	4/3.4	Coast live oak		
50	5.6	Coast live oak	Remove	Remove to provide ground to canopy separation beneath Monterey pine T-51.
51	32.2	Monterey pine	Limb, prune	Remove all deadwood. Remove all limbs to 20'.
52	15.5	Knobcone pine		
53	18.9	Coast live oak		
54	13	Incense cedar	Remove	Remove to provide canopy separation.
55	15.5	Incense cedar		Remove all deadwood. Remove all limbs to 16'.
56	18.4	Incense cedar		Remove all deadwood. Remove all limbs to 16'. Remove all limbs within 10' of structure.
140	7.4	Coast live oak		
141	8.1/7	Blackwood acacia	Remove	
142	8.1	Blackwood acacia	Remove	
143	6.6	Blackwood acacia	Remove	
144	8.2	Coast live oak		
145	7.3	Blackwood acacia	Remove	
146	9	Blackwood acacia	Remove	
147	5.2	Blackwood acacia	Remove	
148	7.6	Blackwood acacia	Remove	
149	8.1	Blackwood acacia	Remove	
150	14.3	Coast live oak		
151	15.4	Coast live oak		

Tree #	DBH	Species	Recommendation	Notes
152	8.2	California bay laurel	Remove	Remove to provide canopy separation. Threatens road access.
153	16.1	California bay laurel		
154	6	Blackwood acacia	Remove	
155	8.5	Blackwood acacia	Remove	
156	8.8/4.6	Blackwood acacia	Remove	
157	6	Blackwood acacia	Remove	
158	17	California bay laurel	Remove	Poor form, decay. Previosly topped. Removed for canopy separation, tree health, and failure hazard.
159	7.6	Blackwood acacia	Remove	
160	15.4	Coast live oak		
161	7.2/6.3	Blackwood acacia	Remove	
162	24	Coast live oak		
163	7.7/5.3	California bay laurel		
164	6.3	Coast live oak		
165	4	Washington hawthorn	Remove	Washington hawthorn. Non native. Impedes driveway access.
166	6.3/7.4	Coast live oak		
167	10.5	Incense cedar	Remove	Remove to provide canopy separation.
168	6.2	Coast live oak		
169	4.3	Incense cedar	Remove	Remove to provide canopy separation.
170	7.3	Knobcone pine	Remove	Remove to provide canopy separation.
171	9.1	Black oak	Remove	Tree is decayed, structurally unsound, and targets structure.
172	16	Coast live oak	Remove	Tree is decayed, structurally unsound, and targets structure. Evidence of SOD.
173	10.3/9/5	Coast live oak	Remove small stem only	
174	10.5	Coast live oak	Remove	Canopy overhangs roof. Targets structure, and drops leaf litter on roof. Remove to reduce fire hazard and comply with fire standard for canopy/roof separation.
175	4.9/2.9	Coast live oak	Remove small stem only	Remove smaller stem to break ground to canopy continuity.
176	6.3	California bay laurel	Remove	Remove to provide canopy separation.
177	5.3	California bay laurel	Remove	Remove to provide canopy separation.

Tree #	DBH	Species	Recommendation	Notes
178	5.5	California bay laurel		
179	20.4/16.9	Coast live oak	Remove	SOD Infected, with decay at base.
180	16.5	Coast live oak	Significant pruning.	Treat for SOD. Remove all twiggy material to 10' above grade.
181	19.5	California bay laurel		
182	8.4/6.7	California bay laurel		
183	24.9/18.4	Coast live oak		SOD Treatment Candidate
184	22.2	Coast live oak		SOD Treatment Candidate
185	5/3/2013	California bay laurel	Remove	Old saw cut weakens structure. Remove to provide canopy separation.
186	15	Coast live oak		
187	17.8	Coast live oak		Remove low, marked limb to reduce ground to canopy continuity.
188	7	California bay laurel		
189	25.6	Coast live oak		
190	6.9/5.3	Eucalyptus cinerea	Remove	Remove. Non-native pyrophyte, threatens neighbors driveway.
191	6.3/6.1	California bay laurel		
192	5.6/5.7	California bay laurel		
193	4	California bay laurel		
194	5.2/5.4	Coast live oak		
195	5.5	California bay laurel		
196	10.6	Coast live oak		
197	4.2	California bay laurel	Remove	Remove to reduce ground to canopy continuity.
198	4.5	California bay laurel		
199	5	Coast live oak		
200	4.9/5.9/3.4/3.4/2.8/5.4/3.7	Toyon	Remove all but largest stem.	Remove stems as marked to reduce ground to canopy continuity.



VEGETATION FUELS MANAGEMENT PLAN

May-Teevan Residence, 17 Woodland Road, Fairfax, CA 94930

URBAN FORESTRY ASSOCIATES
8 Willow Stret
San Rafael, CA 94901
(415) 454-4212
www.urbanforestryassociates.com

February 16, 2013
Daniel May and Kim Teevan Residence
17 Woodland Road
Fairfax, CA 94930
AP# 003-053-13
Lot Area = 17,163 SF

LEGEND

- FACZ Zone boundary.
- Defensible Space Zone boundary.
- T-183 43.3" Coast live oak — Existing tree to be retained, pruned, limbed, deadwooded.
- T-141 — Existing tree to be removed,

Ross Valley Fire Department
777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

PROJECT: Residence
ADDRESS: 17 Woodland
Fairfax CA, 94930

Date: 10/29/2012
Reviewed by: Rob Bastianon
(415) 258-4673
E-mail: *Rbastianon@rossvalleyfire.org*

TYPE OF REVIEW: Residential
Bldg. Dept. 10/11/12 Fire Dept. # 12-0310
Review No. 1

*Fire Department Standards can be found at: **www.rossvalleyfire.org***

Applicant*: Planning
Address:

Applicant is responsible for distributing these Plan Review comments to the Design Team.

Occupancy Class: **R-3**	Fire Flow Req: **1000** GPM	Sprinklers Required: **YES**
Type of Construction: V-B	On-site Hyd. Req: **NO**	Fire Alarm Required: **NO**
Bldg Area: sqft:	Turn-Around Req: **NO**	Permits Required: **Sprinkler**
Stories: 2+	Fire Flow Test Required: **NO**	**VMP**
Height: +ft.	Wildland Urban Interface: **YES**	

The project listed above has been reviewed and determined to be:

( ) **APPROVED** (no modifications required)
( ) **APPROVED AS NOTED** (minor modifications required - review attached comments)
( ) **NOT APPROVED** (revise per attached comments and resubmit)
( ) **INCOMPLETE** (provide additional information per attached comments and resubmit)

NOTE: *Please review the comments and make corrections and/or add notes as required. Changes and/or additions shall be clouded and referenced by date on a legend. Approval of this plan does not approve any omission or deviation from the applicable regulations. Final approval is subject to field inspection. Approved plans shall be on site and available for review at all times.*

ROSS VALLEY FIRE DEPT.
REVIEWED
DATE: 10/29/12

Inspections required:

( ) Access/Water Supply prior to delivery of combustibles
(X) Defensible Space/Vegetation Management Plan
(X) Sprinkler Hydro/Final
(X) Final

EXHIBIT # E

Ross Valley Fire Department
777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

PROJECT: Residence
ADDRESS: 17 Woodland
Fairfax CA, 94930

Date: 10/29/2012
Reviewed by: Rob Bastianon
(415) 258-4673
E-mail: *Rbastianon@rossvalleyfire.org*

TYPE OF REVIEW: Residential
Bldg. Dept. 10/11/12 Fire Dept. # 12-0310 Review No. 1

Fire Department Standards can be found at: ***www.rossvalleyfire.org***

ITEM #	SHEET	COMMENTS	Corr. Made
1		Scope of work for this project was found to fall within the definition of a substantial remodel. A "Substantial Remodel" is defined as follows: The renovation of any structure, which combined with any additions to the structure, affects a floor area which exceeds fifty percent of the existing floor area of the structure. When any changes are made in the building, such as walls, columns, beams or girders, floor or ceiling joists and coverings, roof rafters, roof diaphragms, foundations, piles or retaining walls or similar components, the floor area of all rooms affected by such changes shall be included in computing floor areas for purposes of applying this definition. This definition does not apply to the replacement and upgrading of residential roof coverings.	
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	
2		A fire sprinkler system shall be installed throughout the entire building which complies with the requirements of the National Fire Protection Association (NFPA) 13-D and local standards. A separate deferred permit shall be required for this system. Plans and specifications for the system shall be submitted by an individual or firm licensed to design and /or design-build sprinkler systems. **NOTE AS DEFERRED SUBMITTAL**	
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	
3		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 sleeping rooms centrally located in the corridor and over the center of all stairways with a minimum of one detector per story of the occupied portion of the residence.	
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	
4		A Vegetation Management Plan designed in accordance with Ross Valley Fire Standard #220 is required for this project. A separate deferred permit shall be required for this plan. Please submit directly to the Fire Department for review. **NOTE AS DEFERRED SUBMITTAL**	
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	
5		Carbon monoxide alarms shall be provided in existing dwellings when a permit is required for alterations, repairs, or addition exceeds one thousand dollars. CO alarms shall be located outside of each dwelling unit sleeping are in the immediate vicinity of the bedroom(s) and on every level of a dwelling unit including basements.	

Ross Valley Fire Department
777 San Anselmo Ave
San Anselmo, Ca 94960
Ph. 415-258-4686

FIRE DEPARTMENT PLAN REVIEW

PROJECT: Residence
ADDRESS: 17 Woodland
Fairfax CA, 94930

Date: 10/29/2012
Reviewed by: Rob Bastianon
(415) 258-4673
E-mail: Rbastianon@rossvalleyfire.org

TYPE OF REVIEW: Residential
Bldg. Dept. 10/11/12 Fire Dept. # 12-0310 Review No. 1

Fire Department Standards can be found at: ***www.rossvalleyfire.org***

ITEM #	SHEET	COMMENTS	Corr. Made
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	
6		Address numbers at least 4" tall must be in place adjacent to the front door. If not clearly visible from the street, additional numbers are required. Residential numbers must be internally illuminated (backlit), placed to a light or be reflective numbers. If your project is a new house or substantial remodel, they may only be internally illuminated or illuminated an adjacent light controlled by a photocell and switched only by a breaker so it will remain illuminated all night. If not currently as described, they must be installed as part of this project.	
		Submitter's Response: Correction has been completed. See Sheet ____ of ☐Plans ☐Calculations.	

If re-submittal is required, all conditions listed above shall be included in revised drawings.
Fire and life safety systems may require a separate permit. Fire permits may be noted as deferred.

MARIN MUNICIPAL WATER DISTRICT

220 Nellen Avenue Corte Madera CA 94925-1169
www.marinwater.org

October 17, 2012
Service No. 07291

RECEIVED
OCT 17 2012
TOWN OF FAIRFAX

Linda Neal
Town of Fairfax Planning Dept
142 Bolinas Rd
Fairfax CA 94930

RE: **WATER AVAILABILITY** - Single Family Dwelling
Assessor's Parcel No.: 003-053-13
Location: 17 Woodland Rd., Fairfax

Dear Ms. Neal:

The above referenced parcel is currently being served. The purpose and intent of this service are to provide water to a single family dwelling. The proposed 701 square foot addition to the existing structure including an art studio and bathroom will not impair the District's ability to continue service to this property.

Compliance with all indoor and outdoor requirements of District Code Title 13 – Water Conservation is a condition of water service. Indoor plumbing fixtures must meet specific efficiency requirements. Landscape plans shall be submitted, and reviewed to confirm compliance. The Code requires a landscape plan, an irrigation plan, and a grading plan. Any questions regarding District Code Title 13 – Water Conservation should be directed to the Water Conservation Department at (415) 945-1497. You can also find information about the District's water conservation requirements online at www.marinwater.org.

Should backflow protection be required, said protection shall be installed as a condition of water service. Questions regarding backflow requirements should be directed to the Backflow Prevention Program Coordinator at (415) 945-1559.

If you have any questions regarding this matter, please contact me at (415) 945-1531.

Sincerely,

Joseph Eischens
Engineering Technician

JE:mp

cc: Town of Fairfax Building Dept

ROSS VALLEY SANITARY DISTRICT
2960 Kerner Blvd
San Rafael, CA 94901
(415) 259-2949 ~ rvsd.org

October 17, 2012

RECEIVED
OCT 23 2012
TOWN OF FAIRFAX

Linda Neal, Senior Planner
Town of Fairfax
Dept of Planning and Building Services
142 Bolinas Road
Fairfax, CA 94930

SUBJECT: 17 WOODLAND ROAD, FAIRFAX; APN 003-053-13

Dear Ms. Neal:

We are in receipt of your transmittal letter dated October 11, 2012 concerning the above-referenced project. Since this project involves an extensive demolition and rebuild, the project will require a connection permit from the District. The size of the sewer lateral will depend on the fixture count calculated during the permitting process. If the existing lateral meets the size requirement of the fixture count, the applicant has the option of installing a new lateral or, the old sewer lateral needs to be tested in the presence of a District Inspector and found to meet all current District requirements.

Sanitary District No. 1 will place a hold on said property once the building permit is issued. This hold prevents the new building from being released for occupancy until the District's permit and sewer requirements are fulfilled. It is the owner's responsibility to obtain a sewer connection permit from this office and meet all District requirements pertaining to the private side sewer/lateral.

If you have any questions, please contact this office.

Sincerely,

Randell Y. Ishii

Randell Y. Ishii, M.S., P.E.
District Engineer

Attn: Sergeant Stuart Baker

TOWN OF FAIRFAX
DEPARTMENT OF PLANNING AND BUILDING SERVICES

142 Bolinas Road, Fairfax, California 94930
Phone (415) 453-1584 FAX (415) 453-1618

LETTER OF TRANSMITTAL

From: Fairfax Planning and Building Services Department

Date: October 11, 2012

To:
- [ ] Town Engineer
- [ ] Town Attorney
- [X] MMWD
- [X] Ross Valley Fire
- [X] Fairfax Police Dept.
- [X] Sanitary Dist. 1
- [X] Public Works Dept.
- [ ] Marin County Health Dept.
- [ ] Marin County Open Space Dist.
- [X] Other – Building Official

Address and Parcel No: 32 Woodland Road; Assessor's Parcel No. 003-053-13

Project Description: remodel and 701 square foot addition to an existing 945 square foot residence for a total square footage of 1,646 square feet. Addition will include improvement of a basement area into an art studio with a ½ bath that is not internally connected with the upper living level.

These plans are being transmitted for review either: a) prior to public hearings on discretionary permits before the Fairfax Design Review Board and Planning Commission; or, for review prior to issuance of a building permit. Please provide your comments on the completeness and adequacy of the submittal for your agencies reviewing purposes within 10 days.

1	10/5/12	Preliminary plans

REMARKS No PD. concerns. SB

Please respond by October 31, 2012. Thanks

If you have any questions please contact: Linda Neal, Senior Planner